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Consulting to Support Emotional Behavioral Disordered Students: Implementing a Behavioral School-Based Approach

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Abstract

Consulting is a type of helping relationship that usually occurs in a context whereby the consultee (teacher) is trained for the purpose of helping the client (student). The goal is to address a situation in order to solve problems within it and to empower consultees by training them to recognize needs and the resources available to them. The consultant is an expert, confidant, process specialist, and conceptual therapist. To support teachers who work with students with emotional behavioral disorders, understanding behavioral models is imperative. Models explored in this paper include Conjoint Behavioral Consultation and the Family Empowerment Model. Behavior strategies include behavioral technology training, behavioral systems, and behavioral case consultation.

Consulting to Support Emotional Behavioral Disordered Students: Implementing a Behavioral School-Based Approach

Consultation is a type of helping relationship in which one person (consultant) assists another person (consultee, or the teachers within the district) in order to help a third party (client, or student). It is therefore tripartite. The goal is to address a situation in order to solve problems within it and to empower consultees by training them to recognize needs and resources that are available to them. Consultants help consultees understand how their issues are related to the whole. Consultants ethically and morally provide interventions by ensuring they have skills in the area for which they are contracted and by being assessable to their consultees (Dougherty, 2008).

Collaborative consultation is a problem-solving model that involves regular and special education teachers who share intervention responsibilities. It has been defined as a process that empowers people with various skill-levels to produce creative solutions to common problems. The outcome is enriched and transformed as it yields solutions that are more diverse than if produced autonomously by individual team members. The major outcome of collaborative consultation is to provide comprehensive and effective programs for students with special needs within the most appropriate context, enabling them to achieve maximum constructive interactions with their non-disabled peers (Idol, Paolucci-Whitcomb, & Nevin, 2000).

Assumptions are that all behaviors are learned. The development, continuation, and alteration of behavior can be explained through observation of purposeful interactions of the individual, his or her conduct, and the context in which it occurs. Assessment, intervention, and evaluation of the intervention's effectiveness are directly linked.

Behaviors must be observable, measurable, and quantifiable; contextual antecedents provide influential points for commencing change.

Interventions are distinctively individual because learning histories differ. Thoughtful intervention with a behavior is directed and adapted according to methodically collected data reflecting the frequency, intensity, or duration of that behavior. Thus, for one person's behavior to be altered, behavior in others intermingling within the setting must also be altered (Kretlow & Bartholemew, 2010).

To consult with teachers who work with the emotionally disturbed population, begin by meeting with representatives of the school district to gain a clear understanding of the district's concerns. Consultants should demonstrate trustworthiness (not taking sides, respecting confidentiality) and expertise (possessing specialized skills and knowledge of the emotionally disturbed population). After gaining clarity of the issues, develop a contract outlining the time frame, describe impending interventions in concrete and specific terms, proposed changes in incremental steps, and delineate consultant/consultee responsibilities. Lastly, outline the evaluation process that will demonstrate the benchmarks have been met and that it is time to terminate the consultative relationship (Dougherty, 2008).

The Emotional Behavioral Disorder Student

When working with emotional behavioral disordered students, avoid accusing children, parents or guardians, or social institutions as being accountable for the disorder. Specify the relationship, if any, between the emotional disturbance and other disabilities such as learning and cognitive disabilities. Address the severity of the behavior (does it appear only at school, or does it appear across a continuum of environments), determine the concepts that can be put into effect to facilitate measurement, and facilitate the process of identifying goals and objectives to be met (Algozzine & Ysseldyke, 2006; Paul & Epanchin, 1991).

The IDEA definition from 20 U.S.C. 1400 et seq states, to be eligible as a student with an emotional disability, the student's education performance must be affected. This is indicated by one of the following characteristics: an inability to learn that cannot be explained by intellectual, sensory, or health factors; an inability to build or maintain satisfactory interpersonal relationships with peers or teachers; inappropriate types of behavior or feelings under normal circumstances; a general or pervasive mood of unhappiness or depression; a tendency to develop physical symptoms or fears associated with personal or school problems. The behavior must be of sufficient duration, frequency, and intensity to call attention to the need for intervention on the child's behalf to insure educational success. This definition includes schizophrenia and autism. However, it does not include socially maladjusted students who tend to display many of the behaviors that an emotionally disturbed student has; i.e. they violate social norms by being truant or are involved in substance abuse (as cited in Whitted, Cleary, & Takiff, 2011).

Purpose for Consulting

As an educator, the consultee is being assisted for the purpose of changing their students' behavior by enhancing the environment and by implementing techniques that promote behavioral change, such as reinforcement, timeout, isolation, and modeling (Dougherty, 2008). According to Weick & Sutcliffe (2007), a school's effectiveness is due to the collective actions of the participants rather than to the administrative structure, the formal program, or the procedures. The everyday work of schools is not that of a single organization; rather, it is a system of independent groups called classrooms. Teachers, groups of teachers, and departments create school order in these individual classrooms. The small segments of classrooms, with their formal and informal networks of teachers, are related to each other in an intricate configuration and with varying intensity. Unfortunately, some segments of teachers work in a silo mode generating ambiguity. Ambiguity is abridged when students, teachers, and administrators have ongoing, stable interactions.

Behavioral School-Based Consultation Characteristics and Models

Sheridan and Kratochwill (2007) named four features that characterize behavioral consultation. They include the use of indirect service delivery models (the consultant provides indirect service to the client by providing direct service to the consultee); a reliance on behavioral technology principles to design, implement, and assess consultative interventions; a diversity of intervention goals ranging from solving problematic situations to enhancing competence to empowering; and changes are aimed at various targets in different settings. The consultant should guide the consultee through a systematic problem-solving process and ensure that the steps of system definition, assessment, interventions and evaluation were accomplished (Dougherty, 2008).

Jacob., Randall, Vernberg, Roberts, and Nyre (2002) assert behavioral consultation can take three forms: behavioral technology training, behavioral system consultation, and behavioral case consultation. All three have the characteristics of indirect service to the client system, use of behavioral technology principles throughout the consultation process, a problem-solving orientation, and empirical validation of interventions.

Conjoint behavioral consultation (CBC) is a model that involves home-school collaboration. An attempt to solve problems that arise within a behavioral framework, it involves a relationship whereby services consistent with a behavioral orientation are provided to a client through the mediation of important others in that client's environment. The major emphasis is in helping the consultee's client (the student). This indirect model of consultation focuses on work with the classroom teacher and family. The consultant rarely, if ever, has contact with the child.

One particularly significant concern to address with the consultee is the parent/guardian and family of the child. The culture in which the student lives stimulates what he or she perceives, believes, considers, does, and generates. Family life is where a student is first educated in emotional learning. Four school myths regarding parents of emotionally

disturbed students are: parents are to be blamed for their student's issues; parents are never accountable for their student's issues; fathers do not want to be involved; if parents do not attend conferences, it is because they do not care. A closer look reveals that parents/guardians are frequently hesitant to collaborate with educators for one or more of the following reasons. First, they may have a personal history of school problems – thus, contact with teachers may bring back previous fears and unpleasant memories. Second, they may feel inferior to school employees in terms of educational level or socio-economic status. Third, they may believe their student's problems are a result of their poor parenting skills and may fear the school employees will harshly blame him or her. Fourth, they may be relieved to have someone else held accountable for their problem student and may wish to evade sustained responsibility, sensing he or she has earned a break. Additionally, they might have a long history of disappointment in dealing with this student, they may disagree with the origins and treatments that have been suggested to address the student's issues, and they may not share the school's belief that the student needs special services. Also, they may wish to hide other domestic issues (such as abuse or alcoholism) and be disinclined to include outsiders, they may be overcome with their own issues, they may have strong outlooks about their student, and they may assess school employees as antagonists (Paul & Epanchin, 1991).

To address the above issues, the consultee could be trained in the Family Empowerment Model, which functions to support the environmental structure in which parents are the essential participants. The key notion in this model is empowerment, defined as an interactive process involving mutual respect and critical reflection. Both individuals and governing entities are altered in ways which offer individuals with more influence over the entities that are perceived as impeding efforts. The goal is to achieve an equal station in society for themselves and those for whom they care. This program has five assumptions about families: all families have some strengths; the most effective and beneficial understanding about the raising of children exists among the people, across generations, in networks, and in socially rooted ethnic and cultural mores; a diversity of family systems are appropriate and can stimulate the growth of vigorous children and adults; both parents can interact with children and domestic responsibilities; and ethnic differences are both valid and respected. Two approaches used in this model involve families via home visits and cluster building. During home visits, consultees visit parents and children, acknowledge the parenting role, strengthen and enhance child-parent activities, and share information about child care and community services. Parents' points of view are pursued. Activities are shared, stressing the importance of parents' thoughts and creating the program as one that is gathered information from both parents. In the cluster-building approach, personnel first get to know parents and then organize group meetings to introduce families to each other, to gain a sense of what shared activities might be beneficial, and to construct an environment for sharing information and resources (Cochran, 2006).

Another model, often called a resource-consulting model, involves alternating between direct and indirect services. In this approach, the consultant works with the classroom teacher (direct) as well as with the child (indirect or direct) (Dougherty, 2008; Wilkinson, 2006).

An Overview of Three Behavioral Strategies

The first strategy that will be discussed is behavioral technology training. It has the goal of increasing consultee competence in the use of general or specific behavioral technology procedures. The consultant functions as a resource person and trainer. The second strategy is behavioral systems. The consultation goal is to help a social system function more effectively in terms of its stated mission. This goal is accomplished through a combination of individual, group, and system-wide interventions. For example, the classroom would be the client system as opposed to an individual student. The third strategy is behavioral case consultation. The goal is to help the consultee make positive changes in the client's environment. A secondary goal is to influence change in the consultee (Dougherty, 2008).

Behavioral technology training

One effective behavior technology strategy that enhances the consultees' competence is to train him or her in the ways effective teachers operate such as through collaborating when developing lesson plans. Ideas include beginning with a short review of former prerequisite learning, recording a short statement of goals, presenting new material in small increments with student practice after each step, giving clear and meticulous guidelines and explanations, providing a high level of active practice for all students, asking a significant number of questions, checking for student comprehension, ensuring all students participate, guiding students during initial practice, offering regular comments and adjustments, providing clear tutoring and practice for seat work exercises and, where necessary, monitoring students during seat work (Rosenshine, 2008). Furthermore, training should be comprised of implementing effective seat work guidelines, supporting students through practice illustrations, giving clear, redundant guidelines, unremittingly monitoring student development, circulating through the classroom providing reinforcement, specific advice, and assistance. Additionally, individual contacts should be limited to 30 seconds or less, the classroom should be organized so the teacher is facing both small instructional group and students involved in seat work, and pre-established seat work routines should be in place (Berliner, 2006; Brophy, 2004; Rieth, Thomas, & Colburn, 2008; Rosenshine, 2008).

Behavioral system consultation

Another term for behavioral systems is ecology, a study in different scientific fields that has the goal to develop an understanding of people and their relationship to their environment using methods that do not disturb either. According to the ecological model, a child is not disturbed. Disturbance is a result of discordance in the reciprocal interactions between the student and components of his social system. In this model, no one "owns" the disturbance and no one is "blamed" for it. The student and key participants of the environment are contributing and receiving members of transactions, and both have responsibility for altering disturbing interaction patterns (Paul & Epanchin, 1991).

The ecological model, as it applies to emotionally disturbed children, is an evolving perspective. Initially demarcated in the 1960s by Hobbs and Rhodes, the concept was considered to be revolutionary. Inspired by visits to treatment programs in France and Scotland, Hobbs initiated Project Re-Education of Emotionally Disturbed Children (Re-Ed) in Nashville, Tennessee, and Durham, North Carolina. Re-Ed programs are designed as short-term treatment sites where links are sustained amongst the school, family, and Re-Ed staff. The emphasis is on training the student how to behave properly in a variety of situations. At the same time, educators and parents are assisted with learning which reaction to the child is most appropriate (Hobbs, 1966; Rhodes, 1967). Unlike treatment programs grounded on the psychodynamic model where therapy and the role of the psychologist are emphasized, Project Re-Ed emphasized education and the role of the cooperating teacher-counselor. Hobbs (1982) developed an ecological assessment and enablement plan that was comprised of a graph of each student. It stipulated essential services, the person responsible, service end dates, costs, source of funds, benchmarks, and follow-up information. Devices for constructing connections delineating crucial components of the student's environment are crucial.

Successful interventions implementing Hobbs's vision continues today. For the 2007-2008 school years, his school in North Carolina served approximately 85 students ranging from ages 6 to 12. In collaboration with Duke University, 100 students who completed the program were described as significantly less aggressive with substantial improvements in behaviors (Wright School, 2008).

Behavioral case consultation

A behavioral consultation approach that might assist the consultee (teacher) in changing the client's (student's) behavior is training in the Play and Language for Success (PALS) language. Originally designed for pre-kindergarten through second grade students, the technique revolves around child-centered adult-child communication and is therefore adaptable to older students. The consultee (teacher) states one of three "themes" believed to be driving the child's actions (Chaloner, 1998). For example, if a child is pushing or otherwise acting aggressive during play, the adult might say, (feeling theme) "You are angry that Jason is 'it' so you pushed him," or (need theme) "You want to be 'it' so you pushed Jason," or (belief theme) "You think it's okay to push someone when you don't get your way." A supportive statement follows the thematic statement, such as, "I am afraid Jason will get hurt if you push him." A specific consequence is then stated, such as, "You can either stop pushing or you can sit in time out. You decide." When interpreting the student's responses to thematic-based statements that the adult has made, close attention is paid to non-verbal and behavioral responses as well as verbal ones. If the student has understood and the statements are accurate, the student might give a look of recognition, pause, include the adult in the activity, or affirm the statement verbally or non-verbally. On the other hand, if the statement is not accurate, the student might contradict the adult verbally or non-verbally, give a look of disagreement, shift the play focus to another activity, distance himself from the adult, or exclude the adult from interaction. The student might even correct the adult and give the theme.

After identifying the problem of a student in conflict, one option that could be used is to train the consultee in the No-Lose Method, developed by Gordon in 1974. This is a process of teaching a student to work through conflicts from beginning to end. The steps include defining the problem, generating possible solutions, evaluating the solutions, deciding which solution is best, determining how to implement the decision, and assessing how well the solution solved the problem. (Amazingly, this is similar to the consultee deciding what the problem with the difficult child is and how to eliminate the undesired behavior by replacing it with desired behavior). This approach may be used with groups or individuals, but to be successful the teacher must have a good rapport with the student and possess good communication skills.

Functional Behavioral Assessments are tools frequently utilized in schools to ensure compliance with IDEA reauthorization laws. Prior to completing the more formal Behavior Assessment, all teachers who work with the student being evaluated receive a behavior checklist. Included are lists of behaviors, gathered from record reviews and teacher reports, that have been uniform on clusters of students in regular classrooms and on students receiving special services for emotional and behavioral problems. Some checklists include pro-social positive behaviors, but many contain only items that deal with problem behavior. Suggested uses include comparing the extent of one student's behavioral problems with the behavior of students in the normative sample as a means of determining the severity of the problem, assessing the success of an intervention by comparing student's pre- and post-scores on checklists, and recounting the characteristics of students in a sample for research determinations (Webber & Plotts, 2008). Questions that need to be addressed during the assessment are: who is bothered by what, what interventions have been used in the past and how has the child responded to them, do the stressors in the child's life explain his survival tactics, how is the child perceived, and what is the child's overall behavioral style (Morse, 1985; Ysseldyke, Burns, Scholin, & Parker, 2010).

A consultant might also train the consultee in eliciting "I-messages" from distressed students. "I" messages involve three parts: an interpretation of what is triggering the problem, a description of the perceptible outcome of the behavior, and identification of the subsequent feelings. According to Gordon (1974), the benefit of an I-message is that it keeps the accountability for the problem where it belongs. By not condemning the student, it stops the student from becoming defensive, allowing the student to hear the message and have a meaningful, rational discussion. By using an "I-message," the teacher usually elicits the student's feelings and then actively listens.

Listening is a critical piece of constructive dialogue. Gordon (1974) emphasized the significance of determining who "owns" the problem. If the student owns the problem, then the teacher can become a counselor and assist the student with coping strategies.

The Crane/Reynolds Behavior Management Program is a comprehensive program designed to assist students in gaining impulse control. The consultant provides behavior-, academic-, crisis-, and environmental-management training. Crane/Reynolds materials include three levels of social behavioral curriculum for emotionally disturbed students

that target communication, responsibility, assertiveness (instead of passive or aggressive behavior), positive attention seeking behaviors vs. negative attention seeking behaviors, and responsible “I” statements (previously discussed). The role playing sessions and other social skills lessons are based on emotional intelligence research and emphasize the fact that the student has the power to make the choice (Crane & Reynolds, 2011).

Evaluation Stage

The evaluation stage determines if the plan that the consultant implemented with the consultee was effective and what transpires next. It has three steps: assessing goal achievement; systematically evaluating strategy effectiveness to assess the degree to which criteria have been met by answering what, how, and by whom; and post implementation planning utilizing results or disseminating results so the information can be used for decision-making. (Bergan & Kratochwill, 1990; Dougherty, 2008).

According to Dougherty (2008), assessment of the plan entails two procedures. The first procedure is implementation evaluation, which determines if the implementation occurred as planned, appraises problems that arose during implementation and how those problems were addressed and resolved. The second procedure involves an outcome evaluation to determine if the goals were achieved. Questions to consider include to what degree the plan was effectively executed, what next steps should be taken, and how can the anomalies be eliminated.

Continuing Dougherty’s procedures, Swartz & Lippitt (1975) and Wickham, Wickham, & Cope (2008) articulated three ways to assess a plan’s outcome. First, analyze individualized goal attainment measures, which are methods that measure effectiveness of services according to specific benchmarks. Next, evaluate standardized outcome assessment devices, or the use of norm- or criterion- referenced strategies. Finally, review consumer satisfaction surveys, which collect data regarding views and attitudes of the client or client system. In order to assess the consultation process, parties involved evaluate both contributory performance, or how well the consultant aided in solving the situation, and the expressive component, or how well the consultant built a connection or rapport with the client or client system. Consider the behavior change in the client or client system, cost effectiveness, and attitudes as well as opinions.

Consultants usually evaluate the plan that was carried out during the implementation phase, the overall effects of the consultation, and efficacy of different stages. Questions that may aid an evaluation include: to what degree has behavior in the client or client system changed in the desired direction, to what degree was the consultant able to enter the system, in what ways has the organization changed as a result of the consultation, to what degree have the goals established in the contract been met, and to what degree have established time-tables been met? Additional questions include how successfully a given intervention was carried out, how effectively the consultant established an effective working relationship with the consultee, and to what degree the consultation has been worth the cost in time, effort, and money (Dougherty, 2008).

Constructive evaluation and follow-up promotes improved and increased performance of the consultee. If the goals have been achieved, the consultant and consultee can collaboratively evaluate the plan's effectiveness. If the goals have not been achieved, re-training is appropriate to assist consultees with additional assistance with developing and implementing strategies that assist the client (student) in reaching their behavioral goals, including moving from tangible to non-tangible rewards.

Terminating the Consultation Process

Prior to termination, items need to be reviewed to ensure goals were met. These items include reviewing the consultee's chosen model(s) of consultation, initial planning of the consultation process, quantity and quality of consultee's reports about the work-related problem, progress made relative to each consultation stage, and organizational variables that affected the consultation process. Variables can include consultant behaviors at each consultation stage, consultee behaviors throughout the consultation process, client behaviors throughout the consultation process, consultee satisfaction with the consultation, the degree to which goals were attained, adequacy of each consultation contact, interpersonal behaviors of the consultant and consultee, and institutionalization of change (Dougherty, 2008).

Finally, termination occurs, which formally ends the consulting process. Termination allows the participants to celebrate their accomplishments. It should not be done abruptly, as participants need to digest their new skills and gain the ability to utilize them as situations dictate (Dougherty, 2008).

Consultees can be successfully trained to implement purposeful programs for the emotionally disturbed population. Research demonstrates that emotional training programs are successful. They should be initiated promptly once a concern is recognized, be age-appropriate, endure during the school year, and link with abilities at school, home, and in the community. Students do not need a sermon about principles; rather, they should rehearse them. This permits emotional training programs to work hand-in-hand with education for character, ethical growth, and social responsibility (Goleman, 1995).

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Finding Opportunity in Co-Teacher Personality Conflicts

Kara Boyer

Cory McMillen

Abstract

Co-teaching, the collaborative instruction of an inclusive classroom by a general education and special education teacher, is a relatively new construct. As a result, many of the pitfalls and struggles associated with it are still being defined, and solutions are often hard to come by. Disagreements, and especially large-scale personality conflicts, can be detrimental to student achievement. Having addressed that problem during our first few years through the development of pedagogical strategies, we offer other co-teachers a series of techniques and activities that can allow them to circumvent their own personality clashes.

Finding Opportunity in Co-Teacher Personality Conflicts

There we were, sitting in marriage counseling, scowling across the table at one another. Neither of us was prepared to surrender any position or to concede any issue. In the background we could hear the monotonous drone of a lecture about men and women's brains: how they function differently, perceive differently, and how that often leads to miscommunication. We didn't find any solace there. Deep down, we were both wondering what we were going to say to our spouses when we got home.

Nobody had told us that it was going to be so difficult. In fact, co-teaching was nothing short of a disaster. We argued. We fought. We hated each other. It was like being trapped on a roller coaster: the heights were impossible climbs, while the lows came swift and easy. But when our principal tried to alleviate the problem with the aforementioned tongue-in-cheek marriage counseling, we finally found common ground: neither of us thought the joke was funny.

Conflict between co-teachers is one of the most perilous and difficult to overcome scenarios that schools face when enacting the system. We don't doubt that a variety of solutions has been proposed and applied. Some of them may even work. But it's not very easy to stop the rollercoaster when you're the one on it, and maybe it's not always necessary to do so.

By embracing the oppositional nature of mismatched personalities, educators open themselves up to a world of valuable co-teaching strategies that rarely get mentioned in professional literature, including some that might not ever occur to the more "appropriately" matched groups.

The technique that we found to be successful, and a lot of fun, was one that allows us to bypass our conflict: role playing. By assigning ourselves specific character roles that involved large amounts of “pretending” within a structured design, we found ways to work together. This also helped diminish the type of “don’t step on my toes” awkwardness that often occurs in those first few years, especially when attempting team teaching.

Classroom games are frequently loaded with opportunities to play-act, usually within the confines of a review or introduction activity. We often use a variation of “Deal or No Deal” to this end. While there are countless other options available, this particular game happens to be one that a lot of our kids are already familiar with. It also has two significant and distinct roles to fill: host and banker. It makes interaction easy. The teachers imitate the characters (each of whom has very distinct traits or behaviors to mimic), the game has both rules and process, and there is minimal public interaction required between us. One runs the board, guiding the class as they answer questions or complete tasks while trying for the “million dollars,” while the other plays the mysterious banker who calls in (or, in this case, texts) offers to the host on their cell phone throughout. Bending the rules of the game a little, our banker will offer the contestants his or her assistance in an effort to thwart the host’s intentions. This gives them a more active role in the game, and provides students who might otherwise flounder with a chance at success.

Role playing can also be utilized to help adolescents understand character motivations and personalities in a story or novel, and provide them with the opportunity to do a little acting themselves, or in a myriad of other activities (Lloyd, 1998). Certainly, the teachers themselves don’t need to be the only ones doing the acting. Our students are often eager to get in on the fun.

Another approach that worked well for us, this time by utilizing the conflict we experienced rather than by hiding it, was competitive parallel teaching. Even now, it remains one of our most successful co-teaching lesson formats.

When starting a new unit, we split our classes into two groups. Then, we pit them against each other in a series of challenges or events as the unit progresses. Acting as team managers, we prepare our groups for each competition, encouraging them as they face their classmates. This design allows us to play to our own strengths, as well as to the students’. She doesn’t like the way he wants to teach this unit? That’s alright. He thinks her new ideas won’t work? Fine. We fight it out and see who wins.

The students absolutely love this technique, with boys especially responding well to the competitive nature. It can remain a powerful motivator far into the slump-heavy second semester, when it sometimes feels like nothing else will work.

Turning parallel teaching into an Olympic team sport gives us the chance to explore different combinations of pairing, as well. Depending on the class and its strengths, we might split them by gender, ability types, age, or even just randomly. Most often, we look

at the type of teaching each of us will be doing as a cue. If one of us is going to emphasize discussion in this unit, they will draft the students who most effectively learn under those conditions and who respond positively to them. If the other is aiming for independent exploration, then they will look for introverted members and for students who seem to be caving under the weight of constant teacher authority. Once teams are decided, they will spend at least one class period preparing for the match-up. Sometimes, we might have a “season” involving multiple opportunities for victory and lasting for an entire unit. It’s important to note that the teams are covering the same material. They are simply offered it in a different style or strategy. Summative assessments using this method are less than traditional, but the results often reflect the positive student reaction to the competitive nature.

Obviously, oppositional co-teachers can’t simply spend the school year hiding their teeth grinding behind fun and games. Traditional systems like lectures, class discussions, silent reading, and journal writing are all realities of teaching. And, in many cases, these are the places where it becomes easiest to let co-teaching falter. Whenever you have two different personalities trying to lead one classroom you are highly likely to end up with some sizable disagreements. Some of them may even risk boiling over right in front of the students. Once again, our proposed solution to co-teachers who come into conflict is to exploit it. View that conflict as a tool at your disposal, rather than a barrier to success.

We like to start a lesson by discussing with the class what the activity, lecture, or discussion will be about. It’s the usual talk about big ideas and goals. But, from time to time, something comes up that we disagree about. One of us makes a point that the other disagrees with, or interjects something new that creates an unplanned expansion. Some of our resulting disagreements have become, to put it gently, heated, and the first time this happened we were both a little embarrassed. What we didn’t account for, and couldn’t have predicted, was having students come into class for the next session both excited about and recalling effortlessly everything we had discussed. They had genuinely enjoyed witnessing the debate and seeing their teachers present themselves as something other than the intellectual authority in the room. “Okay,” we thought, “lesson learned.” From then on, for several years after, we went with what came naturally to us. And what came naturally to us was disagreeing with each other.

Needless to say, one must walk on the very tips of their toes when debating other teachers. This is especially true when standing in front of a classroom full of adolescents, trying to let that debate foster the lesson. Students with certain disabilities or backgrounds will react very strongly to the unusual display. Autistic students in particular can react poorly if not properly prepared. Having difficulty with social processing in general (Evans, 2008), they can become upset or excited by the conditions of the discussion. Resolving this problem might mean something as simple as having both teachers sit down with them ahead of time and let them know what’s going to happen. We make it a point to emphasize that the debate is purposeful, friendly, and not serious. It also helps to develop non-verbal communicative movements that can be used to reassure those students (Kuzmanovic, et al., 2010). “When I touch my ear with my hand, that’s my way of letting you know that I’m enjoying the discussion.” “When I cross my arms, it means

we need to calm down and disengage.” Not only does this help them handle the discussion appropriately, and even enjoy it, but it sets up classroom cues that can be used year-round.

Co-teachers should always make it a point to maintain appropriate tone, to engage the students positively during the discussion, and to present some form of resolution at the discussion's end (even if the resolution doesn't always involve the two teachers reaching agreement). We required some small amount of scripting early on, until both of us had found and defined our respective comfort levels. And while role playing and competitive parallel teaching are consistently effective and useful, classroom debate as a stand-in for lecture or discussion may not be applicable to every class or setting.

One of the great bonuses to this type of interaction is that the teachers get to model conflict management skills. Character education is both omnipresent and consistently unsuccessful in schools today (Social and Character Development Research Consortium, 2010). In our experience, talking about how to handle a disagreement or argument is nowhere near as impactful as letting the students actually see a real life disagreement play out in front of them where the participants handle it well. Rarely, if ever, do they have the opportunity to actually see those skills applied in real life.

In fact, we find using co-teacher debate lessons early in the year to be remarkably beneficial, especially when we precede it by pre-teaching expectations and skills. By identifying what's going to happen, what the purpose and hopes are for the lesson, and what cues students should be aware of, we can tie the introduction of their behavioral expectations to the lesson at hand. We have found that later discussions benefit greatly from this sort of “lab activity” on skills related to appropriate arguing and disagreement.

Whether co-teaching turns out to be a temporary trend or a foundational building block for an inclusive future, it is a reality of the present and should be embraced by all involved to the highest degree possible. Doing any less is a disservice to the students who have no more say in the matter than the teachers who share the room with them. That some co-teachers will have mismatched personalities or philosophies is probably inevitable, so the development of strategies that harness that fact is as important as the creation of systems that work to prevent it. Our personal experience is that absolutely nothing will produce goodwill between co-teachers quite like success will. At a time when we were struggling, these techniques put us on that path.

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Meeting the Needs of Special Education Students in Inclusion Classrooms

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Abstract

Based on interactions with general education teachers, observations of special education students in inclusion classrooms, and general education teachers' input during the Response to Intervention (RTI) process, a resource teacher found that many teachers were ill prepared to meet the diverse needs of special education students in the inclusion classroom. More importantly, the students' Individualized Education Plans (IEPs) were not being implemented. As such, an action research project was initiated to explore three main research questions: (1) What challenges do special education students present for general education teachers in inclusive classrooms?; (2) What are the perceived needs of general education teachers in relation to accommodating special education students in their classrooms?; and (3) In what ways can administration support general education teachers in accommodating special education students? The findings identify general education teachers' need for better communication, professional development concerning children with disabilities, and a need for more planning time.

Meeting the Needs of Special Education Students in Inclusion Classrooms

A major challenge in schools today is the sheer volume of students being labeled as special needs under the Individuals with Disabilities Act (IDEA). It has been well documented that the rate of student referrals for special education is high, particularly among minorities and English Language Learners (ELLs) (Guiberson, 2009; Klinger & Harry, 2006; Skiba et al., 2006; Skiba et al., 2008; Zetlin, Beltran, Salcido, Gonzalez, & Reyes, 2011). Such findings may indicate that the needs of special education students are not being correctly identified. However, in cases in which students are correctly identified, their needs are often not met in general education classrooms. In order to improve the educational experience of special needs students in the inclusion classroom, teachers must be knowledgeable about IDEA, curriculum differentiation, and appropriate instructional practices for learning disabled students. For the purpose of this study, inclusion is defined as the student receiving services in the general education classroom for the majority of the time and only being pulled out when appropriate services cannot be delivered in the regular education classroom environment.

In 2007-08, about 6.6 million children and youth, representing 13% of national public school enrollment, received special education services (NCES, 2010). Approximately 94.6% of those children spend a percentage of their day in the general education classroom (NCES, 2010). These statistics reveal a significant change in placement practices as an article by McLeskey, Landers, Williamson, and Hoppey (2010) notes that in 1990, only 34% of students with disabilities spent most of the school day in general education settings.

Implications of Inclusion

As with any major change in the educational system, inclusion comes with implications. According to Murphy (1996),

The widespread adoption of a fully inclusive approach to educating students with special needs will necessitate a comprehensive restructuring of both regular and special education at all levels—from classroom organization and pedagogy, to curricula, to program administration, to teacher preparation. (p.470)

Although it is necessary for all stakeholders to be involved in this “comprehensive restructuring,” general education teachers seem to have the greatest challenge. Not only are general education teachers expected to teach students with special needs, they are expected to be fully prepared to do so (i.e., be equipped with the necessary knowledge and skills). The problem, however, is rooted in teachers’ preparation—both preservice and inservice.

Teacher Preparation

Several studies have explored the notion of teacher preparation in the area of special education (Chang, Early, & Winton, 2005; Harvey, Yssel, Bauserman, & Merbler, 2010; Holdheide & Rechly, 2008). The consensus among the literature has been that general education teachers are inadequately prepared to work with special needs students and, therefore, not prepared for inclusion. Although this has been a major concern for nearly two decades, efforts to address this issue have been futile in most cases. While there are institutions of higher education that report their efforts in providing general education teacher candidates with coursework that focuses on exceptional children and/or special education in general (Harvey et al., 2010), teachers are still entering classrooms unprepared for inclusion each year.

This action research project grew out of one special education resource teacher’s concern with the daily challenges of general education teachers in inclusive classrooms. Through her interactions with the general education teachers at her school, the resource teacher found that these teachers’ voices needed to be heard. To further explore the teachers’ challenges, three research questions were developed: (1) What challenges do special education students present for general education teachers in inclusive classrooms?; (2) What are the perceived needs of general education teachers in relation to accommodating special education students in their classrooms?; and (3) In what ways can administration support general education teachers in accommodating special education students? It is

the intent of this project to use the results to help guide administrators in choosing and implementing appropriate professional development for general education teachers and, more importantly, in making sure the teachers continuously receive the necessary support to successfully meet all students' needs.

Background

This study was conducted at a mid-sized Title I elementary school campus in Texas with a "Recognized" performance ranking through the State Department of Education. A partnership with the local University maintains this campus as a Professional Development Laboratory School (PDLS) where teacher professional development is data and research driven and paramount in the improvement of student achievement. The population at the school is primarily African American and Hispanic bilingual with 11% of the 935 students receiving special education services through Speech, Alternative Academics, Preschool Programs for Children with Disabilities (PPCD), and Resource.

Participants

All certified professional educators surveyed were highly qualified for their positions under the No Child Left Behind Act (NCLB). There was an equal mix of bilingual and English speaking educators with a multitude of experience levels and a wide variance in their level of education. The staff represented many comparable elementary campuses in Texas. Of the 70 teachers who were sent the surveys 56 responded for a response rate of 80%. Seven participants were chosen for the focus group by each grade level team who were asked for a volunteer representative. The seven teachers consisted of certified general education 1st- 5th grade classroom teachers, a physical education teacher, and one resource (inclusion) teacher. Additionally, the teachers greatly varied in their years of teaching experience and in their pre-service teacher education (see Table 1). Only two of the teachers received significant special education training through either college courses, district-based professional development, or state-mandated training. The remaining teachers had minimal training or experience through campus-based trainings, readings of material relevant to special education, or other experiences outside of the public school system.

Table 1

Focus Group Participants' Educational Experience and Background

PARTICIPANT	YEARS OF TEACHING	EDUCATIONAL BACKGROUND
Participant 1	15+	B.S. in Special Education & Bilingual Education M.Ed. Educational Administration
Participant 2	6	B.S. in Elementary Education
Participant 3	6	B.S. in Elementary Education M.Ed. Educational Administration
Participant 4	6	B.S. in Elementary Education
Participant 5	2	B.S. in Elementary Education
Participant 6	10+	B.S. in Elementary Education
Participant 7	3	B.S. in Special Education

Design and Methodology

The research design was mixed methods, utilizing both qualitative and quantitative methods to collect data. First, an electronic questionnaire was designed to collect quantitative data pertaining to the needs and challenges of staff members who serve special education students in inclusion classrooms. Specifically, a Likert scale was used to determine the difficulty level of the challenges presented by special education students and the importance level of the perceived needs of the teachers. Qualitative data was then collected through a multi-grade level focus group where participants were asked to discuss proposed questions pertaining to the project topic (meeting the needs of special education students) in an open forum.

Focus Group

Focus group questions (see Appendix B) were designed to determine the challenges presented by special education students in the inclusion setting and what the teachers' perceptions were in relation to accommodating the students. It was our goal to have the discussion drive the direction of the focus group. In contrast to individual interviews, focus group participants relate their experiences and reactions among presumed peers with whom they likely share some common frame of reference (Kidd & Parshall, 2000). In this manner, the focus group was able to delve deeper into the topic of discussion.

Data Analysis

The focus group interview was digitally recorded and transcribed verbatim. The transcription was then read and analyzed separately by members of the research team. The researchers looked for patterns, or themes, throughout the text of the transcript and comments were made within the margins of the transcript. The researchers then met to compare data analysis and discuss themes, which emerged from the data, to determine a level of agreement. To analyze teacher responses to the online questionnaire concerning their greatest perceived challenges and needs, a repeated measures analysis of variance (ANOVA) was used.

Results

The intent of this study was to determine what general education teachers perceive as their needs and greatest challenges to successfully meet the needs of special education students and in what ways administrators can support general education teachers in accomplishing this goal.

Qualitative Results

Three major themes were established through analysis of the focus group data: (1) communication; (2) collaboration vs. disconnect; and (3) lack of professional development.

Communication

Communication was the most important factor discussed as needing improvement. As in any relationship, skilled, open communication appears to be the strongest foundation for success. The only way to have successful collaborative experiences in education is through successful communication. According to Snyder (1999), “one of the biggest factors aiding the success of the program is constant communication between regular education and special education teachers” (p.178). Teachers participating in the forum cited communication gaps when it came to informing general education teachers prior to placement of special needs students in their classrooms, informing them of schedule changes for special needs students, and communicating goals and objectives of instruction for special needs students. One participant imparted:

I think it is very important with communication between the teacher, resource, occupational therapist, the special education team lead and the principals. Sometimes, the decisions are made way over there and I'm the last to know.

Resource teachers and administrators need to understand the impact special needs students have on general education teachers when placed in their classrooms. There is a need for additional time for planning instruction, behavioral concerns, scheduling and the social dynamics of all students in the classroom. At the same time, general education teachers must communicate their needs to administrators and the special education department. Administrators, special education teachers, and general education teachers should be continuously communicating in regard to curriculum concerns, classroom management, social skills training for students, instructional strategies, and student progress in order to create a network that efficiently addresses the educational needs of children with learning disabilities in the inclusion classroom.

Collaboration vs. Disconnect

Problems develop in inclusive settings when children with disabilities are “dumped wholesale” into classrooms, with budget cuts and no planning and collaboration. Special educators lament loss of control over the learning environment and fear loss of specialized services for students with disabilities (Salend & Duhaney, 1999). Many of the teachers felt there was a disconnect and a general lack of collaboration between the special education department and the general education teachers. The special education department on this particular campus included resource teachers, occupational therapists, speech therapists, alternative education teachers, PPCD teachers, counselors, gifted and talented teachers, special education team leaders, diagnosticians, paraprofessionals, and administration. As one participant stated, “There is no connection, it seems, between the resource setting and the general education setting.” This disconnect extended to planning, grading and instruction.

Planning was a leading cause for concern. General education teachers have discerned the importance of planning instruction and interventions with the special education teachers but encounter time or schedule restraints when it comes to collaborative planning. The

majority of the teachers participating in the focus group felt that the Individual Education Plans (IEPs), which are plans for instruction, are confusing and difficult to follow. There seemed to be a general lack of understanding of the content of IEPs and Behavioral Intervention plans (BIPs). This lack of understanding extended to the progress monitoring system as well. One teacher stated:

Here is his IEP. Here is what you have to do. He has to learn this four out of ten times or six out of ten times, and it's like another language to me. ...So how am I going to document that he does this eight out of ten times, assess it, and explain it to the [resource] teachers?

Another example of disconnect as it pertains to instruction is the idea that the resource teacher, general education teacher, and parents are not all working toward the same goals. A veteran teacher participant was discouraged by the time and effort she puts into planning with minimal results. She felt that the disconnectedness resulted in failure for her as a teacher and for the student, as reflected in her statement:

I find all the resources, I do all this work and the students don't have a consistent setting when they go home. Mom does not force them to do homework, the special ed teacher is going in one direction, I'm going in another direction.....and there is no way if the special ed teacher, the teacher, the parent and the student do not have the same goal and the same structure. If they don't read at home, there is nothing we can do. We can't do miracles here.

The disconnection was not limited to communication or collaboration issues between teachers in both departments, but a disconnection with the special needs students themselves while in the inclusion classroom. The teachers felt their time with these students was disjointed due to pull out for resource and other services; many times efforts were futile. For example, one teacher participant said:

...for me the biggest challenge that I face is when there is disruption toward the daily routine, especially if we are doing small group instruction and I am including the student. He has to be pulled to go to the Special Ed teacher. Then, he has to come back and catch up and for me, I kind of wish it could be a more predictable pattern where I could adjust the one to one instruction and not hinder his inclusion in the classroom. That's one thing that I think would be great; if we could find a way to not disrupt the structure and routine.

A major concern inclusion teachers have is building positive relationships with special educational needs students. This becomes challenging when students are pulled out for services and do not spend continuous blocks of time with the inclusion teacher. One teacher stated:

Like the ones in the afternoon that leave, a group of four, they're hardly ever with me. And so, I mean I know them as children but I think I'd be lying if I said that I

knew exactly what level they're on and I know what to do with them; because I don't....I feel kind of frustrated sometimes.

Professional Development

The most impactful commission of administrators in supporting general education teachers in meeting the needs of special needs students was to provide consistent professional development in the area of disabilities, behavior, and federal laws and mandates driven by IDEA. According to researchers, professional development in special education for general education teachers improves the attitudes of these teachers concerning inclusion (Avramidis, Baylis, & Burden, 2000). A more positive attitude concerning inclusion is a huge step in improving the educational experience of special needs students in inclusion classrooms. Studies conducted by Ornelles, Cook, and Jenkins (2007) concluded that general education teachers felt less confident than special educators in their ability to facilitate successful inclusion of students with disabilities. This conclusion calls for more in depth training and professional development to support general education teachers. Teachers' confidence to teach is one of the key characteristics that predict teaching ability; those who believe they can positively impact student achievement are more likely to be effective in meeting students' needs (Eggen & Kauchak, 2006). Teachers knew they were not fully prepared and repeatedly stated that there was a tremendous need for professional development to help clarify the admissions, review, and dismissal (ARD) process, assessment process, BIPs and IEPs, legal responsibilities of teachers and progress monitoring. One participant had this to say about professional development:

I think the professional development being updated is important. How to address those needs is very, very important. Having sessions that will give us the tools that we can take care of those needs would be great.

Teachers' participation in professional development varied greatly. Those teachers who had professional development that pertained to special needs students affirmed it was minimal and "not enough to apply it" in the classroom or they felt they needed refresher courses because previous professional development was brief and they felt they did not get much out of it. This attitude was shared by both general education teachers and special education teachers alike.

Summary of Qualitative Results

There are many challenges in meeting the educational needs of children with disabilities in the inclusion classroom. Our study concluded that general education teachers are frustrated with the structure of the system (grading, progress monitoring, scheduling, placement of students), lack of professional development opportunities concerning children with disabilities, communication breakdown between departments, and the lack of collaboration between administration, the special education team, and general education teachers. The findings of this study are indicative of the need for in- depth professional development for general education teachers. Our study confirms previous

research done by Rea, McLaughlin, and Walther-Thomas (2002) who concluded that there is an obvious need for better communication among professionals, collaborative problem- solving and the development of appropriate support services along with an emphasis on initial preparation and continuing professional development programs.

Summary of Quantitative Results

Questionnaire results were analyzed separately for the teacher perceived challenges and teacher perceived needs. Two one-way repeated-measures analysis of variance (ANOVAs) were conducted with the factor being the seven items measuring teachers' perceptions of challenges or needs and the dependent variable being either the challenge scale score or the need scale score. The scales ranged from 1 to 5; 1 represented "not at all challenging" or "not at all important", and 5 represented "very challenging" or "very important". The means and standard deviations for the challenge scale scores are presented in Table 2. The results for the ANOVA indicated an overall significant difference between the seven items on the questionnaire measuring teachers' perceived challenges: Wilks' $\lambda = .454$, $F(6,50) = 10.015$, $p < .01$, multivariate eta squared (η^2) = .546.

Table 2

Means and Standard Deviations for the Challenge Rating Scale, n = 56

Item	Teacher Perceived Challenges	M	SD
1	Students ability to keep up with the pace of the curriculum	3.57	0.783
2	Modifying curriculum	2.82	0.765
3	Finding the time to meet SEN students needs	3.45	0.807
4	Grading appropriately	3.20	0.980
5	Behavior disrupting the learning of others.	3.20	1.182
6	Making appropriate accommodations	2.84	0.968
7	Collecting data / documentation	3.12	1.113

Given the overall significant finding, follow-up paired comparisons were run. There were a total of 21 unique comparisons for the seven items. Among the unique comparisons, four were significant. The Bonferroni procedure was used to adjust the familywise error rate across the 21 tests, the nominal .05 alpha level was adjusted to .002 (i.e., $.05/21 = .002$). The resulting significant paired comparisons are displayed in Table 3. All paired comparisons were significant at the $p < .001$.

Table 3

Significant Pairwise Comparisons for the Challenge Rating Scale

Item	Teacher Perceived Challenges	M	p value
1	Students' ability to keep up with the pace of the curriculum	3.57	<.001
	vs.		
2	Modifying curriculum	2.82	
1	Students' ability to keep up with the pace of the curriculum	3.57	<.001

	vs.		
6	Making appropriate accommodations	2.84	
2	Modifying curriculum	2.82	
	vs.		<.001
3	Finding the time to meet SEN students' needs	3.45	
3	Finding the time to meet SEN students' needs	3.45	
	vs.		<.001
6	Making appropriate accommodations	2.84	

In summary, teachers reported students' ability to keep up with the pace of the curriculum as the most challenging event (Item1). Time to meet special educational needs (SEN) students' needs (Item 3) was reported as the second most challenging event. Both Item 1 and Item 3 were significantly more challenging than modifying the curriculum (Item2), or making appropriate accommodations (Item 6). The results suggest, administrators could offer teachers support with helping special education students keep up with the pace of the curriculum and with finding time to meet SEN students' needs.

Teachers were also asked to rate seven items that reflect the needs they have in order to better serve their speciation education students. A repeated measures ANOVA was run to determine if there was a significant difference between any of the perceived needs. The multivariate Wilks' lambda (λ) did not indicate an overall significant difference between the seven items measuring teachers' perceived needs: Wilks' $\lambda = .819$, $F(6,47) = 1.731$, $p = .135$. As a result, no follow-up comparisons were needed. In short, teachers perceived all of the items listed in Table 4 as important needs.

Table 4

Means and Standard Deviations for the Need Rating Scale, n = 53

Item	Teacher Perceived Needs	M	SD
1	Professional development in SPED and IEP	3.91	1.043
2	Behavior Support	3.85	1.133
3	More collaboration with SPED team	4.08	.895
4	More time for planning in order to differentiate instruction	4.09	.838
5	More individualized or small group time with SPED students	4.21	.840
6	Help implementing the accommodations on IEP	3.94	.949
7	More resources available for modified curriculum	4.13	.941

Conclusion

For many students with disabilities, gaining entry into general education classes has been a long, hard and litigious road (Conner & Ferri, 2007). Our study has determined that once special needs students gain access to the general education classroom, there are many difficult and frustrating issues for general education teachers on the road to successful inclusion education. In addition to the need for quality professional

development, general education teachers must be involved in everything from the Response to Intervention (RTI) process to the planning and delivery of differentiated instruction for students qualifying for services under IDEA. This collaborative effort with the special education department and administrators must be steeped in effectual communication.

This study clearly demonstrates that general education teachers want to be involved in the processes of special education. This may include grading, developing goals and objectives on the IEP, and helping to create BIPs and ARD decisions. When teachers work collaboratively with the special education team, it will build stronger understandings and knowledge of the impact of inclusion on the students they teach and create more positive attitudes toward inclusion. An analysis done by Avramidis, Bayliss and Burden (2000) revealed that there was an association between the respondents' perceptions of the skills they possessed and their attitudes towards inclusion. Positive teacher attitudes make a strong argument for extensive professional development in the area of special education.

If communication, collaboration, and professional development are in place, successful inclusion instruction will likely occur. A collaborative planning and teaching foundation will bridge the gap that is causing the feeling of disconnect between general education teachers and special education. Administrators must take responsibility for providing professional development, providing concurrent planning time for general education and special education teachers, and providing support with curricular adaptations and accommodations. Special education teachers must take responsibility for including and supporting the general education teacher in the inclusion classroom, planning and developing the IEP, and progress monitoring of special needs students. General education teachers must take responsibility for voicing their needs and concerns, participating fully in the RTI and ARD process, and keeping a positive attitude toward inclusion. When administrators, general education teachers, and special education teachers take collaborative responsibility, communicate often and effectively, and educate themselves and others, inclusion will be a successful educational opportunity for special needs children.

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Appendix A
Teacher Questionnaire

Instructions: Rate the following items to reflect your perceived level of **CHALLENGE** with each item.

Items	Teacher Perceived Challenges				
	Not at all Challenging	Not Very Challenging	Fairly Challenging	Very Challenging	Extremely Challenging
1. Students ability to keep up with the pace of the curriculum in the GE classroom	1	2	3	4	5
2. Modifying curriculum	1	2	3	4	5
3. Finding the time to meet SEN students' needs	1	2	3	4	5
4. Grading appropriately	1	2	3	4	5
5. Behavior disrupting the learning of others	1	2	3	4	5
6. Making appropriate accommodations	1	2	3	4	5
7. Collecting data/documentation	1	2	3	4	5

Appendix A Continued

Teacher Questionnaire

Instructions: Rate the following items to reflect the **NEEDS** you have in order to better serve your special education students.

	Teacher Perceived Needs				
	Not at all Important	Not Too Important	Somewhat Important	Very Important	Extremely Important
1. Professional Development in SPED and IEP's	1	2	3	4	5
2. Behavior Support	1	2	3	4	5
3. More collaboration with Sped team	1	2	3	4	5
4. More time for planning in order to differentiate instruction	1	2	3	4	5
5. More individualized or small group time with SPED students	1	2	3	4	5
6. Help implementing the accommodations on IEP	1	2	3	4	5
7. More resources available for modified curriculum	1	2	3	4	5

Appendix B

Focus Group Questions

1. Explain the academic challenges that you have in the classroom with special educational needs students.
2. What is the most difficult challenge?
3. Explain the behavioral challenges that you have in the classroom with special educational needs students.
4. Explain the type of experience you have working with special educational needs students in the classroom.
5. In what ways do you adjust instruction to meet the needs of special educational needs students?
6. What types of support can administration give to classroom teachers to improve instruction for special educational needs students?

Community-Based Instruction (CBI) as a Component of a Successful Transition Plan for Students with Intellectual Disabilities

Dr. Russell Dubberly

Abstract

This research study used a student-focused questionnaire to gain understanding about high school students with intellectual disabilities who participate in community-based instruction (CBI) as a component of their transition planning. The participating students have intellectual disabilities, range in age from 16-years-old to 22-years-old, and attend a public school for students with special needs. The survey used descriptive statistics to quantify students' responses within five sub-domains (*constructs*) which were categorized as program satisfaction, learning, self-esteem, independent functioning, and social skills.

Community-Based Instruction (CBI) as a Component of a Successful Transition Plan for Students with Intellectual Disabilities

This research study used a student-focused questionnaire to gain understanding about high school students with intellectual disabilities who participate in community-based instruction (CBI) as a component of their transition planning. These students range in age from 16-years-old to 22-years-old and all attend an urban, public school in Florida for students with special needs. The CBI program currently serves 91 students on a weekly basis. The program participates with a host of community employers in the industries of food and beverage, hotel hospitality, maintenance and custodial, shipping and receiving, and retail. Each student typically participates in CBI an average of two days per week.

CBI is an important component of transition planning. Project 10 (2011) suggested that CBI is an effective instructional method for teaching skills (*to students with special needs*) needed for functional daily living as productive adults. Transition planning is a required component (by age 16) of a disabled student's Individual Education Plan (IEP). The U.S. Department of Education (2007) mandated the following regarding transition services:

The term "transition services" means a coordinated set of activities for a child with a disability that:

Is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (including supported employment); continuing and adult education, adult services, independent living, or community participation; Is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and Includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, if appropriate,

acquisition of daily living skills and functional vocational evaluation.[34 CFR 300.43 (a)] [20 U.S.C.1401(34)] (para. 4)

This definition of transition purports CBI as a critical opportunity for students with intellectual disabilities to practice vocational skills and daily living skills needed to successfully participate in the community.

The Nevada Dual Sensory Impairment Project (n.d.) suggested that CBI increases appropriate social and community behaviors (*decrease of self-stimulatory, ritualistic, anti-social behaviors*) and work habits for students with disabilities. Their study also implied that students learn skills in CBI that are critical to the individual's independent functioning within the community. CBI was accredited with increasing community mobility and orientation and typically reinforces age appropriate social skills necessary to complete community transactions. CBI experiences also contribute to the development of skills and work habits appropriate to sheltered and/or un-sheltered employment settings. CBI is individualized to meet the particular needs of each student with a disability related to the student's specific IEP goals and objectives. The Phoenix Day school for the Deaf (n.d.) identified four CBI domains:

- a. Domestic – self care and grooming, wellness, nutrition, cooking, laundry, housekeeping, b. Vocational – career exploration, employability skills, instructions, rules, schedules, c. Community – transportation, libraries, shopping, post office, restaurants, and d. Recreation and Leisure – crafts, games, parks, YMCA, bowling, golfing, movies, amusement parks (para. 3).

CBI, in this writer's belief is role-playing at the next level of realization. Classroom teachers often use role-playing scenarios to build skills, on task behavior, and cooperative work practices in many of the previously mentioned areas (domestic, vocational, community, recreation and leisure). CBI offers the same instructional methodology but within the applied setting, rather than the classroom. CBI should not replace the role-playing activities created in classroom settings, but enhance these learning activities by providing opportunities to further practice these skill sets with non-disabled members of the community. This ideology correlates with normalization theory. Normalization implies, "as much as possible, the use of culturally valued means in order to enable, establish, and/or maintain valued social roles for people" (Wolfensberger & Tullman, 1982, p. 131). This theory expounds constructs that are pertinent to building social networks within the community as well as maintaining relationships with peers in the community setting. Normalization theory concludes that when a person's social role is valued within a setting, other desirable outcomes will be "accorded that person within the resources and norms of his or her society" (Wolfensberger & Tullman, p. 131). A disabled person's consideration as a valued and equal part of the community is a mandatory premise to equal treatment, respect, and adequate access to social opportunities (Dubberly, 2011).

Ginzberg, Ginsburg, Axelrad, & Herma (1951) described a theory of occupational decision making. Their occupational decision-making theory suggested that children and young adults consider their occupation in an evolving ideal from an initial fantasy stage based on the glamour and excitement of the job, which progresses to the tentative stage

where they begin to think about their interests and personal capacities, and eventually to the realistic stage where an appraisal of various fields is made to decide what an occupation can realistically offer. CBI is likely an important conduit in this process for students with intellectual disabilities. Longitudinal study has shown that people with intellectual disability typically have reduced employment opportunities (Taylor, 2004). CBI provides these students with disabilities the opportunity to train and work in a variety of “realistic” job fields. The CBI opportunities offer students the chance to explore, shadow, and eventually train in preferred job settings. CBI offers younger students opportunities to evaluate different work settings and make determinations if the job tasks are preferable and doable. This likely helps the student progress through the mental evolution to the tentative phase of occupational choice. Students ideally participate in CBI for a number of years throughout their secondary school career. As a student gains experience in CBI, more realistic views of what each job entails should begin to form and coincide with a better understanding of one’s personal capacity to master the job. This evolutionary process seems to define the transition ideology of disorientation to reorientation in new settings or with new life events (Kochlar-Bryant, Bassett, Webb, 2009).

Purpose of the Study

This study was intended to provide high school students with intellectual disabilities the opportunity to provide input on how the CBI program benefits them in five areas related to successful transition from high school. The guiding constructs were categorized as satisfaction with the CBI program, learning, self-esteem, independent functioning, and social skills. These constructs correlate with the students’ Individual Education Plan (IEP) domains of independent functioning, vocational, academic, and social emotional. The construct of program satisfaction is correlated to overall school satisfaction and student retention. The U.S. Department of Education (2007) created language in the Individuals with Disabilities Education Act (IDEA) [34 CFR 300.157(a)(3)] [20 U.S.C. 1412 (a)(15)(A)iii] to specifically address performance goals and indicators that address graduation rates and dropout rates. The indicators for the compliance and effectiveness of a State’s implementation of the IDEA in the area of transition are Indicator 1: Graduation Rates, Indicator 2: Dropout Rate, Indicator 13: Post School Transition Goals in the IEP, and Indicator 14: Participation in Post Secondary Settings.

The results of this study were compiled to guide future CBI opportunities and develop instruction within the community settings that correlates with students’ goals and interest. It is paramount to understand how students with intellectual disabilities perceive the community-based instruction program as a component of their post-school transition plan.

Educators are fighting an ongoing battle to lower the dropout rate of students with disabilities. The National High School Center (2007) reported “Students with disabilities drop out of school at significantly higher rates than their peers who do not have disabilities. In the 2001–02 school year, only 51 percent of students with disabilities exited school with a standard diploma” (p. 1). All high school students, including

students with disabilities need to perceive school attendance as a productive activity geared toward future successes. This was the precedence to define the constructs selected for this study. This study asserts CBI as a vehicle that promotes successful transition from high school for students with intellectual disabilities. It is outstanding for educators to see the value in their educational program, but this can only translate to success if students also perceive the program as beneficial and personally relevant.

Method

Participants

A survey design was used with a written questionnaire instrument serving as the data collection tool. The participants for this study were 45 students who were randomly selected from 91 students who have participated in CBI during the school year. Out of the 45 randomly selected students, 9 students selected to not participate in the study, which left a total of 36 participating students. The students consisted of 20 male students and 16 female students. All students have been staffed into Exceptional Education Student Services for having an intellectual disability ($IQ > 70$), but some students also have a dual disability status of either deafness, hard of hearing, physical disabilities, low vision, or other health impairments.

Procedure

The study used descriptive statistics to analyze data collected by the questionnaire tool. This methodology was chosen to quantify student responses that can demonstrate patterns and elucidate areas of need. The content validity of the survey was determined by two methods. A pilot test was conducted to gauge the content validity of the survey prior to implementation. Six teachers who work with the students with intellectual disabilities were selected to analyze the survey and provide preliminary feedback for improvements. The pilot test participants results were analyzed, as well as any comments and suggestions made toward the improvement of the data collection tool. The survey was analyzed for content, comprehension, and reliability by an expert panel of three special education administrators. The special education administrators consisted of (a) a principal with decades of experience working with students with disabilities (b) an assistant principal with decades of experience working with students with disabilities, and (c) a regional instructional program support person for students with disabilities. This expert panel of reviewers was used to determine (a) if the survey contained any biased language, (b) if the language was easily understandable, (c) if the reading level of the material was appropriate for the group to be studied, and (d) to ascertain if the items listed on the survey were related to the construct intended for study. The results from the completion of the pilot test and review panel processes provided input that several questions should be reworded based on word choice, grammar, and sentence lay out.

The survey was used to gather descriptive information about the perceptions and understanding of the defined population of students who participate in weekly CBI. The questionnaire used a simplified Likert Scale format to quantitatively collect data

(Appendix A). The five construct areas were statistically scored by median, mean, high-low response, and standard deviation. This data collection process was intended to provide data that represented the current state of the CBI program and answer the research questions featured below.

Research Questions

The following research questions were formulated to hypothesize the students' beliefs about their participation in the CBI program. These research questions represent the five constructs (satisfaction, learning, self-esteem, independent functioning, and social skills) previously mentioned.

Research Question 1. Does CBI promote school satisfaction and therefore possibly have a positive effect on retention rates among these high school students with intellectual disabilities?

Research Question 2. Do these high school students with intellectual disabilities connect learning skills that are important to their personal success with their CBI activities?

Research Question 3. Do these high school students with intellectual disabilities believe that CBI builds their self-esteem and self-determination skills?

Research Question 4. Do these high school students with intellectual disabilities believe that CBI builds their independent functioning skills?

Research Question 5. Do these high school students with intellectual disabilities believe that CBI builds their social skills with intellectual disabilities?

Results

This study was conducted to provide an opportunity for students with intellectual disabilities to express their beliefs about participating in CBI. The study focused on five constructs which were satisfaction with the program, learning, self-esteem, independent functioning, and social skills. The five previously stated research questions were created to represent each construct area. The complexity of the Likert scale was reduced during the pilot study phase to accommodate cognitive ability of the students with intellectual disabilities. Typically, Likert scaling typically consist of 1 to 5 or 1 to 7 ratings for each question to measure the participants' level of agreement (Trochim, 2006). The simplified Likert scale format ranged from 1 = disagree, 2 = unsure, and 3 = agree. The simplified version of the scale likely creates a loss of richness in statistical findings and will be discussed in greater detail in the limitation section of this report.

Research Question 1 asked: Does CBI promote school satisfaction and therefore possibly have a positive effect on retention rates among these high school students with intellectual disabilities, which received a highly favorable response (Mean = 2.98) from the 36 participants of the study (see Appendix B). Questions 1 (Mean = 3.00) and 9 (Mean

= 3.00) received the highest affirmation (see Appendix A). These scores represent a highly favorable feeling of satisfaction about the CBI program in general.

Research Question 2 asked: Do these high school students with intellectual disabilities connect learning skills that are important to their personal success with their CBI activities received a favorable response (Mean = 2.89) from the 36 participants of the study (see Appendix B). This sub-domain (construct) received the overall lowest scores at of the five constructs. Question 12 (Mean = 2.72) received the overall lowest score from the participants (see Appendix A).

Research Question 3 asked: Do these high school students with intellectual disabilities believe that CBI builds their self-esteem and self-determination skills received a highly favorable response (Mean = 2.94) from the 36 participants of the study (see Appendix B). Question 8 (Mean = 2.97) received the highest affirmation (Appendix A). The students perceived CBI as an activity which is highly correlated with their self-esteem and ability to demonstrate self-determination.

Research Question 4 asked: Do these high school students with intellectual disabilities believe that CBI builds their independent functioning skills, received a highly favorable response (Mean = 2.97) from the 36 participants of the study (see Appendix B). Questions 2 (Mean = 2.94) and 19 (Mean = 2.94) equally received the highest affirmations (see Appendix A).

Research Question 5 asked: Do these high school students with intellectual disabilities believe that CBI builds their social skills with intellectual disabilities. The 36 participants indicated a highly favorable response (Mean = 2.96) to this construct (see Appendix B). Question 16 (Mean = 3.00) received the highest affirmation (see Appendix A).

Limitations

There are several important limitations that need to be considered. The study used a relatively small population group which consisted of only students participating in a CBI program at one high school. The students who made the sample selection of participants were randomly selected from the overall CBI population group. The overall cognitive level of the participating students likely creates several limitations that need to be considered as hindrances to the overall validity of the study. These students are not fluent readers and needed adult guidance to read and comprehend some of the survey questions. Some students were given verbal prompts to help them clarify questions. This interaction with the adult may have led to inflated affirmation responses in attempt to please the adult. Students were reminded to give their most honest answers, but this interaction must be considered as a potential cause of response bias.

The students' overall cognitive ability also influenced the answer scale used in the survey. The researcher believed from his work with these students over the last eight years that a typical Likert Scale response is too abstract for the students to comprehend. This consideration prompted the usage of the three answer scale, therefore deleting the

strongly disagree and strongly agree responses typically found in a five-point Likert Scale response. This change in the Likert Scale detracts from the quantitative richness of answers, and in-kind creates a simpler scale equal to yes, no or unsure.

The results of this single school study should not be over-generalized to students who have disabilities other than intellectual disabilities and may not easily apply to schools located in other geographical areas. This study was intended to evaluate and report these specific students' beliefs about their participation in the CBI program and should only be considered as a recommendation for further research on CBI programs.

Implications for Practice

This study was concerned with the effects that CBI has on these students with intellectual disabilities. Specifically, the study was intended to provide these students an opportunity to express their beliefs about their participation as it relates to the five aforementioned constructs. As previously described, poor transition outcomes and high dropout rates are major concerns for all students with disabilities. Data collected during the school year based on the 91 students who participated in CBI during the 2010-2011 school term indicated that 3.5% of these students dropped out of school during the year and 4.6% of the students had at least 20 absences during the school year. These are important considerations for determining the successful transition of students with special needs. Part B of the IDEA specifies four indicators for the compliance and effectiveness of a State's implementation of the IDEA in the area of transition for secondary-level students with disabilities. Indicator 1: Graduation Rates, Indicator 2: Dropout Rate, Indicator 13: Post School Transition Goals in the IEP, and Indicator 14: Participation in Post Secondary Settings (Project 10, Transition Education Network, 2011). These low dropout and student absence rates are another possible correlation of these students finding significance in their education.

The participating students in this study indicated an exceptionally high level of affirmation in all five of the construct areas. The construct of satisfaction was rated highest of all (mean = 2.981). This seems to indicate that the students are finding enjoyment and possibly educational meaning in their participation in the CBI program. CBI participation likely has a symbiotic effect in the community and school. Schargel and Smink (2001) reported positive results found at schools with high community interaction that included improved reading and math performance, better attendance rates, and a decrease in suspension rates and dropout rate. The community participants also gain understanding about people with special needs and typically become more willing to hire and work with people with special needs. National Dropout Prevention Center/Network (2011) suggested that schools need the support and help of the whole community. This organization recommended volunteers and funding as two major ways that communities support their schools. CBI is an example of a community partnership that shows the students that they are valued in the community and provides ample opportunity for community members to enrich the lives of students with special needs.

Although each construct area received overall affirming scores, the learning construct received the lowest affirming responses. Survey Question 12 - *I can practice skills that I have learned in class when I go to CBI*, received the lowest score of all questions. This was an area of concern that brought forth several questions. What instructional strategies need to be implemented to help CBI students relate what they learn in class to what they do in the community? Do the students specifically recognize the relationship of learning functional reading, functional math, and vocational skills as prerequisites to community success? Does a more thorough task analysis need to be conducted to better define how a community job task relates to classroom instruction? These are guiding questions for future research and considerations for educators to excogitate when implementing a CBI program in their school.

In conclusion, innovative approaches need further research and consideration to improve dropout rates and successful transition scenarios for students with intellectual disabilities. This writer contends that any program that keeps these students actively involved in school is beneficial and can serve as a stepping stone to increased school success. CBI was perceived by the students as a satisfying school program that overall correlated well with their IEP goals. More research is needed to continue to improve the CBI experience for these students and especially find ways to help these students see correlation between classroom learning and their community experiences.

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Appendix A

Table 1

Descriptive Statistics - Means and Standard Deviations for Individual Survey Question Responses on the Community-Based Instruction (CBI) Student Survey

Question SD	N	Min.	Max	Mean
1. I enjoy participating in CBI. .000	36	3	3	3.00
2. I learn skills in CBI that will help me get .232 a job after graduation.	36	2	3	2.94
3. I feel good (confident) about my ability to .319 work in a job.	36	2	3	2.89
4. I am learning how to dress properly for a job. .167	36	2	3	2.97
5. I am learning how to talk to adults who work .232 at the job site.	36	2	3	2.94
6. I am learning how to work with others to get .333 the job done.	36	1	3	2.94
7. In CBI, I am learning about different kinds of jobs. .368	36	1	3	2.92
8. Working in CBI makes me feel good about myself .167 (or my skills).	36	2	3	2.97
9. Working in CBI teaches me skills that I will need .000 after I graduate.	36	3	3	3.00
10. I feel good about my accomplishments in CBI. .232	36	2	3	2.94
11. CBI has taught me how to complete my work on time. .167	36	2	3	2.97
12. I can practice skills that I have learned in class when .615 I go to CBI.	36	1	3	2.72
13. I use my reading skills in CBI. .280	36	2	3	2.91
14. I learn to solve problems when I work in CBI. .319	36	2	3	2.89

15. I learn to use tools to get a job done when I .280 work in CBI.	36	2	3	2.92
16. CBI teaches me how to act when I am in .000 the community.	36	3	3	3.00
17. I learn steps to complete a job when I am at CBI. .000	36	3	3	3.00
18. In CBI, I learn how to work on my own .232 (independently).	36	2	3	2.94
19. I get to practice my skills in the real-world .333 when I am in CBI.	36	1	3	2.94
20. I want to continue to learn new skills in CBI. .333	36	1	3	2.94

Appendix B

Table 2

Medians, Means, and Standard Deviations for Responses to Construct Areas on the Community-Based Instruction (CBI) Student Survey

Question	Median	Mean	SD
Construct One – Satisfaction (<i>Questions 1, 9, 20</i>)	3	2.98	0.19
Construct Two – Learning (<i>Questions 2, 7, 12, 13, 14, 15, 19</i>)	3	2.89	0.13
Construct Three – Self-Esteem (<i>Questions 3, 8, 10</i>)	3	2.94	0.14
Construct Four – Independent Functioning (<i>Questions 4, 11, 17, 18</i>)	3	2.97	0.10
Construct Five – Social Skills (<i>Questions 5, 6, 16</i>)	3	2.96	0.17

Note. 1 = Disagree; 2 = Unsure; 3 = Agree.

The Likert Scale format was reduced to a three number scale to simplify to complexity of answers to accommodate the students with intellectual disabilities. This constitutes the equivalent of yes, no, or unsure.

Postsecondary Education Experience for Students with Developmental Disabilities: A Look into Perceptions of Parents of Senior High Transition Students on a Small University Campus

Neil Friesland, Ed.D.

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Abstract

The transition program in this study is associated with a local school district, and is currently housed on the campus of a small college in the Midwest. This transition program is for students who have been diagnosed with intellectual disabilities. The purpose of this paper is to provide information about the perceptions of parents who have or have had students in the transition program in relation to the university community and their students' time here on the university campus. This paper also intends to educate the parents of these transition students, the university community, and the local school district about the role the university plays in relation to the campus program and its efficacy. Lastly this paper explores the possibility of, and interest in, beginning a college-level program at the university for students diagnosed with intellectual disabilities; this would allow them to earn a college certificate or an Associate's degree.

Postsecondary Education Experience for Students with Developmental Disabilities: A Look into Perceptions of Parents of Senior High Transition Students on a Small University Campus

Transition programs are the series of strategies or activities that a school or a cluster of schools, agrees to implement in order to assist students making the transition from primary school to secondary school, secondary school to career training, or secondary school to the work force. Successful transition often requires careful analysis, a structured approach and forward thinking. There are many conflicting demands for the time of teachers, students and parents. However, few efforts pay off as highly as a carefully planned and meaningful transition program between secondary school and the workforce.

The transition program in this study is associated with a local school district, and is currently housed on the campus of a small college in the Midwest. This is a secondary transition program for students who have been diagnosed with intellectual disabilities and are 18-21 years of age. Classroom space is provided for students, and office space provided for the teachers and staff who work in the program. The transition area is located in the basement of one of the university dormitories and provides study rooms (classroom space) and a common area used by students during "after school" hours. These transition students typically will work in the morning on IEP goals and outcomes and, most often, will eat lunch in the campus dining hall. Additionally, some of the

students are employed by the university to work in the dining hall or mailroom as part of their learning process.

Until recently, candidates enrolled in a teacher education practicum worked with these transition students on IEP goals and outcomes. However, there was an accreditation-related need to move this practicum back into the traditional school setting. However, some candidates continue to work with these transition students to obtain community service hours. Fortunately, the university students are very accepting of the transition students and have invited these students to eat lunch in the dining hall; this too has kept some of the interactive opportunities intact. Eating together has also proven to be an excellent teaching tool for social skills and relationship building. Some transition students have also been invited to, and have attended, university sporting events, as well as visited a local amusement park with a group of university students.

At the beginning of the venture between the university and the local school district, questions were asked about the specific role of the university community. These included inquiries about how transition students would be supervised, what the program would look like, how the university would prepare a place for the program, how much space was needed, and whether the transition students would be taking classes. Looking back, one might suppose that there may have been some resistance to having a program like this on the university campus; however, during the time both entities have partnered together, there has been little to no resistance. In fact, there has been outreach by many university faculty, staff and students to the transition student community, as well as a reciprocal outreach from transition students to the university.

Purpose

The purpose of this paper is to provide information about the perceptions of parents who have or have had students in the transition program in relation to the university community and their students' time here on the university campus. This paper also intends to educate the parents of these transition students, the university community, and the local school district about the role the university plays in relation to the campus program and its efficacy in the process. It is the hope of the authors to further build the relationship between the university and the local school district, and to continue to enable students with intellectual disabilities to have a meaningful "college" experience. This experience starts in the transition program but one has the potential to evolve into a program that allows students to earn a college certificate or Associates degree.

Lastly this paper explores the possibility of, and interest in, beginning a college-level program at the university for students diagnosed with intellectual disabilities; this would allow them to earn a college certificate or an Associate's degree. Although this idea has not yet been implemented, the possibility exists (Appendix A). Imagine what students could accomplish if given the opportunity!

Background Information

Students with intellectual disabilities have aspirations, hopes and dreams for their futures, just as typically developing students do. Often, when elementary students are asked, “What do you want to be when you grow up?” they reply “I want to be a doctor, a fireman or a veterinarian.” Often these dreams change from elementary to high school. However, one thing stays the same: they have dreams. When students with intellectual disabilities consider what may happen after high school, dreams of a college education are usually not among the viable option. Calefati (2009) states that less than one quarter of students with intellectual disabilities have participated in some type of postsecondary education, and none have completed a degree. Furthermore, these students may not be aware that there are actually programs available to students in their position.

Recently, a broadcast on National Public Radio (NPR), told of a lawsuit filed by a student with intellectual disabilities attempting to win the right to live on a college campus. This student was diagnosed with an intellectual disability and the college held that he was not capable of living on campus. The college’s stance came despite the fact that in order to get to college in the morning, the student would take the public bus near his home and then transfer to a second bus for a total of a two-hour trip. This news report has shown by example that some students with intellectual disabilities can exhibit independent living skills as college students and as adults.

The growth that students may experience in college can be measured in a number of areas, including academic, personal, employment, independence, self-advocacy, and self-confidence skill building. For students with intellectual disabilities, this growth may also be measured by increased self-esteem as they begin to see themselves as less different from their peers and more similar as classmates. According to Dagnan and Sandhu (2001), a positive correlation is found between positive self-esteem and social comparison. Students with intellectual disabilities often know they are viewed differently from their typically developing peers. Thus being involved in the same activities in which typically developing students participate, such as engaging in campus life, taking classes, and learning to navigate a world of high expectations, develops the skills needed for successful adult life and can increase self-esteem in students with intellectual disabilities.

According to Butterfield and Authur (1995), best practice for students with intellectual disabilities focuses on the quality of social interactions with students throughout the day. By emphasizing the role of communication in relation to their peers and providing interactive environments that increase communication opportunities, students with intellectual disabilities can have more meaningful and robust conversations with their peers.

Practices that support individuals with intellectual/developmental disabilities to gain access to and be successful in inclusive postsecondary education can be developed through programs within the United States Department of Education. According to this department, “The Model Comprehensive Transition and Postsecondary Programs for

Students with Intellectual Disabilities (TPSID) provides grants to institutions of higher education or consortia of institutions of higher education to enable them to create or expand high quality, inclusive model comprehensive transition and postsecondary programs for students with intellectual disabilities”(U.S. Department of Education, 2010). The goals of this program are to (A) increase academic enrichment; (B) provide opportunities for socialization; (C) develop independent living skills, including self-advocacy skills; and (D) provide for integrated work experiences and career skills that lead to gainful employment.

In 2010, TPSID awarded 10.9 million dollars to 27 two and four -year colleges to create opportunities for students with intellectual disabilities to attend institutions of higher education (Winder, 2010). Table 1-4 provides the list of colleges and universities. Further examples of institutions of higher education that provide programs for students with learning and intellectual disabilities include Landmark College, Clemson University, Think College at UMass Boston, and Vanderbilt University.

Currently, there are programs on some college campuses that foster participation of individuals with intellectual disabilities. There are three types of community programs in use: mixed/hybrid, substantially separate, and totally inclusive. Below, each model is defined and described in the order of prevalence.

- Substantially separate model: Students participate only in classes with other students with disabilities.
- Mixed/hybrid model: Students participate in social activities and/or academic classes with students without disabilities, and also participate in classes with other students with disabilities. This model typically provides students with employment experience on- or off-campus. Students may have the opportunity to participate in generic social activities on campus and may be offered employment experience.
- Inclusive individual support model: Students receive individualized services (e.g., educational coach, tutor, technology, natural supports) in college courses, certificate programs, and/or degree programs. The focus is on establishing a student-identified career goal that directs the course of study and employment experiences (e.g., internships, apprenticeships, work-based learning) (retrieved October 2010 from http://www.communityinclusion.org/article.php?article_id=178).

In each of these program types, students can focus on creating and developing a vision and goals, accessing services and supports, receiving assistance to enroll in college classes and assistance in gaining employment.

The university’s relationship to the local school district can be categorized as a mixed/hybrid model. Transition students have participated in some social activities such as games and performances and/or academic classes with students without disabilities.

Transition students have also participated in classes with other students with disabilities such as Adaptive Physical Education. In addition, the university has provided students with on-campus employment experiences and, in one instance, this experience led to a full time job opportunity for a former transition student.

Table 4-1 Colleges and universities awarded TPSID grant

AK	Anchorage	University of Alaska-Anchorage	Karen Ward	907-264-6229	afkmw@uaa.alaska.edu	\$420,870
AZ	Tucson	University of Arizona	Stephanie Z. C. MacFarland	520-621-5165	szm@email.arizona.edu	\$500,000
CA	Fresno	California State University-Fresno	Charles Arokiasamy	559.278.0325	charlesa@csufresno.edu	\$500,000
CA	Los Angeles	University of California at Los Angeles (UCLA)	Carlos O. Cortez	310-794-1235	pathway@uclaextension.edu	\$122,397
CA	Taft	West Kern Community College District	Jeffrey G. Ross	661-763-7776	jross@taft.org	\$497,243
CO	Fort Collins	Colorado State University	Catherine L Schelly	970-491-0225	catherine.schelly@colostate.edu	\$307,391
DE	Newark	University of Delaware	Laura T. Eisenman	302-831-0532	eisenman@udel.edu	\$426,650
FL	St. Petersburg	University of South Florida-St. Petersburg	Jordan T. Knab	727-873-4662	jknab@mail.usf.edu	\$421,269
HI	Honolulu	University of Hawaii	Robert A. Stodden	808- 956-9199	stodden@hawaii.edu	\$425,000
IN	Bloomington	Indiana University	David M. Mank	812-855-6508	dmank@indiana.edu	\$493,120
IA	Iowa City	University of Iowa	Jo Hendrickson	319-384-2097	jo-hendrickson@uiowa.edu	\$499,770
KY	Lexington	University of Kentucky	Beth Harrison	859-257-3586 x225	b.harrison@uky.edu	\$424,923
LA	Baton Rouge	Louisiana State University	K. Alisa Lowrey	504-556-7567	klowre@lsuhsc.edu	\$290,384
MN	Brainerd	Central Lakes College	Suresh Tiwari	218-855-8058	stiwari@clcmn.edu	\$365,636
NY	Rochester	University of Rochester	Martha Mock	585-276-3363	mmock@Warner.Rochester.edu	\$500,000
NJ	Paramus	Bergen Community College	Tracy Rand	201-612-5589	trand@bergen.edu	\$394,918
NJ	Trenton	College of New Jersey	Rick Blumberg	609.771.2210	blumberg@tcnj.edu	\$245,851
NC	Cullowhee	Western Carolina University	David L. Westling	828-227-3287	westling@email.wcu.edu	\$500,000
ND	Minot	Minot State University	Janet Green	701-858-4473	janet.green@minotstateu.edu	\$180,085
OH	Columbus	Ohio State University	Margo Vreeburg Izzo	614-292-9218	izzo.1@osu.edu	\$499,060
OH	Kent	Kent State University	Robert Baer	330-672-0722	rbaer@kent.edu	\$384,997
SC	Charleston	College of Charleston	Cynthia May	843-953-6735	mavc@cofc.edu	\$418,140
TN	Knoxville	University of Tennessee	Elizabeth Fussell	865-974-9176	lizfuss@utk.edu	\$321,683
TX	Houston	Houston Community College	Sue Moraska	713-718-6833	sue.moraska@hccs.edu	\$499,434
VT	Burlington	University of Vermont and	Susan Ryan	802- 656-1143	Susan.Ryan@uvm.edu	\$309,270

Methodology

Development of the survey

During the development process, the director of the transition program and the associate director of special services were consulted to gauge the appropriateness and validity of the questions. Questions centered only on the role the university played in the partnership of the transition program. The focus was never to determine the efficacy of the transition program in relation to the local school district, but only to conclude how the parents of students in the transition program perceived the university investment. (Appendix B)

The survey was developed and distributed via <http://www.surveymonkey.com>, with a link to be distributed via an email list by the director of the transition program to parents of former and current transition students. Originally, 18 parents/guardians were sent the link to the survey by the director of the transition program.

Domains on the survey were placed in three specific areas: 1) University community access and involvement, 2) Comfort and welcoming atmosphere, and 3) Benefit and increase of self-esteem/efficacy of transition students on the university campus. These domains were important in determining how the university interacts with parents and students from the transition program.

University community involvement might include activities like chapel, sporting events, and performances. Questions on the survey that related to this domain were: Q2 “University students have made my student feel like a part of the university community.” Q9 stated “university representatives invited my student and me to community activities like chapel, sporting events, and performances”: and Q3 suggested, “The University helped my student feel like a college student while on the campus.” These statements were posed due to the nature of most college students’ activities.

As with all new student orientation programs on college campuses, a comforting and welcoming atmosphere directly increases success of students early on. Q1 stated, “The University made my student and me feel comfortable on campus”: Q7 stated “I felt like I could ask university faculty/staff questions about my students’ involvement on campus.”

Lastly, to show the importance of developing emotional and social skills, the domain of benefit and increased self-esteem/ efficacy of transition students was used. Q5 stated “My student’s self-esteem increased after being on the campus of the university while in the transition program,” and Q4 stated, “In relation to the university community only, my student benefited from his/her time in the transition program”.

Data collection

An email for the link to Survey Monkey was distributed in October 2010. A second reminder email and a hard copy of the survey were sent to those on the email recipient

list in early November 2010. This alternate means of delivery and time extension were to provide ample opportunity for participation. The participant's name and email address were not provided to the authors. Thus anonymity was kept in tact. Only the transition program staff knew to whom the email links were distributed to.

Over all, eleven parents /guardians participated by answering the survey. Because the authors did not know the number between former students who attended the transition program, there was no differentiation of former and current students on the survey. A response rate was not able to be determined.

Data was then analyzed using simple descriptive statistics. Data collection and analysis were designed to provide the perceptions of parents of transition students in relation to the university. Additionally, data collection provided the thoughts of parents regarding a future study of a certificate/Associate's degree program at the university.

Results

Results of the Survey

The first domain analyzed was university community access and involvement. The statements included: Q2 "University students have made my student feel like a part of the university community.": Q9 "University representatives invited my student and me to university community activities like chapel, sporting events, and performances" ; and Q3 "the university has helped my student feel like a college student while on the campus." According to the responses, 100% of those surveyed stated that they agreed to strongly agreed that their student felt like part of the university community ($\mu=3.33$). In regards to students being invited to community events at the university, a mean score of only 2.75 was achieved from the respondents. 62.5% stated that their students were invited to community activities while 37.5 % disagreed to strongly disagreed with the statement regarding being invited. Lastly, 88.8% of the respondents reported that their students felt like they were college students while on the campus of the university.

For the domain of "a comfort and welcoming atmosphere on the university campus," the following results are provided. Q1 stated, "The University has made my student and me feel comfortable on campus. In regard to this statement, 100% of the respondents stated that they agree to strongly agree that their student felt comfortable on campus ($\mu=3.75$). Q7 stated "I felt like I could ask University faculty/staff questions about my students' involvement on campus." 57.2% of the respondents disagreed or strongly disagreed to feeling like they could ask university faculty/staff questions about their students' involvement on campus ($\mu= 2.57$).

Lastly, the domain of benefit and increased self-esteem/efficacy of transition students was analyzed. Q5 stated, " My student's self-esteem increased after being on the university campus while in the transition program," According to the data collected, 88.9% of the respondents stated that their students' self-esteem increased after being on the university campus ($\mu=3.56$). For Q4, "In relation to the university community only, my student benefited from his/her time on the University campus," 88.9% of the

respondents stated that their transition student benefitted from their time in the transition program housed on the University campus ($\mu= 3.56$)

For the domain of “comfort and welcoming atmosphere on the university campus,” Q1 stated, “The University has made my student and me feel comfortable on campus”. 100% of the respondents agreed or strongly agreed that their student felt comfortable on campus ($\mu=3.75$). Fortunately the university is providing a comfortable place where transition students can learn valuable life skills among their age-specific peers. This result shows that the university has room for improvement and can become a more open and welcoming campus.

Q7 stated “I felt like I could ask University faculty/staff questions about my students' involvement on campus.” 57.2% of the respondents stated that they disagreed or strongly disagreed with the statement ($\mu= 2.57$). This result was somewhat disappointing. Over half of the respondents felt that they could not approach university faculty and staff about their students' involvement. Fortunately, the authors feel that is the result of the lack of education on the parts of both the University community as well as the parents of transition students. Currently, most University faculty and staff have no direct contact with the majority of transition students. As a result, the parents of transition students would have no reason to interact with university faculty and staff. Also, due to the nature of an institution of higher education being populated by adult students and FERPA privacy laws, faculty and staff often do not interact with parents of students in an academic or co-curricular fashion unless specifically contacted by parents. Thus, faculty and staff may not be accustomed to dealing with parents unless they are in a department such as financial aid, accounts services or community formation.

Conclusions

In the area of university community access and involvement Q3 stated, “The University has helped my student feel like a college student while on the campus.” According to the responses, 100% of those surveyed stated they agreed or strongly agreed that their students felt like part of the university community ($\mu=3.33$). Respondents of the survey feel like their students were college students, and were having college life experiences while attending transition program classes and activities. Siegel (1997) states that students with cognitive disabilities including autism are in need of experiencing daily routines; interactions and socialization just like the typical college student. From the data collected, it is clear that the university does provide these opportunities. Part of this may be due to interaction in the Campus Center dining hall, where transition and university students often eat lunch together. Additionally, transition students have been in some P.E. classes with university students, and this interaction may increase the feeling of being a “college student”. Lastly, informal interaction in buildings across campus could also contribute to the transition student feeling like a college student.

For students being invited to community events at the university, a mean score of only 2.75 was achieved from the respondents. 37.5 % disagreed or strongly disagreed to being invited to community events. One can infer that the University could do a better job

involving transition students and parents/guardians alike in University community activities. Again, this could be from the lack of education on both parties.

Lastly, 88.8% of the respondents felt like their students had the feeling they were college students while participating in activities on the university campus. However, there was still a disconnection between transition students and the university community. This domain provides important information as to how and if transition students are involved on in university community activities. Dardig (2008) speaks of the importance of involving the parents and students in community activities and providing access to resources within the community to help students acclimate. Access to events on campus, can help increase student success and aid students as they adjust to their surroundings. Unfortunately, not all transition students or parents were invited to university activities. However, it has been determined that some transition students were invited to university football, basketball and baseball games. Additionally they were invited to a local amusement park. These examples of involvement may be due to a bond that formed between University students and individual students in the transition program where each party involved took the time to make it a priority to get to know each other.

One of the reasons that transition students may not have been invited to university activities was lack of education of the on the part of University students/faulty/staff. Generally university students that invited transition students to activities were involved with the transition program in some form (via class or community service). An increase of involvement of university students with the transition program will most likely be attributed to increased exposure to the mission and function of the transition program. Additionally, increased opportunities of university students to interact with transition students must be considered. For example, the University could specifically invite transition students to homecoming activities. University students could utilize the global mission of the University to reach out beyond the University community and become an active part of curricular and extracurricular activities.

Finally the question “Did transition students benefit from being on the campus of the University?” was asked. According to the data, 88.9% of the respondents stated that their student benefitted ($\mu = 3.56$) as a transition student, and the time was beneficial to their student’s academic, social and behavioral growth. Hiatt-Michael (2004) has shown that one of the goals of schooling is to provide education so as to develop productive and contributing citizens in society. This response from the participants alone provides a rationale for having the transition program here on the university campus. The university has provided a vehicle for individuals participating in this transition program to grow as students and has helped these students to continue to reach the goal to become productive citizens.

Summary

The purpose of this paper was to provide relevant perceptions of the parents/guardians of high school transition students in relation to the role a small midwestern university plays in their lives. Overall parents are happy having their students on the University campus, they are please with the reception the students have received while here, and they feel

that their students have benefitted from “college interactions” among their peers. Specific areas that need to be addressed are: 1) providing more opportunities for transition students to become part of the university family by inviting students and parents/guardians to campus activities like chapel, plays, concerts, and athletic events, and 2) cultivating and encouraging the relationships between transition students/parents/guardians and university faculty and staff. Through the application of this data, the partnership between the university and the transition program will continue to become stronger. With that, everyone will benefit.

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Appendix A

10. Please describe your thoughts on the possibility of a certificate/Associates degree program at the University for students with intellectual disabilities, provided that your student could independently attend classes, or attend classes with limited support and become a part of the University community.

The goal of the question was to determine what interest, if any, the parents/guardians of ACCESS students have in a specific program targeted for students with intellectual disabilities. Overwhelmingly, all the respondents of the surveys stated they were interested in a program on the campus of the University that would offer a post secondary experience to their students. Some of the comments were as follows:

- “That would be a wonderful option here.”
- “Yes, please do this!” “You would be surprised how many local kids and parents would want this.”
- “Our son goes there and he proudly tells everyone he goes to the university!”
- “There are programs around and the closest is at CMU. We would love a program here.”
- “We would probably run to enroll in a program like that at the university!”
- “I believe each student would feel successful after receiving some sort of certificate from university!”
- “Lets get started!”

As one will discern, there is an interest in a program that offers a post secondary certificate/degree at the university. Unfortunately, this type of program is a dream as of now, however, there is a reality of starting a program like this at the university. Additional funding must be obtained to make a program like this viable. Funding sources like the (TPISD) The Model Comprehensive Transition and Postsecondary Programs for Students with Intellectual Disabilities grant would provide a funding source to staff and maintain a program of this sort. Minot State was awarded over \$150,000 from this grant. The author feels like this amount would get this type of program up and running here at the university, However a grant of \$300,000+ would provide sustainability to the program.

The following is sample course schedule from one semester of a possible program:

Post secondary Education Program

Sample Course Schedule

Monday & Wednesday

- UNIVERSITY Applied Math
Major/Professor
- UNIVERSITY College Skills -
Instructor/Professor
- UNIVERSITY Personal Fitness Training
instructor/PE /student/prof
- UNIVERSITY Job Internship

Taught by:

- Math
- Student
- Certified fitness
- Job coach

Tuesday & Thursday

- UNIVERSITY Literature -
Instructor/Professor
- UNIVERSITY Technology Skills
Instructor/Professor
- UNIVERSITY Daily Health
Professor
- UNIVERSITY Job Internship

- Student
- Student
- PE Student/ Health
- Job Coach

Friday

- UNIVERSITY Communication Skills
Major
- UNIVERSITY Friday Seminars (these change each month):
instructors
 - *Independent Living , Self-Advocacy, Social Strategies, and Critical thinking*

- Communications
- Rotation of

Appendix B Sample Survey

1. The university has made my student and me feel comfortable on campus

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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2. The university students have made my student feel like a part of the university community

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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3. The university has helped my student feel like a "college student" while on the campus.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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4. In relation to the university community only, my student has benefited from their time in the transition program.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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5. My students' self-esteem increased after being on the campus of the university while in the transition program.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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6. I am glad the transition program is on the university campus.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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7. I felt like I could ask university faculty/staff questions about my students' involvement on campus.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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8. My student felt like they were NOT wanted on the university campus

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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9. University representatives invited my student and me to community activities like chapel, sporting events, and performances.

Choose one	Strongly Disagree	Disagree	Agree	Strongly Agree
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Autistic Spectrum Disorder and Assistive Technology: Action Research Case Study of Reading Supports

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Abstract

This descriptive action research experience with case study procedures examined the use of best practices paired with assistive technologies as interventions to individualize fiction reading instruction for a high-functioning elementary student, JB (pseudonym), diagnosed with autistic spectrum disorder. JB's instructional, reading goals were to correctly indentify (a) unknown vocabulary words, (b) words with multiple meanings, (c) idiom phrases, and (d) comprehend main story grammar elements within a fictional story line. Also, JB's teachers wanted to see if JB understood (e) characterization within a fictional story. JB's experience reading a fictional text with assistive technological support to accomplish reading skill objectives is described and evaluated by his teachers and researchers.

Autistic Spectrum Disorder and Assistive Technology: Action Research Case Study of Reading Supports

Teaching students with autism how to read is lacking in the literature (Bellon, Ogletree, & Harn, 2000; Broun, 2004; Colasent & Griffith, 1998; Lindsey & Gentry, 2008). Vocabulary, phonics, characterization, and story comprehension are the salient topics for reading teachers today (Fountas & Pinnell, 2006; Broun, 2004; Ogle & Beers, 2009). Autistic spectrum disorder (ASD) influences the social and communication exchanges with others (Causton-Theoharis & Malmgren, 2005; Kuoch & Mirenda, 2003; Smith, Mirenda, & Zaidman-Zait, 2007). ASD characteristics vary in degree from individual to individual, and most experts agree early intervention is needed, targeting social interaction skills and verbal/non-verbal communication skills (National Institute of Neurological Disorders and Stroke, NINDS, 2010). The social and communication challenges shaped by ASD hinder reading instruction (Gentry & Lindsey, 2008). Students with ASD have difficulty making predictions, visualizing the events of the text, and identifying the purpose of a reading (Kluth, 2003; 2005). This leaves reading teachers serving students with ASD with few reading instructional options.

Teachers and parents serving students with ASD increasingly review new methods and tools to provide quality reading instruction (Koppenhaver & Erickson, 1998; Lindsey & Gentry, 2008; Rao & Gagie, 2006). Specifically, students with ASD have a challenge understanding the social and cultural nuances of language because people with ASD

typically have difficulty using background knowledge for comparison while reading a text filled with connotative meanings (Lindsey & Gentry, 2008; McKenzie, Evans, & Handley, 2010). Visual strategies and methods have proven to be exceptional for many students with ASD, but further research into visual supports as well as other strategies is needed. (Fossett, 2005; Lindsey & Gentry, 2008; Tissot & Evans, 2003). Reading for meaning remains the most significant challenge for students with ASD and the educators who instruct them (Randi, Newman, & Grigorenko, 2010; Wahlberg, 2001). Like all students, students with ASD vary greatly; therefore, a single strategy or tool geared to assist students with ASD may be ineffective with some ASD students (Lindsey & Gentry, 2008; McKenzie, Evans, & Handley, 2010). An eclectic approach is best, and assistive technologies offer a myriad of tools for teachers to adapt and use in conjunction with best practices to improve individualized, reading instruction (Gentry, 2006). Few school-based intervention studies have included cultural and setting/stimuli aspects regarding interventions for students with ASD (Machalicek, O'Reilly, Beretvas, Sigafoos, Lancioni, Sorrells, Lang, & Rispoli, 2007). This case study includes setting and individual aspects found in a unique class designed to help students with ASD accomplish individualized learning/reading goals.

Real Reading and Autism

Real reading (RR) is best described as individualized, schema driven social process used to gather meaning from abstract symbols (e.g., text or pictures) (Fountas & Pinnell, 2006; Vacca, Vacca, & Mraz, 2011; Vygotsky, 1978). Real reading involves visual, cognitive evaluation, and/or auditory aspects working together in a complex manner (Broun, 2004; Fountas & Pinnell, 2006, Koppenhaver & Erickson, 1998). The reader's schema and learning styles with a text combine to form new meaning (Anderson, 2006; Koppenhaver & Erickson, 1998). This model of reading guided the study's procedures. Students' individualized understandings are created during the process of gathering meaning from reading through the cognitive filter of personal experiences (Bean, Readence, and Baldwin, 2008; Nathanson, 2006; Vacca, Vacca, & Mraz, 2011). Students with ASD, like non-disabled readers, generate meaning in the same individualized fashion (Koppenhaver & Erickson, 1998). Teachers who seek opportunities for their students to experience real reading concern themselves with vocabulary and comprehension instructional methods and resources.

Research focusing on vocabulary instruction revealed systematic, direct instruction of vocabulary as the best teaching practice used to increase learners' understanding of content (Gunning, 2010; Marzano & Pickering, 2005). Recent research by Franken, Lewis, and Malone (2010) found word learning abilities in an ostensive context have been underestimated for students with ASD. In Franken, Lewis, and Malone's (2010) study, students with ASD performed at a significantly higher level than students with moderate learning difficulties. Storybooks may be one of the best mediums to provide an ostensive context for student with ASD to learn words, multi-meaning words, and/or idiom phrases. Learning unknown vocabulary, idiom phrases, and multi-meaning words are important goals for readers since vocabulary deficiency remains the critical cause of academic failure for disadvantaged students between elementary and high school grades

(Gunning, 2010). Students with ASD must build vocabulary and be actively engaged in reading (Gentry & Lindsey, 2008; Wahlberg, 2001). Vocabulary building is an essential aspect of any RR program designed to facilitate reading comprehension.

Comprehension is the individualized, personal understanding of an author's word usage, pictorial representations, story grammar, and/or use of characterization. Reading comprehension has three general levels: "Text Explicit, Text Implicit, and Experienced Based" (Bean, Readence, and Baldwin, 2008, p. 171; Vacca, Vacca, & Mraz, 2011). Text explicit comprehension involves finding answers in the text—called "right there on the page" comprehension. Text implicit begins by inferring what an author is communicating and is often called "between the lines" comprehension. Finally, experienced based comprehension is derived from readers' past experiences with the world and is often referred to as "beyond the lines" comprehension. Therefore, RR involves comprehension of what is read. Gaining meaning from a reading is the goal of any real reading exercise. Garner's (1994) influential research discussed students "lack of interest" in a text affected students' active engagement and the reading of a text. A student's prior knowledge, preferences, vocabulary knowledge, and interest remain the most important consideration when considering story grammar and characterization comprehension goals. Comprehension is individualized understanding of characters, story grammar, and the vocabulary used to express the author's meaning (Bean, Readence, and Baldwin, 2008; Vacca, Vacca, & Mraz, 2011; Nathanson, 2006).

The descriptive study by Colasent and Griffith (1998) discovered individualized understanding of students with ASD was enhanced even more when students draw and write about their stories. Individualization of the story enhanced story grammar and characterization comprehension. Students with ASD benefit from comprehension scaffolding tools like oral reading, story times, multimedia, songs, and other literacy strategies; therefore, students without disabilities and students with ASD both need similar experiences (Akin & MacKinney, 2004; Broun, 2004;). Students with ASD, like non-disabled peers, are able to participate in RR with support from educators and appropriate resources (Koppenhaver & Erickson, 1998).

Story Grammar and Characterization Comprehension for Students with Autism

Story grammar and characterization remain central to reading instruction today (Fountas & Pinnell, 2006). Past research using social stories with students who have ASD characteristics proved to be a remarkable intervention for targeted behavior challenges (Quilty, 2007; Rogers, 2000; Rogers & Myles, 2001). In Quilty's (2007) study, the students' behavior positively changed by listening to and comprehending individualized social stories. Although this study did not have reading, academic goals, the tacit possibilities from the results of this study indirectly offered hope to teachers who currently work to aid students with ASD in accomplishing individual, targeted reading goals. Students with ASD have the ability to understand the connection between stories read and their individualized perspective of their world (Colasent & Griffith, 1998; Quilty, 2007). Research concerning trade books as a reading comprehension intervention with children who exhibit ASD is limited; therefore, studies regarding story grammar and

characterization are limited as well. For example, one study by Bellon, Ogletree, and Harn in 2000 found repeated reading of storybooks with adult scaffolding proved beneficial for students with high functioning ASD in decreasing echolalia utterances and increasing spontaneous speech. This study provided a glimpse of story grammar and characterization comprehension possibilities for students with ASD.

Story grammar includes many elements. The basic elements of story grammar include an introduction of characters and settings, a conflict or problem, and some resolution or conclusion to the conflict or problem. Characterization instruction includes teaching the traits of characters in the story as well as how said characters develop or transform within a story (Fountas & Pinnell, 2006). Quilty's (2007) study provided inferred evidence pertaining to students who are challenged with ASD as possessing the ability to understand story grammar elements and characterization (character traits and character development) within a story. This is convincing evidence of story grammar and characterization understanding by the change in ASD students' behaviors due to the social stories read with educators. It is imperative to note Quilty's (2007) methodology procedures specified one on one attention between an educator and a student. Like Quilty's (2007) research, repeated storybook reading (RSR) which also embraced adult support for students diagnosed with ASD has proven to be an impactful strategy (Bellon, Ogletree, & Harn, 2000). One on one, direct, and allowances for individualized instruction are the critical instructional interactions needed to develop story grammar and characterization comprehension for students challenged with ASD.

Assistive Technology: The New Literacies and Autism

Some of the most effective resources a teacher can use are assistive technologies. As early as 1995, when computer technologies were first moving into schools worldwide, researchers discovered interactive technological tools improved reading and communication skills of students with ASD and other disabilities (Heimann, Nelson, Tjus, & Gillberg, 1995). Assistive technologies (ATs), such as the Franklin Language Master 6000b (FLM-6000b) (Franklin Electronic Publishers, 1991), digital Power Point stories, and digital video and audio resources are the new literacies today used to develop traditional reading and writing skills (Vacca, Vacca, & Mraz, 2011). New literacies in combination with best teaching practices create powerful instructional, reading rich environments, which provide students engaging visual and auditory cues to experience a story and/or express personal, individualized understanding of readings in novel ways (Gentry, 2006; Gentry & Lindsey, 2008). ATs have provided engaging research-proven practices. These devices have provided novel rereading opportunities, and have granted educators the ability to use novel systematic, direct instructional techniques designed to focus students upon a specific word or phrase meanings in the context of a story (Lindsey & Gentry, 2008).

The Student and the Study's Purpose

Meet JB (Pseudonym)

JB's diagnosis of ASD was established when he was three years old. His form of ASD was described to researchers as high functioning by the school's diagnostician. JB was a 7 year old boy who loved numbers and the calculator. He enjoyed sensory lab and especially enjoyed swinging on his stomach and talking to people about various topics. Numbers were often used to express feeling. Seven plus eight was used as an expression of disgust or sent as a message to others to stop a behavior deemed as bothersome. Twenty plus three was an expression used to express happiness, welcoming, or gratification. JB used numbers to communicate, but researchers were only able to determine the feelings or meanings of $7+9$ and $20+3$. JB's rationale for using these numbers remained undetermined throughout the study. However, JB's ability to associate abstract numbers to feelings and expression of those feelings provided the premise for this study. Therefore, the study's premise, which guided researchers' behaviors and classroom lessons, was based on teacher input and the researchers' direct experiences with JB. The premise read, *If JB is able to represent his feeling and ideas with abstract representations (i.e., $7+9$ = disgust or stop), JB should be able to understand feelings and expressions from abstract representations found in fictional books with adequate, engaging support and scaffolding.*

Past seminal research and philosophies of reading and learning instruction support our research premise for JB (Bodrova and Leong, 1996; Vygotsky, 1978). From the initial interview, JB's teacher called JB a "word caller". She reported, "JB often can call out words and even call out the words in a whole short story. He is a word caller." JB's teacher explained further, "JB often is unable to answer questions relating to the story and decides not to participate." The teacher and researchers predicted the challenge for the study revolved around JB's engagement level with all the reading activities. JB's interests and preference as reported by the teacher and from interactions with JB provided the blueprint for the creation of an individualized reading experience. Individualized reading experiences may be defined as RR (See Real Reading).

The Focus for the Instructional Experience

JB was selected for this study by his teacher, Ms. Brenda (pseudonym). Ms. Brenda wanted JB to correctly identify (a) unknown vocabulary words, (b) words with multiple meanings, (c) idiom phrases, and (d) comprehend main story grammar elements within a fictional story line. Also, Ms. Brenda needed to see if JB understood (e) characterization within a fictional story. These five goals became the focal point of the study and were established by Ms. Brenda and researchers from JB's individualized education plan (IEP). JB, as a learner, was also considered and guided researchers with lesson ideas. Therefore, the purpose of the study was fivefold and was in step with the study's premise. After meeting with JB and his teacher over a two week period, researchers planned an intervention to fit JB's individualized reading, learning needs. Researchers wanted to answer one question. How would JB interact with the reading of a fictional story book

using technology supports to meet his individualized learning objectives? This study seeks to describe and evaluate JB's interactive experience with assistive technology and reading instruction.

The Method

The action research approach with case study procedures, like most studies in special education (Pyecha, 1988; Zainal, 2007), was utilized to assist JB's teacher in evaluating JB's progress with meeting reading objectives on his IEP. Because the case study is designed to describe experiences and the outcomes from such experiences, researchers applied a descriptive case study design (Berg, 2004; Yin, 1994; 2009). As Bruce L. Berg (2004), a qualitative research expert, stated, "Case study methods involve systematically gathering enough information about a particular person, social setting, events, or group to permit the researcher to effectively understand how the subject operates or functions" (p. 251).

Researchers in this study wanted to see how JB operated and functioned while experiencing a fictional book with assistive technological tools and the use of best teaching practices support in the intangible areas of (1) learning vocabulary words, (2) words with multiple meanings, (3) understanding of idiom expressions, (4) comprehension following a fictional story grammar format, and (5) the understanding of characterization in a fictional story. The study used established assistive technologies and best teaching practices as the interventions which have proven to be successful when used in combination in recent education research studies (Gentry, 2006; Gentry & Lindsey, 2008). The best practices utilized included high interest and choice consideration for text selection, interactive-tactile concrete learning experiences, multimedia gaming, one-on-one adult support, multimedia audio/visual reading support, digital story books, rereading, and repetition in novel ways (Gentry & Lindsey, 2008; Vacca, Vacca, & Mraz, 2011; Yellin, Jones, and Devries, 2007). These practices were accentuated by several assistive technologies.

JB's baseline data for story grammar comprehension, characterization comprehension, unknown vocabulary words from the story, multi-meaning words, and idiom phrases were established before the intervention experience during the formative assessment process. Descriptive statistics and gain/loss scores provided an objective measure of JB's experience with the ATs used in combination with best teaching practices (See Tables 1 and 2). JB's progress, experiences, behavior, learning interactions with the ATs, and comments were recorded using field notes and photography.

Timeframe and Data Sources for the Study

The study occurred over a fourteen-week period of time. The intervention time in the classroom ranged from one hour to two hours a week. The study was initiated in the spring after the mid-year break and was finalized with data collection ceasing in May. The study did not follow a consecutive week meeting structure due to holidays and a few special events scheduled by the school. Researchers came early in the morning for four of

the fourteen weeks to participate in class activities and routines (e.g., snack time) as visiting times. These visiting times allowed researchers to be immersed and accepted by students as routine.

The data sources used by researchers fit the existing classroom environment and schedule. The data sources included (a) direct observation of student interactions with (b) physical artifacts, (c) informal interviews of participants, and (d) formative and (e) summative assessments (Yin, 2009). Also, all observations were recorded in researchers and teacher generated field notes. Photographs were utilized when possible as a recording medium. Also, the last two weeks were used to assess the effectiveness of the intervention, thus, dedicated to artifact performance review, informal interviews' review, field notes review of observations, coding of all text based and pictorial data generated for peer debriefing comparisons (Creswell, 2007). Finally, peer debriefings between researchers and the teacher provided reliability measures and overall oversight to aid in data integrity (Creswell, 1998; 2007). Prolonged time in the field (fourteen visits), including the one to two hour intervention period (eight sessions), aided researchers in developing an in-depth understanding of JB's personality, communication patterns and style, reading strengths, and reading education challenges (Creswell, 2007). The time in the field allowed researchers to adapt and refine lessons for JB as the study progressed and came to a close in May.

The Technology and Non-Technological Instruction Tools Used

JB experienced two technology tools during the intervention: The Franklin Language Master 6000b (FLM-6000b) (See Figure 1) and multimedia modified Power Point 2007 story, gaming, and assessment presentations. The FLM-6000b is an inexpensive device with costs ranging from \$98 to \$130. The FLM-6000b is an electronic device. It is best described as a handheld spell checking, speaking dictionary with a thesaurus. A teacher and a student may use the electronic file box to keep vocabulary learned or in need of review using the LIST function. A student or a teacher can utilize the LIST function to review past entered words for definitions, pronunciations, spelling assistance, or for use in games integrated in the device (e.g., hangman). Microsoft PowerPoint 2007 (MS-PP 2007) provided the multimedia medium to create and play interactive game quizzes (i.e., formative and summative assessments) and to read the chosen story in an interactive multimedia format (e.g., audio sounds and object animations) relating to the study's five goals. Both technologies were chosen because of the low cost and high availability to public schools with limited resources. For example, MS-PP 2007 or some version of Power Point can be found in most public school classrooms today.

Using familiar instructional tools in use in the classroom seemed to be a sensible course of action for the study. Folder matching games were used in this class with visual supports to help students learn vocabulary as well communicate feelings, emotions, and desires. As with the use of PowerPoint 2007, folder games for the study focused JB on various characterization changes made in the story. The folder games were designed for JB to note multi-meaning word differences and idioms differences as well. It is important to note all the ATs and interventions used favored a strong visual support presentation

combined with one-on-one adult interactions, repeated readings, individualization of the story read, and games.

Preparing for the Intervention Experience

JB's Experience with the Technology. Past research has shown learning new technology can eclipse content learning (Goldman, Cole, and Syer, 1999). With this in mind, JB was introduced to the technologies used in the study before the introduction of the children's storybook and the drive to meet reading goals and research objectives. The FLM-6000b was found to be ineffectual with this student. JB's fascination with numbers and calculators proved to be problematic due to the device's resemblance to a calculator. JB refused to look up or use his electronic vocabulary word list. Instead, he typed numbers and number words for the FLM-6000b to speak aloud. When the researcher asked him to use vocabulary words that did not apply to math problems or numerals, JB became agitated and began repeating his expression for stop—7+9 or no. After these experiences, researchers decided to eliminate the FLM-6000b as a means to meet the study's goals for JB.

PowerPoint 2007 did not have these issues. JB had previous experience viewing PowerPoint slides. The researchers played word games with JB using PowerPoint 2007, and he responded to the visual, audio, and object movements related to reading and graphics with excitement. JB's excitement was observed by his quick movements with his hands in an up and down fashion while laughing. PowerPoint 2007 was deemed as a promising avenue of communication and instruction with JB's learning style and personality in mind.

JB's Book Choice. From conversations and the pre-interviews with the teacher and JB, a book about numbers, mathematics, and social interactions would be preferred. After searching and reviewing several books related to math and social skills, researchers and JB discovered a book authored by Kathryn Otoshi (2008) entitled *One*. This book included several desirable elements. The teacher reviewed the text and stated, "I like the way the book teaches colors and numbers." JB's excitement was expressed by quickly moving his arms and hands while stating, "Hello Mr. Jim." JB named some of numbers and colors he saw as he reviewed the text. Because *One* was favored by researchers, the teacher, and especially JB, *One* was selected as the book to use in the study.

One (Otoshi, 2008) was a fictional account of colors who were mistreated by the color Red, the antagonist and villain. The color Blue, the primary protagonist, was a main character in the story and was the object of Red's anger and bullying. The number One, a secondary protagonist, was the hero who by example taught the colors to stand-up to be counted and not let Red's behavior go unchallenged. At the end of the story, all the colors turned into numbers including Red. With Blue's forgiveness and welcoming attitude, Red became part of a larger, positive group dynamic at the end of the story. The moral of the story for a reader involved the idea of standing-up and being counted when encountering bullying; all it took was one (i.e., 1) person to make things better.

The Text's Analysis. The fictional story has an introduction, conflict, and resolution. The main characters, Blue and Red, changed during the resolution of the story. Red transformed from a bully with anger issues to fitting-in and respecting others while Blue learned to have self-confidence and to challenge bully behavior with a positive, forgiving nature. Both learned it is better to be friends than enemies. Red and Blue were associated with multi-meaning words: Blue—cool or sad; Red—hot or anger or being mean. Five idiom phrases were discovered: a hot head—quick to anger; blew a fuse—to be angry; took a stand or stand tall—to be proud or brave; everyone counts—all have a purpose or value and are needed; and being blue—being sad. JB's unknown vocabulary needs were determined from JB's reading experience and performance.

JB's First Experience with the Book *One*. According to JB's teacher, JB was able to read words he knew aloud. Also, the teacher reported JB read at a normal rate and only paused on words that were unrecognizable to him. A researcher sat with JB and asked JB to read the book, *One*. JB paused his word calling when he encountered the words comforting, regal, and outgoing. The researcher provided the unknown word orally after 10 to 12 seconds passed. JB would repeat the word and continue word calling. The researcher marked the words in field notes. JB's oral reading did not show emotion or expression. He read the text in a monotone manner and lacked intonation.

JB's Formative/Baseline Assessment. The formative assessment was conducted over a two week period during the research meeting time. The researcher created a quiz game using PowerPoint 2007 slides to assess JB's comprehension of the story, knowledge of the three unknown vocabulary words from the reading experience (i.e., comforting, regal, and outgoing), comprehension of nine multi-meaning words and idiom phrases (e.g., Blue=cool or sad), and the characterization of the story's main characters (i.e., Red, Blue, and One). The quiz game placed the three unknown words, the four multi-meaning words, and five idiom phrases (e.g., Red and Blue) on a PowerPoint 2007 slides, respectively. Three pictures were displayed below each word or phrase. One picture represented the correct meaning. Before the selection, the researcher asked JB to read the word in the context of the story. Once the respective words were read aloud from the book, JB was asked, "Point the arrow (i.e., mouse's arrow pointer) to the picture that matches this word in the story (researcher points to word in the book) and click the picture." If he selected the correct picture, the picture moved, and a clapping sound echoed via the computer's speakers. JB did not select the correct picture for any of the unknown words. JB matched two of the nine (22%) multi-meaning words and idiom phrases. He matched red to hot but was unable to match red to angry. He matched blue to cool but was unable to match it to its other related word and idiom phrase representations of sad (see Figure 2 & Table 1). JB moved his hands quickly, laughed, and talked when he saw the pictures move with a clapping sound.

Assessing idiom phrase understanding followed the same format used for assessing unknown vocabulary words and multi-meaning words found in the story. While reviewing the idiom phrase, *a hot head*, JB talked about possible choices and pointed to the correct picture on the computer screen using his left hand but changed his mind after a pause to a different picture. JB also touched his head several times. This behavior also

occurred when reviewing the idiom phrase, *being blue*. JB was unable to match any of the remaining idiom phrases to related pictures with the mouse pointer. JB possessed no understanding of idiom phrases found in the story with 0/5 (0%) accuracy (See Table 1).

Table 1

JB's Comprehension of Unknown Vocabulary Words, Multi-meaning Words, and Idiom Phrases from Formative/Baseline Assessment to Summative/Post Assessment

Understanding of.... Unknown Vocabulary, Multi- Meaning Words & Idiom Phrases			After Experience Gain/Loss (0=same, 1 gain, -1 loss)
	Summative:	Formative:	
1. *comforting	X		1
2. *regal	X		1
3. *outgoing	X		1
*Total	3/3 (100%)	0/3 (0%)	3/3 (100%)
1. **Blue→(sad)	X		1
2. **Blue→(cool)	X	X	0
3. **Red→(angry)	X		1
4. **Red→(hot)	X	X	0
**Total	4/4 (100%)	2/4 (50%)	2/4 (50%)
1. ***a hot head→ (angry)	X		1
2. ***blew a fuse→(angry)	X		1
3. ***being blue→(sad)	X		1
4. ***took a stand→(Proud or Brave)			0
5. ***everyone counts→(all have value)			0
***Total	3/5 (60%)	0/5 (0%)	3/5 (60%)

Note. *=Unknown Vocabulary, **=Multi-meaning Words, ***=Idiom Phrases, and X=correct response.

For assessing JB's comprehension of fictional story grammar, researchers followed a related pictorial format used in assessing unknown vocabulary words, multi-meaning words, and idiom phrase understandings. For assessing JB's story grammar comprehension, three directives were issued to JB for identifying story grammar elements of introduction, conflict, and resolution (See Table 2). The introduction of the story involved colors being bullied by the color Red. Therefore, the slide illustrated all the color orb characters in the story (See Figure 3). JB was directed to place a digital ink

mark using the digital ink tool of PowerPoint 2007 on all the colors who were treated badly or were pushed around (i.e., Introduction Story Grammar Question). JB used the digital felt tip pen tool and chose the color black as the desired digital ink color for marking and stated, “Twenty plus three.” JB marked all the characters with a digital black mark. For the conflict story grammar directive, the same slide was used. JB was asked to mark the color who was told to stop being mean. JB marked the color Yellow. Again, the same slide was used for the story grammar directive concerning the story’s resolution. JB was asked to mark characters who became friends at the end of the story. JB digitally marked One, Blue, and Yellow with a mark, respectively (See Figure 3). JB clearly did not comprehend the story read and scored 0/3 (0%) accuracy (See Table 2).

Characterization was closely associated with vocabulary, multi-meaning words, idiom phrase understanding, and story grammar within *One* (Otoshi, 2008). Researchers expected JB to have misunderstandings concerning the story’s minor and main characters. The digital ink selection process format used to assess unknown vocabulary words and story grammar comprehension were also used to assess characterization of the major and minor characters portrayed in the story. Researchers were primarily concerned with JB’s understanding of the main characters: Blue, Red, and One. JB was able to associate colors to the numbers they transformed into during the resolution of the story by writing the numbers in digital ink over the color orbs (see Figure 4). However, JB was unable to match One, Red, Blue, or other characters to other specific character traits when asked to digitally mark said characters based on eight researcher prompted questions (e.g., Who was sad in our story?). Of the eight character association questions, two of the eight (25%) were correctly associated. Therefore, eight questions and one directive concerning characterization were utilized with 3/9 (50%) accuracy (see Table 2).

Table 2

JB’s Comprehension of One’s Basic Story Grammar and Characterization Elements from Formative/Baseline Assessment to Summative/Post Assessment

Characterization Trait Comprehension Questions & Directive			After Experience Gain/Loss (0=same, 1 gain, -1 loss)
	Summative:	Formative:	
1. Who was hot in our story? (Red)	X	X	0
2. Who was very sad in our story? (Blue)	X		1
3. Who was cool in our story? (Blue)	X	X	0
4. Who was mean in our story? (Red)	X		1
5. Who was outgoing in our story? (Orange)	X		1
6. Who was comforting in our story? (Yellow)	X		1
7. Who was angry in our story? (Red)	X		1
8. Who told Red to stop picking on others in our story?	X		1
9. Associate colors to the numbers they transformed into during the resolution of the story. (See figure 4)	X	X	0

	Total	9/9 (100%)	3/9 (50%)	6/9 (60%)
				After Experience Gain/Loss (0=same, 1 gain, -1 loss)
The Fictional Story Grammar Task Directives	Summative:	Formative:		
1. Mark the colors who were treated badly or were pushed around. (Introduction)	X			1
2. Mark the color who was told to stop being mean. (Conflict)	X			1
3. Mark who became friends at the end of the story. (Resolution)	X			1
Total	3/3 (100%)	0/3 (0%)		3/3 (100%)

Note. X=correct response.

JB's Intervention Experience and Findings

The Rewritten Book with Multi-Media Effects Enhancements Using MS-PP 2007 Slides

During the formative assessment period, researchers noticed JB's behaviors when he saw the pictures move on the computer screen and heard the clapping sounds with the selection of the correct answer. JB moved his hands quickly, laughed, smiled, and said, "Hello Mr. Jim or twenty plus three." The teacher described this behavior as JB being excited and engaged. Researchers decided to rewrite the story while maintaining the same story line using audio effects, animations, and images to enhance and accentuate the story's introduction, conflict, and resolution as well as the unknown vocabulary words, multi-meaning words, idioms, and the story characters' traits and transformations by the end of the story.

For one session, the introduction of the story was the focus of the day. The introduction of the story followed the book's introduction of the color characters and allowed researchers to directly accentuate with multi-media effects JB's unknown words (i.e., comforting, regal, and outgoing). Also, researchers wanted to point out the colors before they became numbers. Researchers believed this would help JB best understand how the author of *One* (Otoshi, 2008) used characterization. The focus on Blue and Red's character traits before the conflict and resolution of the story allowed JB to experience the polar opposite differences between the two main characters for cognitive comparisons as he continued with the story. Sounds and movement were used as the accentuation tools with each MS-PP 2007 slide depicting story characters. For example, the color purple was a minor character but was also associated with one of JB's unknown words, regal. When JB opened this MS-PP 2007 slide and read, "Purple is regal," he clicked on the arrow (i.e., ) and heard the sound of trumpets playing as a picture moved depicting a man bowing to a king (see Figure 5). With this picture and others, JB laughed, moved his hands quickly up and down, placed his hands close to his face, and said, "Hello Mr. Jim."

His response was similar for each slide, and often he would move backward and move forward again in the MS-PP 2007 slide show to hear sounds and see the movements again. The researchers and teacher at times prompted JB to move-on through the story due to this behavior.

Like the introduction session, the conflict of the story was portrayed as the author intended. Red was “picking” on Blue, and Blue was sad about the situation. JB read with excitement (i.e., loud voice and quick hand movements) even when excitement was not needed to explain the story and often moved the slides backward and forward repeatedly to hear sounds and see moments on the computer screen associated with the story as he read. With this session, JB reviewed the multi-meaning words (i.e., Red and Blue) and all the idioms listed in the text analysis (e.g., a hot head → quick to anger) (See Table 1). Also, JB witnessed the colors change from color orbs to color numbers in the text. JB would say the number each color became before reading it from the text in the story for each slide (See Figure 6). Once JB read this from the text, he did not have difficulties matching colors to the numbers each color became. Related to characterization, JB yelled, “Red is hot, and Blue is cool,” each time he saw these colors. Researchers prompted JB to move from certain slides because he would linger on a single slide reading the passage over and over again. This was especially evident when he read slides containing Red intimidating other characters in the story. When One encouraged the other colors to not allow Red to pick on Blue, JB excitedly moved his hands quickly near his face and read the slide over and over again as he laughed aloud. As JB read about the character One, JB would express a mathematical problem with its solution, “One plus 300 is 301.” Although the problem and solution changed per slide, JB’s fascination and genius for mathematics was noticed by researchers throughout the study.

Figure 6. In the digital version of the text, JB read about one of the minor characters—Yellow. Yellow (a) was transformed into the number two (b) in the text and digital story versions.

The last reading session involved the resolution to the story illustrating the effects and characterization of the hero, 1, “taking a stand” in opposition to Red’s bullying behavior. As with the other readings, JB responded positively to the sounds (e.g., angry grunts) and movements illustrated on the computer screen. JB moved his hands quickly and laughed when sounds and movements accompanied his readings. When Red grew angrier because of being left out from the other colors’ transformation from orbs to numbers as encouraged by One, JB laughed and moved his hands near his face. JB manifested the same behavior when Red and Blue accepted each other’s differences, and One encouraged Red to join the others by turning into the number 7 (See Figure 7). JB with an excited voice and tone expressed a math problem and solution with the main characters in the story (i.e., One, Red → 7, and Blue → 6), “ $6+7+1=14$.” After this reading JB was allowed to move freely through the introduction, conflict, and resolution MS-PP 2007 slides. Researchers noticed JB pausing and reading slides where One was a part of the action of the story. JB said, “One...Hello Mr. Jim,” many times as he perused the slides. Researchers considered this an expression of pleasure.

The Games

Three types of games were created by researchers for JB: folder matching games, magnetic cookie sheet matching, and Popsicle stick puppets. The folder game consisted of a manila folder with Velcro to attach the story's characters with their matching traits which included the three unknown words from JB's reading (i.e., comforting, regal, and outgoing). JB's understanding of the colors transformation from orbs to numbers was used to help him match to more intangible traits like the matching of Red to a hot fire and the term angry (See Figure 8). JB was able to check his answers by using the back of the folder to see a photograph of the correct matching for each character and the three unknown words. This game was chosen because JB was familiar with this game and used this matching game to learn various concepts and vocabulary in various content area subjects.

The magnetic cookie sheet matching game accomplished the same thing as the folder game but was completed with the assistance of a researcher. The characters (e.g., Red), their numbers from transformation (e.g., Red→7), the photographs, the terms representing character traits, the multi-meaning words, and the idiom phrases were printed from a computer and cut-out. These cut-outs were laminated and had magnets attached to the back for utilization in the matching game. The researcher would allow JB time to move things around on the cookie sheet with-out prompting. This gave JB time to adjust which reduced angry outbursts or refusals to participate. First, JB would move the color tags next to their corresponding number tags on the cookie sheet. The researcher would then hand photos and terms respectively representing various character traits or multi-meaning words connected with the characters and numbers in the story (See Figure 9). JB reviewed the story read on MS-PP 2007 slides to check his matching. The researcher assisted JB by moving to appropriate places within the PowerPoint slides. Because JB wanted to start at the beginning and read the entire story before making each match, JB was not allowed to control the computer. JB also wanted to hear the sounds and see the movements on the slides over and over again; this reading behavior was extinguished by turning the computer toward the researcher after a time as a physical cue for JB to perform the matching. Therefore, a routine developed between the researcher and JB. Often JB would call out a number as a cue for the researcher to find a slide for needed information. The researcher selected a slide. JB read the slide. The researcher turned the computer screen from JB. If JB completed a correct match, the researcher would give JB a new photo or term to match on the cookie sheet with one of the characters in the story. If JB was not able to make a correct match, new slides were viewed or the researcher assisted JB in making the correct match. At times, JB wanted to place one of the magnetic strips on the computer screen to perform a matching. JB was reminded that this would damage the computer. JB eventually stopped this behavior after several reminders from researchers and his teacher.

The last game utilized was more open and subjective—Popsicle stick puppets. Each character in the story was glued to a stick. The colors were yarn pom-poms and the numbers were laminated paper. The colors were matched to their corresponding transformation numbers. A color pom-pom was glued to one end of the popsicle stick

with its corresponding number glued to the opposite end of the stick (See Figure 10). The researcher asked JB to tell the story. JB used the MS-PP 2007 story's introduction, conflict, and resolution slides. He read the story moving the puppets with the sounds and movements illustrated on the computer screen. JB picked up the puppets in the story as they were mentioned and laid down the puppets no longer being mentioned in the story as the story progressed. When the colors were transformed into numbers, the researcher stopped the story and turned each Popsicle stick around showing the numbers and gave them back to JB to hold upright as the story continued (See Figure 10). When the character One was introduced, JB held the One character popsicle stick puppet in a hand separate from the others. As JB completed the story experience, JB held all the Popsicle stick puppets together moving them as one while the story experience progressed and reached its conclusion. Because JB seemed to enjoy this game, researchers allowed JB to have this experience again. However, JB would not put any of the puppets down during the second reading; he simply read the story and moved all the puppets in his hands with the movements and sounds on the computer. JB did this regardless of which character and/or characters he was reading about on the respective slides.

JB Became “One” in the Story

One of the best practices in reading or writing is a reader experiencing some personal connection to a story or character (Nathanson, 2006). Because communication with JB was limited, having JB orally retell the story in a narrative format without text or visual supports was viewed by his teacher and researchers as awkward and unsuitable for his learning needs. Researchers chose the hero of the story, One, as the character to have JB relate to in a personal, narrative manner. The story's plot and all characters were the same in this version with one exception; JB's picture/image from the class was attached to the One pictorial representation on all slides (See Figure 11). All references to One changed to JB. JB referred to himself in the third person when communicating with others. His teacher and researchers believed using his name instead of me or I would better simulate a narrative experience of the story reading. This practice had proven successful in diminishing undesired behaviors with students who were challenged with autism (Quility, 2007). Researchers suspected academic gains for students with autism could be accomplished using similar personalized, story techniques. As before, JB responded to the sounds and movement of each slide with laughter and quick hand movements near his face. His teacher commented on JB as being engaged and having pleasure from the reading experience. When JB saw his image move and appear as the character One, he said, “[JB pointing to his image], Hello MR. Jim...Twenty plus three!” These statements were known to JB's teacher and researchers as expressions of acceptance or pleasure by JB. One behavior issue occurred during this experience. JB wanted to continue reading and seeing his image on the screen (See Figure 11). When JB was asked to move-on or to stop manipulating slides in the story, JB refused and said, “Seven plus nine!”—“No!”—and/or...“Stop!” JB's teacher helped calm JB with a few personal questions. JB read this version in several sessions before the summative assessment. Even though this practice was challenging at times, the teacher and researchers agreed to allow JB to experience his personalized story because of the excitement and interest he expressed.

JB's Summative/Post Assessment

The majority of the summative assessment was fashioned in the same mode as the formative assessment. To avoid testing bias or error between formative and summative assessments, different photographs were used for matching purposes. Respective, varied pictorial representations for JB to match character traits to the story's characters (e.g., Red, Blue, and One), unknown words to meanings (i.e., comforting, regal, and outgoing), idiom phrases to meanings, and the two identified multi-meaning words to meanings (i.e., Red and Blue) became the challenge.

All three unknown vocabulary words were matched to their respective pictorial meaning representations, 3/3 (100%). JB was able to match all picture meaning representations to both multi-meaning words (red and blue), 4/4 (100%) with a 2/4 (50%) gain (See Table 1). He matched red to hot and matched red to its related word angry. JB matched blue to cool and was able to match it to its alternative meaning, sad, as well. JB's idiom phrase understandings were minimal. He was able to relate *a hot head* to pictorial representations of anger (a woman with an angry facial expression) and was able to match *blew a fuse* to anger pictorial representation (a similar aged child with an angry facial expression). JB was able to match the idiom phrase *being blue* to a picture representation of sad (a baby crying). The idiom phrases *took a stand* and *everyone counts* were not indefinable by JB during the selection, and JB refused to make selections with the mouse pointer. JB said, "Seven plus nine!" to express his dissatisfaction with both assessment items. JB identified pictorial representations for three of the five (60%) idiom phrases (See Table 1).

As with the formative assessment, JB used the digital ink feature found in MS-PP 2007 to digitally write the number on the color orb after the transformation. JB quickly associated the color orbs with the numbers they transformed into at the end of the story. In digital ink he quickly wrote the correct number over each color orb, respectively, with 100% accuracy. The result was the same as the formative assessment. Characterization understanding was evaluated again using the oral questions presented by a researcher during the formative assessment. Eight questions were generated to match character traits to One, Red, Blue, and minor characters (e.g., yellow). JB chose to use red ink this time to make his selections. JB was able to match all character traits to the story's characters with 100% accuracy and a gain score of 6/8 (75%) (See Table 2).

The same three directives from the formative assessment were used, which included one directed task per story grammar area (introduction, conflict, and resolution). Again, directives were utilized to assess JB's comprehension of fictional story grammar. JB improved story grammar comprehension from 0% accuracy to 100% accuracy (See Table 2).

Peer Debriefing and Data Integrity

The two researchers and the teacher reviewed the data from formative and summative assessments results, field notes (i.e., teacher and researchers' notes concerning JB), and

interview transcripts. The interpretations of the formative assessment, summative assessment, and the interview transcripts were found to be 100% reliable based on the independent concurring reviews of the researchers and the teacher. The observational field notes contained 3,763 statements and phrases total. Researchers concurred with 95% (3,574.85) accuracy during peer debriefing concerning field note interpretations of JB's behavior. Descriptions of JB's behavior were discussed at length. The observations researchers and the teacher could confirm and agree with were reported in the study. Only five percent (189 statements and phrases) of the observations between the three were found without substantiation when compared.

Discussion and Conclusions

Although student choice and interest should always be the first and the most important consideration for meeting RR instructional goals, a student's individualized perception of an experience or the purpose of a utilized tool can interfere with reading instruction. For example, JB's fascination and interest with numbers, mathematics, and calculators rendered the FLM-6000b useless and interfered with meeting reading instruction goals. JB only could see a device like this as a calculator and displayed agitated behavior (e.g., Saying, "NO!") when directed to type-in his unknown vocabulary words into the device. Instead, JB typed numbers into the FLM-6000b to make the device fit his view of a calculator. He typed-in a problem and pressed the *SAY* function key to hear it through the speakers. After hearing the problem expressed, JB typed in the solution and listened to the computer read out the problem and the solution. Technology pairing with best RR practices enhanced JB's reading instruction when he understood the purpose and use of such technology. JB performed all the tasks with MS-PP 2007 as instructed. MS-PP 2007 may have fit his paradigm for this tool, thus, no problems.

The individualized, one-on-one, and directed intervention allowed JB to understand the rudimentary story grammar of introduction, conflict, and resolution found in the story *One* (Otoshi, 2008). This study, like previous studies (Bellon, Ogletree, & Harn, 1999; Quilty, 2007), confirmed the positive influence of one-on-one adult interaction with students diagnosed with ASD. Further research is needed to discover if JB will generalize this RR individualized experience with new books he experiences in the future. Regardless of the method or tools used adult support has proven to be a viable component of RR for educators serving students with ASD.

The learning of unknown vocabulary words using the multi-media functions of MS-PP 2007 and best reading practice activities provided JB the novel reading experiences to understand and comprehend his three unknown vocabulary words from the first reading. JB's understanding of multi-meaning words and idiom phrases was not a complete success, respectively, a 2/4 (50%) gain and a 3/5 (60%) gain from the baseline experience to the summative assessment. JB's progress was valued as a positive result by JB's teacher. The teacher reported JB often did not understand cultural idiom phrases in readings and often confused them by attempting literal associations. For example, if the teacher told JB he was cool, JB would feel his head with his hand to see if it was cold. Direct, explicit instruction pointing out the meaning of idiom phrases is needed. The text

reading and the picture visuals in the MS-PP 2007 readings offered direct, explicit experiences with the idiom phrases. It is interesting to note the idiom phrases JB was able to remember in the summative assessment were also the ones associated with the two characters who appeared most in the story (i.e., Blue=6 and Red=7). The direct focus on these characters allowed JB to connect these characters traits to their matching idioms. Blue is associated with sadness and red is associated with anger or aggressive behavior in the story many times. Novel representations with multi-media and gaming support aided JB in understanding these idioms' meanings.

Perhaps, the most fascinating result from the study was JB's ability to quickly associate the color orb characters in the story to the numbers they transformed into at the resolution of the story. JB without hesitation from the beginning made these associations seamlessly (e.g., Blue=6) (See Table 2). Researchers were more inclined to look in the text to determine this. Researchers and the teacher, after several peer debriefings, agreed this was possible because of JB's focused curiosity with numbers and everything mathematical. Progress was noted from JB's response to the eight Characterization Trait Comprehension Questions (See Table 2). JB gained 60% growth in comprehension of characterization traits used in the story. JB's excited behavior (i.e., viewed by researchers as positive engagement) when the characters moved on the MS-PP 2007 screen with sound allowed JB focusing time on the key characterization traits. From the text reading, the puppets, and MS-PP 2007 re-readings, JB interaction with the characters in focused computer aided audio-visual experiences and concrete trait association experiences (i.e., puppets) provided visual and tactile supports. These combined experiences provided JB the needed engaging rereading experiences.

Students with autism may be more apt to engage in repeated re-readings of a text if presented in novel and diverse activities. Assistive technology with multimedia tools allowed researchers various interactive mediums full of color, sounds, and movements to engage and focus JB's attention. JB's engaged demeanor (e.g., hands brought close to JB's face) and positive expressions (e.g., Hello, Mr. Jim) while he experienced the story offered an indication of the positive possibilities accomplished when best practice reading instruction is paired with ATs. Students like JB, who can call-out the words in a story without comprehending the story, need explicit, direct intervention (Marzano & Pickering, 2005). The instructional process and tools used in this study provide an individualized framework for teachers to explore when designing vocabulary and reading comprehension activities for students with autism.

In summary, students with high functioning autism, like JB, may benefit from similar RR instructional practices as well. JB was able to follow and comprehend story grammar and complex characterizations in the story *One* (Otoshi, 2008). Teachers, who work with students diagnosed with autism, have an obligation to start with the interest and dispositions of the student before and while implementing ATs in combination with best RR instructional practices. This study and instructional experience provided an illustration of the process for individualized instruction in the age of technology's infusion into all instructional practices. Regardless of the resources or AT tools used, direct adult involvement as an intervention remains a valuable tool for educators of

students with ASD. JB's ability to differentiate idiom phrases, unknown words, multi-meaning words while accurately reflecting and commenting on the fictional story's grammar and complex characterization style offers hope to educators seeking to accomplish academic reading/learning goals with students dealing with ASD.

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Figures



Figure 1. Franklin Language Master 6000b



Figure 2.

JB was unable to select the baby crying as a meaning for blue when asked to choose the picture that goes with Blue best. The photographs were used in accordance with Microsoft's fair use clip art/photograph copyright policies.

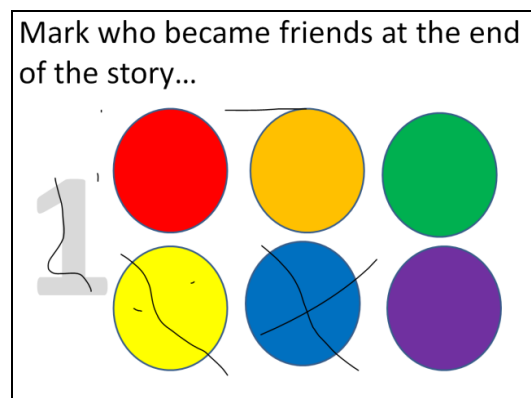


Figure 3. With the black digital ink in PowerPoint 2007, JB incorrectly marked Yellow, Blue, and One as friends at the end of the story.

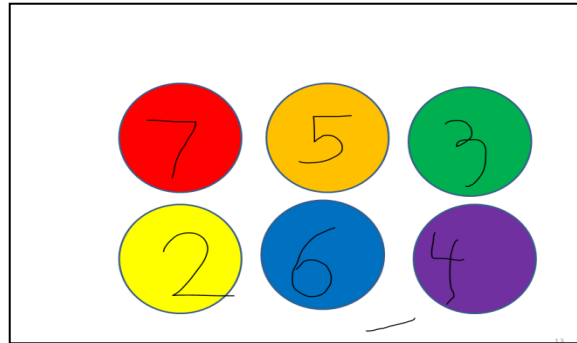


Figure 4. With the black digital ink in PowerPoint 2007, JB correctly inscribed the numbers the color orbs transformed into at the end of the story.



Figure 5. JB read about one of the minor characters—Purple with an associated trait, regal. This reading was enhanced with trumpet sounds and the pictures depicting royalty.

a

1
●

Then **Yellow** felt brave
and said, “Me **TWO!**”

b

1

2
▶

Then **Yellow** felt brave
and said, “Me **TWO!**”

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Figure 6. In the digital version of the text, JB read about one of the minor characters—Yellow. Yellow (a) was transformed into the number two (b) in the text and digital story versions.



Figure 7. JB read how One (1) and Blue (6) encouraged Red to joint and others. Red became number 7. This reading was enhanced with shouts and bouncing sounds as the picture depiction of number 7 moved and bounced across the screen.



Figure 8. JB's folder game where he matched one of the story's main Characters, Red with number seven, to a pictorial depiction of hot (i.e., fire) and one of the text's statement concerning Red, "Red is hot." These laminated tags were attached using Velcro on specific places within the folder. The photographs were used in accordance with Microsoft's fair use clip art/photograph copyright policies.

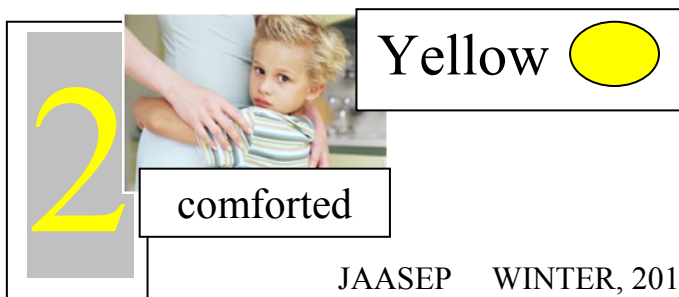


Figure 9. JB's cookie sheet game allowed JB to group pictorial representations with other laminated tags defining or describing story vocabulary and character traits found in the story *One*. These laminated tags were grouped together using magnets. The photographs were used in accordance with Microsoft's fair use clip art/photograph copyright policies.

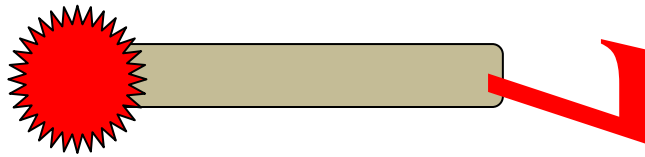


Figure 10. Graphic depictions of two of the popsicle stick puppets used by JB as he read and acted out story elements found in the text *One*.



Figure 11. JB's image was attached to the main character, One, from the book *One*. In this digital version, JB is the character One, and his name replaces the name One. JB's face image was blocked for privacy and security concerns.

A Qualitative Study of Special Education Certification Methods and How They Affect Teacher Efficacy

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Abstract

A teacher shortage in the area of special education has led to an increase in the number of special education teachers who are teaching out-of-field. The lack of pedagogical training of these teachers creates concern about the effectiveness of these teachers. This qualitative study explores the teacher-efficacy of four special education teachers with varying backgrounds. One of the teachers was a traditionally certified special education teacher; the other teachers had received their initial certification in areas other than special education, and later became certified in special education by passing a state examination. Qualitative data demonstrated that all four had genuine concern for their students, and all four voiced belief in their ability to teach students with disabilities. However, there was a clear difference in instructional strategies used as well as their concerns about external factors, which may affect a student's ability to learn.

Introduction and Literature Review

The federal reauthorization of the Elementary and Secondary Education Act also known as No Child Left Behind (NCLB) was signed into law in 2001, and went into effect in 2002 (United States Department of Education, 2011). A key component of NCLB is that all teachers including special education teachers must be highly-qualified; however, the definition of highly qualified is vague (Gelman, Pullen, & Kauffman, 2004). The law requires that all teachers pass a state certification test, and it also requires that the teacher hold at least a bachelor's degree, however the law does not require that the teacher's degree be related to the subject area that they are teaching, and the law does not establish any standards for the certification test (Gelman et al., 2004; Stotsky, 2009).

Teacher shortages in special education has led to a phenomenon in which many special education teachers are teaching out-of-field. An out-of-field teacher is one who has gone through a traditional teacher preparation program in one content area, but is teaching in a different area (Stotsky, 2009). Once a teacher is certified in the state of Georgia, they may take a certification test in any area, and if they pass the test in that area they become certified to teach that particular subject or in the case of special education they are considered highly qualified to work with students with disabilities (SWD). Working with SWD requires a specialized pedagogical knowledge that is difficult to measure on a test (McCormick, 2005; Stotsky, 2009). Certification tests rely on measuring content knowledge rather than pedagogical knowledge. Georgia uses the Georgia Assessment for the Certification of Teachers (GACE) test to certify teachers. A prospective special education teacher must pass the general curriculum test in order to become certified to

teach SWD. The test has 124 questions and only 8 of them are related to pedagogy and the delivery of instruction (Georgia Assessment for the Education of Teachers, 2010).

There has been a critical teacher shortage in special education since the 1980s (Boe & Cook, 2006). This shortage is exacerbated by the fact that the attrition rate is higher in special education than it is in general education. For this reason the teacher shortage in special education continues to be an issue (Boe, Cook, & Sunderland, 2008; McLeskey & Billingsley, 2008). One factor that affects the shortage of special education teachers is job attrition (Quigney, 2010). There is also a rising number of students being identified with disabilities requiring more special education teachers to serve these students (deBettencourt & Howard, 2004; Robertson & Singleton, 2010). The teacher shortage combined with the requirements of NCLB has led to the proliferation of alternative certification routes for special education teachers (Darling-Hammond, 2010; Quigney, 2010). Alternative certification programs allow people to become certified without completing a traditional teacher preparation program (Darling-Hammond, 2010; deBettencourt & Howard, 2004). There are also many special education teachers who went through a traditional teacher preparation program in an area other than special education, but are teaching out-of-field because of the high demand for special education teachers (Gelman et al., 2004).

Concern over the effectiveness of special education exists because there is an achievement gap, between students with disabilities and their peers. A 2007 report from the National Assessment of Educational progress showed that students with learning disabilities performed at a lower level than their peers without disabilities even with special education accommodations in place (Lee, Griggs, & Dion, 2007). Currently, NCLB judges the effectiveness of schools by test scores in language arts and math, and states must test students in grades in 3rd through 8th (Aldridge & Goldman, 2007). In order to measure a school's progress towards this goal, NCLB establishes a system to measure whether schools were making Adequate Yearly Progress (AYP) (Eckes & Swando, 2009). Each year schools have to show that a minimum number of students are proficient in both subjects, and this number increases each year until 2014, when all students are to be proficient in these two subjects (Eckes & Swando, 2009). In addition to showing that a minimum percentage of the entire student population are meeting this goal, schools also had to break down their population into four different subgroups, and demonstrate that each of these different subgroups are also making sufficient progress. The four subgroups are based on economic background, disability, race and ethnicity, and English proficiency (Eckes & Swando, 2009).

Research conducted by Eckes and Swando (2009) showed that schools with a measurable Students with disabilities (SWD) subgroup were more likely not to make Adequate Yearly Progress (AYP). These researchers studied the effects of the SWD on a school making AYP in California, Texas, and Florida. Of the 986 schools in California with a SWD subgroup 456 failed to make AYP at least partially because of the performance of the students with disabilities subgroup. "In each year [2001-02 thru 2005-06] the differences between the number of schools with and without special education subgroups making AYP were statistically significant at the $p=.001$ level. In 2005-2006, schools

containing special education enrollments were 71.8% less likely to make AYP than schools that did not contain special education subgroups” (Eckes & Swando, 2009, p. 2487).

The special education teacher is essential in ensuring academic success for SWD (McLeskey & Billingsley, 2008). Teaching SWD requires a unique set of skills (Landrum, Tankersley, & Kauffman, 2003). Special education teachers require a specialized pedagogical knowledge and background in order to work with a wide variety of students requiring different strategies in order to meet their educational needs (McCormack, 2005; McLeskey & Billingsley, 2008). Teachers must provide more specialized and individualized instruction in the classroom in order to be successful (Landrum, Tankersley, & Kauffman, 2003). Special education teachers are responsible for differentiating instruction, and creating accommodations for individualized students in order to help them be successful (Landrum et. al. 2003). The teacher is the most important link for student success in the classroom (Sanders, 1998; Sanders and Horn, 1998).

The skills used by teachers’ effect learning of SWD. Teacher behaviors and characteristics can determine if a SWD succeeds or not (Mastropieri & Scruggs, 2001). Teachers’ with a high sense of efficacy exhibit many teaching characteristics which promote student achievement (Ross & Bruce, 2007). Teacher efficacy is of particular importance in the area of special education due the nature of the students with which teachers are working (McDaniel & Dibella-McCarthy, 1989).

Teacher efficacy is a teacher characteristic which is consistently linked to student learning (Poulou, 2007; Tournaki and Podell, 2008). Collier asserts that “teacher efficacy has been identified as perhaps the most important belief system in terms of its effect on the behavior of teachers and subsequently student performance (2005). “A teacher’s efficacy belief is a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated” (Tschannen-Moran and Hoy, 2001, p.783). Teachers with a high TE are committed to the profession and believe that they can affect the outcome of student learning (Coladarci and Breton, 1997). Teachers with a lower self-efficacy blame outside factors such as the environment when a student does not perform up to expectations (Tschannen-Moran and Hoy, 2001).

The first study involving teacher efficacy was conducted by the Rand corporation in 1976 (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). The purpose of the Rand study was to evaluate reading programs in elementary schools (Armour et al., 1976). The Rand research contained two questions based on Joseph Rotter’s social learning theory (Lamorey & Wilcox, 2005; Rotter, 1966). Central to Rotter’s social learning theory was the concept of expectancy. Expectancy is defined “as a belief held by an individual that a certain reinforcing outcome would occur as the result of a specific behavior on the part of that individual” (Lamorey & Wilcox, 2005, p. 71). Rotter focused on the differences between internal versus external control. Rotter was interested in one’s belief that they could overcome external factors in order to create change (Rotter, 1966; Skaalvik &

Skaalvik, 2007). Based on this idea it was believed that a teacher's self efficacy would increase if the teacher believed they could overcome external factors such as home life or students' abilities in order to help the student learn (Skaalvik & Skaalvik, 2007). Based on Rotter's theory the Rand researchers comprised two items to measure teacher efficacy (Lamorey & Wilcox, 2005; Tschannen-Moran et al., 1998). The first item was, "When it comes right down to it, a teacher really cannot do much because most of a student's motivation and performance depends on his or her home environment," and the second item was "If I try really hard, I can get through to even the most difficult or unmotivated students" (Armour et al., 1976). The RAND study found that teacher efficacy was a strong predictor of student success (Armour et al. 1976). This finding led to a growth of research on teacher efficacy and it how it relates to student achievement (Tschannen-Moran et al., 1998).

Much of the subsequent research on teacher efficacy was based on the social cognitive theory of Albert Bandura (Lamorey & Wilcox, 2005). Bandura defined self efficacy as "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1977, p.3). Bandura's work is based on outcome expectancy. As people experience life they begin to realize that certain actions will produce certain results (Gibson & Dembo, 1985). Self Efficacy is the belief that one can produce the actions necessary to produce the desired result (Bandura, 1977). People with a higher self efficacy will exert more effort to meet a challenge (Bandura, 1977).

There have been a few studies demonstrating the impact of a teacher with high TE on student learning in the general education setting, but there has been very little research in the area of special education (Coladarci and Breton, 1997). Allinder found that there was a positive correlation between the degree of teacher efficacy and student achievement gains (1995). Teachers with higher teacher efficacy are more persistent, had higher student expectations and goals (Allinder, 1995; Poulou, 2007). Highly efficacious teachers create more challenging lessons, and persist until the student understands the material (Poulou, 2007). Teachers with a higher TE believe that they can control student motivation and performance (Poulou, 2007).

Tournaki and Podell found that teachers with high TE adapted to student needs and provided more individualized instruction (2008). This is an important characteristic when teaching students with disabilities (Quigney, 2010). Research shows that between 5% and 8% of all students have a cognitive deficit that keeps them from being able to learn the concepts or procedures necessary to be successful in math (Geary, 2004). "The struggle for students to not only learn, but also retain information is one of the biggest challenges educators face" (Evans, 2008, p. 17). If a student does not understand the material it is important that we do not blame the student, but rather look at the delivery method of the instruction. Egan (2008) explains, "The first and perhaps still the most important was the recognition that failures to learn the curriculum might be due to faults other than the child's recalcitrance. It might, for example, be due to the method of teaching, or the stage at which a topic is taught" (p. 7). Students with learning disabilities are more likely to fail if proper supports and instruction are not put in place (Witzel, Riccomini, & Schneider, 2008).

Classroom management is particularly important when teaching students with disabilities (Witzel & Mercer, 2003). In order to teach effectively a teacher must provide an orderly and safe environment. Teachers with a high teacher efficacy are more effective at handling classroom discipline issues (Morin and Battalio, 2004). Teachers with a low self efficacy blame the student for bad behavior while teachers with a higher teacher efficacy look for other issues which may be causing the misbehavior (Morin and Battalio, 2004). Teachers with high TE establish routines and institute clear behavioral expectations (Poulou, 2007).

The conceptual framework for this research is based upon the researcher's hypothesized relationship between the two variables: method of certification for special education teachers and teacher efficacy. The theory of teacher efficacy is based on the work of Rotter and Bandura. Rotter was the developer of social learning theory. Central to Rotter's social learning theory was the concept of expectancy. Expectancy is defined "as a belief held by an individual that a certain reinforcing outcome would occur as the result of a specific behavior on the part of that individual" (Lamorey & Wilcox, 2005, p. 71). Rotter focused on the differences between internal versus external locus of control. Rotter was interested in one's belief that they could overcome external factors in order to create change (Rotter, 1966). Based on this idea it was believed that a teacher's self efficacy would increase if the teacher believed they could overcome external factors such as home life or students' abilities in order to help the student learn (Skaalvik & Skaalvik, 2007).

Many of the concepts of teacher efficacy are based on the social cognitive theory of Bandura (Lamorey & Wilcox, 2005). Bandura defined self-efficacy as "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1977, p.3). Bandura's work is based on outcome expectancy. As people experience life, they begin to realize that certain actions will produce certain results (Gibson & Dembo, 1984). Self Efficacy is the belief that one can produce the actions necessary to produce the desired result (Bandura, 1977). People with a higher self efficacy will exert more effort to meet a challenge (Bandura, 1977). Teachers with a higher sense of efficacy will exert more effort to help struggling students (Tschannen-Moran & Hoy, 2001). Teacher efficacy is divided into two constructs, general teaching efficacy (GTE) and personal teaching efficacy (PTE) (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). GTE is the belief that education in general can overcome external factors such as ability to help students learn, and PTE is the self-confidence in ones ability that they have the skills to overcome these outside influences and help the student develop (Tschannen et al., 1998).

Methodology

A qualitative approach was used in order to study this phenomenon. The researcher wanted to learn how the method of certification affected teacher efficacy? Teacher efficacy is defined as "a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Hoy, 2001, p.783). The research question which guided the research was:

“How does the way in which a teacher becomes certified to teach special education affect the way that they perceive their ability to teach students with disabilities?”

In order to answer this question questionnaires were given to four special education teachers who had taken different paths to certification. Respondent #1 was traditionally certified in special education receiving his bachelor of education in mental retardation. He has been teaching for a total of 11 years and all of them in special education. Respondent #2 original degree was in psychology, but has since received a masters degree specific to special education, and has been teaching for 28 years. She taught general education her first year, but has taught special education for the last 27 years. Respondent #3 was originally certified in secondary history as well as political science. He taught eighth grade Georgia History for two years before becoming certified in special education, and he is now in his second year of teaching special education. Respondent #4 completed her original certification in secondary social studies, and taught high school social studies for 3 years before becoming certified in special education. She then taught special education for 3 years, and this year has returned back to high school social studies.

Initially the researcher received permission from the district in which the teachers were employed to have them complete the faculty questionnaire. The researcher then explained the study to the participants and received their consent to participate. The researcher worked with all of the participants, and therefore chose to have the participants complete a questionnaire rather than interviewing the participants. All of the questionnaires were filled out anonymously. The researcher decided to complete the research in this manner because he thought he would receive more accurate and truthful responses then he would if he directly interviewed each participant. However, this limited his ability to probe deeper into some questions and answers.

The researcher developed the questionnaire based on teacher efficacy questions found in research. Questions were based on the teacher efficacy instruments developed by Gibson and Dembo (1984) and Tschannen-Moran & Hoy (2001). The first eight questions were demographic in nature, and designed to elicit information such as areas of certification, years teaching, years teaching special education, and degrees attained. The remaining nine questions were designed gain insight into teaching methods, teacher efficacy, teacher's perceptions of themselves, and perceptions of their students and their abilities to learn. The goal being to use the data to answer the question, *“How does the way in which a teacher becomes certified to teach special education affect the way that they perceive their ability to teach students with disabilities?”*

Data Analysis

In order to analyze the data the researcher first transcribed all of the answers of the respondents. The questionnaires were completed anonymously and for the purposes of this study the four participants are referred to as respondent 1, respondent 2, respondent 3, and respondent 4. Respondent 1 was the only participant traditionally certified in

special education, and has been teaching for 11 years. Respondent 2 original degree was in Psychology, but has since gotten a masters degree in special education, and has been teaching a total of 28 years, and 27 of those years have been spent teaching special education. Respondent 3 completed a traditional teacher education program in secondary social studies, and is teaching special education as an out-of-field teacher. He taught Georgia History for two years and is now in his second year teaching special education. Respondent 4 was originally certified through a traditional teacher education program in secondary history, and taught special education for three years as an out-of-field teacher. Initially, she taught high school social studies for three years before teaching special education for three years, and now she is in her first year back in the high school social studies classroom. Respondent 3 is only working in a co-teaching environment, although he did teach one resource class last year. Respondents 1 and 2 are both teaching in a resource environment as well as a co-teaching environment. Respondent 4 taught in both a resource and co-teaching environment, and she spent one year teaching in a classroom of mildly intellectually disabled students.

After transcribing the data the researcher read through all of the data one time looking for themes. Then the researcher read through and coded the data for areas of frustration. Then the researcher coded the areas of frustration into three different areas. First it was coded into frustration caused by factors directly related to teaching the student, but considered to be outside the control of the teacher such as home environment. Then the data was coded based on frustrations caused by the students' disabilities. Finally, it was coded on frustrations caused by factors not related to teaching such as paperwork.

After coding based on frustrations the researcher coded the data for areas of positive reflections on the teachers' own abilities. Then the data was coded for positive aspects of teaching students with disabilities. This positive data was then coded into two areas. The first area was data that demonstrated the teacher's belief that all students had the ability to learn, and secondly it was coded for how teaching students with disabilities affected the teacher. All of the data was then coded for instructional techniques. Finally, the data on instructional techniques was coded for any mention of individualized instruction.

Several themes emerged from the data. First all of the teachers viewed themselves positively. All of the teachers except respondent #1 mentioned that they believed all of the students had the ability to learn, and all four expressed an ability to teach them. Respondent #3 who is teaching out of field and has the least amount of experience did express limitations on the students' ability to grasp material on grade level. Only respondents #1 and #4 mentioned the rewarding aspects of teaching SWD. Also respondent #2 who is teaching in field expressed that the students were beyond her control, and that she did the best that she could during the time she was working with the students.

There were several themes expressed when it came to the frustrations or working with SWD. All of the respondents mentioned factors beyond their control which affected their ability to teach SWD. All but respondent #4 mentioned issues that related to family structure, and the importance of a stable family life. All three expressed concerns that

family support affected the students' ability to learn. Respondent #4 expressed concern with school and district budgeting. She was concerned that funds were not allocated with the best interests of the students in mind and that this use of resources affected her ability to teach SWD. Another frustration mentioned by both respondent #3 and respondent #4 was the amount of paperwork, which needed to be completed by special education teachers. Both of these teachers were teaching out of field. Respondent #2 and respondent #3 articulated concerns with the disabilities of the students, and how these disabilities affected their behavior and ultimately their ability to learn.

The final themes emerged around instructional technique. All four of the respondents stressed the need for individual instruction, and differentiation. Respondent #2 spoke specifically of getting to know each individual student before developing an individual plan for teaching each student. All of the respondents except respondent #1 mentioned using small groups and flexible groups to meet instructional needs.

In attempting to answer the question, "How does the way in which a teacher becomes certified to teach special education affect the way that they perceive their ability to teach students with disabilities?," the researcher found that there was not a big difference in the way teachers perceived their ability to teach students with disabilities. Interestingly all of the teachers described themselves as well as the students in a positive light. Respondent #2 who has a graduate degree in special education, and has the most teaching experience was the only teacher to mention that the students were beyond her control.

Discussion

Teacher efficacy is an important factor as it relates to student achievement. Many schools are currently failing to meet the provisions of NCLB because of the SWD subgroup. The data collected demonstrates that there are frustrations associated with teaching students with disabilities that are directly related to teacher efficacy. SWD are a difficult group of students to teach who require teachers to have specialized pedagogical skills in order to effectively teach them (Mastropieiri & Scruggs, 2001). Effective teachers do not blame outside factors as they relate to the student's ability to learn, however the participants in this research all voiced concerns about factors beyond their control. All of the participants voiced these concerns, not just the teachers who are teaching out-of-field. This is a troubling concern as we continue to work with this special population. Interestingly, only one of the participants complained of the students' abilities but instead focused on other factors such as family stability and district policies, which they felt negatively impacted their ability to teach the students.

The other important theme, which emerged from the data was the use of instructional techniques. Only one of the four mentioned tailoring the instruction to the individual needs of the student. This was respondent 2 who has been teaching longer than the other teachers and has a Master's Degree in Special Education. Employing instructional practices to meet the needs of the individual learner is one of the most important aspects of teaching SWD. As SWD continue to fall behind it is important that we begin to look at how special educators are trained and certified. The teacher shortage in the area of special

education has caused the organizations in charge of certifying teachers to allow shortcuts to certification that may not be in the best interest of the children.

Conclusion

Teacher efficacy has a direct impact on teacher learning, and nowhere is teacher efficacy more fragile than in the realm of special education teachers. Daily special educators face the task of working with a difficult yet rewarding group of students. It is easy to blame the student and his/her disability for educational shortcomings. Effective teachers avoid placing such blame, and instead focus on their ability to help these unique students. As the number of alternatively and out-of-field special educators continues to increase it is important that proper methods for training special educators are employed to help insure their success. A teachers' sense of efficacy is likely to decrease if they are unsuccessful. For this reason it is imperative that teacher efficacy is considered as future special educators are employed (Raudenbush, Rowan, & Cheong, 1992).

More research needs to be done to explore the relationships between teaching SWD and teacher efficacy. There is a lot of research linking teacher effectiveness to a high sense of teacher efficacy, however there is little research in the area of teacher efficacy and special education teachers. This research study focused on special education teachers who are teaching out of field, but the current teacher shortage has also lead to a proliferation of alternatively certified teachers. Future research should focus on the teacher efficacy as it relates to method of certification. Alternative certification focuses on content knowledge rather than pedagogy, and thus may effect teacher efficacy. More research of a qualitative nature also needs to be completed. Most of the research in the area of teacher efficacy is quantitative in nature, and does not give insight into the thoughts of the teachers. This research was limited by the nature of the questionnaire, but further research incorporating classroom observations as well as in-depth teacher interviews could prove insightful in learning more about the nature of teacher efficacy as it relates to teaching students with disabilities.

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About the Author

Sean Green is currently a middle school special education teacher in Georgia. He has been teaching for eight years, but has only been teaching special education for three years. He was a high school social studies teacher before he began working in the area of special education. Sean received his Bachelor's Degree in History at the University of West Georgia, where he also earned his Masters and Specialist Degrees in Secondary Social Studies. Sean is currently pursuing his Ph.D. in Curriculum and Instruction at Mercer University.

APPENDIX A

Survey Instrument

Faculty Questionnaire

1. Male or female?
2. What grade or grades do you teach?
3. What subject or subjects do you teach and are they co-taught classes or resource classes?
4. How many total years of teaching experience do you have?
5. How many years have you been teaching special education?
6. Did you teach any general education classes prior to teaching special education?

If so what classes, what grades, and for how long

7. Please list all of your areas of certification.
8. Did you graduate from a teacher education program or were alternatively certified? If you graduated from a teacher education program was your degree specific to special education?
9. Describe yourself as a teacher?
10. How would other teachers describe you as a teacher?
11. Describe your relationship with your students?
12. Describe the instructional techniques you employ?
13. Describe the kinds of students you feel best suited to teach?
14. How would you describe teaching special education to a prospective teacher?
15. Describe your beliefs about your students ability to learn?
16. How do outside factors influence a students' ability to learn the material?
17. How do you attempt to overcome those outside factors that influence a student's education?

The Classroom Infrastructure and the Early Learner: Reducing Aggression During Transition Times

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Abstract

High levels of aggressive behaviors were observed during the transition times in two self-contained special education classrooms: a kindergarten and pre-kindergarten. The present case studies examine how modifying the classroom infrastructure impacts students' aggressive behavior. Teachers were assisted on the usage of select modifications (visual cues and carrels). Data were collected during pre-experimental, baseline, intervention 1, and intervention 2. Results indicate that modifying the classroom environment decreased aggressive behaviors during transition times by as much as 12% from the beginning of the study. The change in aggressive behavior was moderate and teachers perceived the intervention as having a positive impact on students' learning and their ability to teach. Implications for practitioners are discussed.

The Classroom Infrastructure and the Early Learner: Reducing Aggression During Transition Times

Today's classrooms are complex; teachers not only teach, but simultaneously manage the behavior of their students, supervise paraprofessionals, strive to incorporate the mandated curriculum, participate in high-stake testing, and negotiate advanced technology (e.g., Smart Boards, document cameras, laptops, iPads). Although not often considered complex, the classroom infrastructure contributes to the daily challenges teachers attempt to balance.

Infrastructure is defined as "the underlying foundation or basic framework" (Merriam-Webster's Online Dictionary, 2010). Thus, the classroom infrastructure consists of many foundational components, including the furniture and structural layout of the classroom (e.g., desks, tables, materials, partitions). Depending on how the classroom infrastructure is designed, the system will either function efficiently or not. A poorly designed classroom infrastructure impacts students' and teachers' behaviors. Lawry, Danko, and Strain (1999) affirm, "Often, teachers are unaware that the more subtle aspects of the classroom's physical and instructional environment are operating to maintain, if not exacerbate, these challenging behaviors" (p. 49). Teachers who have students with high levels of challenging behaviors must examine their classrooms to determine if the infrastructure is negatively impacting behavior. If so, modifying the infrastructure may provide students with the information they need to meet behavioral expectations, during more unstructured and possibly demanding parts of the school day such as transition time.

Young children transition (move from activity to activity) twelve to fourteen times a day (Rogers, 1988). Challenging behaviors (i.e., disruption, aggression, non-compliance) often occur during these transitions (Buck, 1999). Transitions involve following teacher directions (standing in line), putting away materials before they are finished (clean-up), or readying themselves to move from a preferred (recess) to a less preferred activity (literacy circle) (Sainato, 1990). Designing the infrastructure with transitions in mind provides teachers with a behavior management tool *and* allows children to successfully navigate the classroom (Bullard, 2010; Hemmeter, Ostrosky, & Fox, 2006). Whereas, a poorly designed infrastructure may negatively affect children's ability to transition. A strategically designed infrastructure can provide children with informational cues that give expectations for appropriate behavior during these times and throughout the day (Kemple, 2004). For example, footprints placed in a line leading to the door clue children on where to stand while lining up to transition out of the classroom. A well-designed classroom infrastructure is critical; however, it may not be sufficient to sustain appropriate student behaviors. Additional support such as coaching the classroom teachers can strengthen their knowledge base and aid in a more effective learning environment (Guardino & Fullerton, 2010).

A coach develops or reinforces a skill or skill set with teachers. Coaches are able to increase teachers awareness of strategies used in conjunction with the modifications. For example, a teacher might need a strategy to ensure students check their individual chair bags at the end of the day in preparation for the following morning. Coaching is an effective professional development tool providing collaborative training that does not impinge on teaching time (Guskey, 2009). Collaborative coaching allows the teacher and the coach (e.g. peer teacher, veteran teacher, mentor, or consultant) to analyze the problem, work together towards a solution and then decide the type of coaching needed: "live" or "virtual". For purposes of our study the researchers took on the role of the coach. Live coaching involves modeling the strategies, providing visual or verbal cues, and guiding the teacher to use the modification as intended. Virtual coaching takes place via email or handwritten notes left for the teacher to read and then implement the suggested strategies. Due to the varying years of experience and education of teachers, coaching differs depending upon their existing skills.

Teachers are often provided with evidence-based strategies through workshops, in-service seminars, and conferences, yet they may not implement these strategies without additional support. Coaching is a direct form of teaching educators to use new strategies effectively. Unlike a workshop or conference this is a dynamic intervention with the teacher actively increasing their skill set. When teachers are coached to implement specific evidence-based practices, effects of the intervention increase; thus having a greater impact on student outcomes (Yerkes, 2001). Matheson and Shriver (2005) found that students' compliance and academic behaviors improve significantly after teachers receive coaching in the form of training and modeling.

Purpose of the Case Studies

The purpose of the case studies was to investigate the effectiveness of modifying the

classroom infrastructure on the aggressive behavior of young children in two early childhood classrooms. The participating teachers were provided with instruction in creating a safe infrastructure that sets the occasion for appropriate behavior. Two research questions were addressed: (1) Does a strategically arranged classroom infrastructure influence the aggressive behavior of young children during transition time? (2) Does coaching teachers increase the effectiveness of the modifications on students' aggressive behavior?

Methods

Case Study Participants and Setting

The participants were two early childhood teachers and students with varying disabilities enrolled in a kindergarten (Teacher 1, Classroom 1) and prekindergarten for children (Teacher 2, Classroom 2). The school serves children from pre-kindergarten through grade five and is located in an urban setting in Northeast Florida. The children were in school 6.5 hours per day. The participating teachers were selected based on a request by the principal of the school who expressed concern about the aggressive behavior displayed by children in these classrooms.

Teacher 1's kindergarten (age range five-six years) had nine students, eight boys and one girl. All the children had an Individualized Education Plan (IEP) with a diagnosis of developmental delay. All the children were in kindergarten for a second year. Due to the high levels of challenging behavior the children were not, as is typical in kindergarten, allowed to participate in center-based learning. Rather the children spent the school day in teacher or paraeducator directed activities. The children demonstrated a variety of verbal and non-verbal aggressive behavior including hitting, kicking, biting, spitting, stabbing with writing utensils, and cursing.

Teacher 1 had a bachelor's degree in education and a master's degree in counseling. This was her first experience teaching young children as well as children with developmental delays. Teacher 1's kindergarten classroom was arranged with tables, as well as desks in dyads and various curriculum materials scattered throughout the room.

Classroom 2's pre-kindergarten (age range three-four) had eight students, seven boys and one girl at the start of the study. By the end of the study, she had 12 students, ten boys and two girls. As with the first class, all children had a diagnosis of developmental delay, each having an IEP. The children demonstrated three aggressive behaviors: hitting, snatching toys, and pushing.

Teacher 2 had a master's degree in children and family counseling with a concentration in art therapy. She had six and a half years experience teaching art in the general education setting K-12. This was her first year teaching young children with developmental delays. As is expected in the preschool setting the children were taught in large and small groups with center-based learning accounting for portions of the day. Classroom 2's pre-kindergarten classroom had a few centers (family life, library, blocks and puzzles), but they were not clearly defined and the children were observed staying

near the teacher/paraprofessional or wandering from area to area.

While aggressive behavior occurred throughout the day, transitions (a time when one activity is finished and another begins) were a time when the highest levels of aggressive behaviors occurred and therefore, were chosen as the time for data collection.

Defining and Measuring Aggressive Behavior

Aggressive behavior was defined as acts of violence towards, self, others and property (Dodge, Coie, & Lynam, 2006). The following behaviors were recorded as aggression: hitting, kicking, biting, pushing, snatching materials, stabbing with writing utensils, and cursing. Aggressive behavior was measured using a partial interval recording system. Partial interval recording was chosen as it allows for recording of the percentage of aggressive behaviors occurring during transition times. Data collection consisted of 10 minute sessions divided into forty 15-second intervals. If any child in the classroom exhibited aggressive behavior within the 15-second interval, an X was recorded. If aggressive behavior did not occur during the 15-second interval, an O recorded.

Aggressive behavior was calculated by adding the number of intervals when aggression occurred and dividing it by the total number of intervals for the observation period. This average was multiplied by 100 to provide the percentage of aggressive behavior occurring during the observation period. Data was analyzed using descriptive statistics: mean, median, and mode. Observations were conducted a minimum of three times a week by a trained data collector.

The data collector was a 4th year special education undergraduate researcher, from a state university teacher preparation program trained by the researchers (first and second authors) of this study. Data training took place over the course of two weeks prior to beginning baseline data collection. The researchers met individually and together with the undergraduate researcher to first observe the behaviors occurring in the classroom, second discuss behaviors that were observed, and third practice collecting data. Once the researchers and the undergraduate researcher reached over 85% agreement on three consecutive data collection periods, the undergraduate researcher began collecting baseline data.

Inter-rater Reliability

The researchers served as the inter-raters for this study. Inter-rater data were collected on 25% of the total sessions. The researchers individually met the undergraduate researcher to collect data during transition times. The overall inter-rater reliability was high, averaging 93% (ranging from 77-100%).

Procedures and Design

The case studies were conducted across four phases: pre-experimental, baseline, intervention 1 (modifications), and intervention 2 (coaching). Data were collected in all

phases with the exception of pre-experimental.

Pre-experimental. Prior to beginning data collection, the researchers met with the teachers to obtain their consent and discuss the overall purpose of the study. Following this meeting, the researchers spent ten days in each classroom observing behaviors. This phase also served as a habituation period prior to direct observations of teacher and child behaviors. Habituation is necessary to decrease the likelihood that the teachers or children will change their behaviors in the presence of the researchers.

During this phase, the researchers identified transition activities as a time when aggressive behaviors were most often observed. The teachers confirmed this was their most challenging time. Due to the afternoon routine of lunch, recess, and special classes, morning transitions were chosen.

Baseline. During the baseline phase the children's behaviors were observed at the identified transition times. Children and teachers participated in their regular routines ("business as usual"). Data were gathered on the children's behaviors (as described previously). Baseline data began on the same day in both classrooms. Data were collected until a stable baseline was established in classroom 1. However, in classroom 2, baseline data was unstable, yet the teacher and principal requested that the intervention take place.

Intervention 1 (Modifications). Following baseline, the two researchers met with the teacher individually for approximately 30 minutes. During the meeting a list of research-based modifications was shared with the teacher. In collaboration with the researchers, the teacher chose the modifications that best fit her classroom as shown in Table 3. The modifications included making unused material inaccessible, providing small group and individual work space, rearranging quiet/noisy centers and providing visual cues for lining up to exit the classroom. Given the dynamic nature of the intervention each teacher chose the modifications based on their individual and students' needs.

Following the meeting, the classroom infrastructures were modified by the teacher and the researchers when no children were present. Modifications took an average of five hours per classroom. During this time teachers were encouraged to clarify their needs, make additional modifications, or reject suggested modifications. For example, Teacher 1 noted that large group time resulted in high levels of aggression. She wanted small group and individual workspace for her kindergarten children. The researchers suggested carrels at dyad workspaces. This allowed for the tables to be quickly changed from dyad to individual workspace thus eliminating confusion when transitioning from group time to work time. Teacher 2 wanted a larger block area as this was a favorite area for her children. It became very crowded during center time making the transition clean-up very difficult for the children. The researchers walked her through the classroom discussing each learning center and together decided to remove two unused centers to increase the space for block play.

Following the implementation of the modifications, data were immediately collected the next school day when children returned to the classroom. Children's behaviors were

observed and recorded to measure the influence of the modifications on aggressive behavior.

Intervention 2 (Coaching). Based on a previous study by Guardino and Fullerton (2010), the researchers anticipated the need to provide assistance to the teachers on implementing the modifications *if* aggressive behaviors increased following intervention. During the intervention 2 (coaching), the researchers met with the teachers coach them on how to effectively use the modifications. To maintain treatment fidelity one of the researchers served as the coach. Data collection was ongoing during the intervention 2 (coaching). In keeping with the needs of each teacher, they chose the type of coaching they preferred, live or virtual. Teacher 1 preferred “live” coaching. The researchers modeled a mini-lesson, transitioning (moving from activity to activity) the children from a newly created large group area (with assigned seating) to newly created small group, and individual work spaces. Assistance for Teacher 1 involved the researcher teaching one fifteen-minute session and cueing the teacher with a whisper or a non-verbal prompt during three separate fifteen-minute sessions. The total assistance time was approximately one hour. Teacher 2 preferred written guidance (virtual) following researcher observation of transition from center activities to clean-up and hand washing. For example, the researcher wrote a note to Teacher 2 that suggested she provide a five minute warning, use her transition bell to initiate the transition, and remind the children to stand on paw prints in front of the sink while waiting. Following three observations of transitions a note was written. Each observation/note session took 10 minutes for a total of 30 minutes.

Social Validity. After the study was completed, the researchers interviewed and surveyed the teachers regarding which modifications they thought were most helpful in reducing aggressive behaviors. The interview consisted of ten questions, two pertaining to aggressive behaviors, and the remaining focusing on the acceptability of the modifications. The interview data were analyzed by reporting the qualitative trends in the interviews.

The survey lists the modifications made in each classroom, the teachers to rate the modifications from “1= most effective” to “5=least effective”. The survey data were analyzed by comparing the rankings of the modifications between the two classrooms.

Results

Intervention 1 and 2. The transition activity for Classroom 1 was moving from large group morning carpet time to small group reading instruction and individual literacy work. The modifications included an expansion of the circle area and adding tape to designate seating areas for each child. Figure 1 photographs illustrate the modification described above. Additional modifications were completed such as the curriculum centers were removed as the children had dumped, broken, or taken the materials.

Figure 1. Before and After Pictures of Classroom 1.



In Classroom 1 during baseline, aggressive behavior averaged 27% (25-28%). After intervention 1 (modifications) occurred, aggressive behaviors decreased to 0% and quickly escalated to 20% by session 5 (see Table 1). After session 6, intervention 2 (coaching), began and aggressive behavior decreased to an average of 15% (10-18%) for the remainder of the study, a notable 12% decrease from baseline.

In Classroom 2, the children transitioned from a group activity to an individual activity (washing hands and lining up for lunch). Infrastructure changes included defining the center areas and creating designated line up “paws” for each child when exiting out of the classroom. Figure 2 illustrates the changes described above.

Figure 2. Before and After Pictures of Classroom 2. (center and line-up areas)





Interview. Teacher 1 reported the classroom felt “more spacious, more welcoming”. After the modifications were made, during transition time the children did not wander around the classroom taking or dumping supplies because the unused curriculum materials were organized on shelves that were covered by solid fabric. They went directly from the carpet to the assigned work space. She perceived the children to be “on-task more”. For example, she explained now that the children had a defined place to sit during circle time they were more attentive at the start of transition. In addition, the individual desk carrels allowed the children to quickly transition to their own space, work in their own space and work “longer” and “better”.

Teacher 2 stated the intervention made a “big improvement” that specifically helped the “reduction of off task behavior” and reduced “the number (of) non-functional materials which would “create aggressive ways to use them.” Once the materials were eliminated, aggression decreased. She reiterated at the end of her interview that she was “seeing more positive behaviors, less aggression, more follow through, more ability to take turns, independence, and more success in transition from one activity to a completely new one.” Table 2 is a summary of the interview responses.

Survey. Teacher 1 reported the intervention was minimally intrusive, she would recommend it to other teachers, and she would continue to use the modifications. She was uncertain as to the academic gains her children made as she felt she needed more time to determine these effects. However, she was certain that the modifications reduced individual and total classroom aggressive behaviors.

Teacher 2 reported similar findings to that of Classroom 1. She scored the intervention as minimally intrusive. She agreed that should would both recommend it to other teachers and continue to use the modifications after the study had concluded. Teacher 2 reported that the modifications reduced individual and total classroom aggressive behaviors. However, she was unable to report individual academic gains as the survey was conducted too soon after the completion of the intervention, approximately 6 weeks.

Discussion

Transitions are an especially difficult time for young children as they must finish an activity, follow teacher directions, and ready themselves for a new activity (Sainato, 1990). Additionally, teachers are not always focused on the children as they are finishing an activity and readying themselves for the next. In Classroom 1 there was a significant decrease in aggressive behavior following the implementation of the intervention. Although the effect of the modifications was not as robust in Classroom 2, decreases in children's aggressive behavior occurred when transitioning from center activities to clean-up and hand washing.

Findings from Classroom 1 suggest that the coaching impacted the teacher's ability to use the intervention strategy more effectively. Furthermore, during the interview she indicated that the intervention was neither invasive nor comprised of false promises. Rather, the intervention provided her with the support and information needed to

implement effective research-based classroom modifications.

Interestingly, in Classroom 2 the data do not show an immediate and great decrease in aggressive behavior. Yet, the teacher indicated that she believed the intervention was effective. There may be several reasons for the difference in outcomes across the two classrooms. First, the populations differed. The children in classroom 2 were younger with more severe and varied disabilities in comparison to classroom 1. Additionally, the number of adults in classroom 2 fluctuated from one to four throughout the study. Additional adults included volunteer parents and service providers. The number of children also fluctuated.

Five sessions were eliminated from the data analysis because of the fluctuating adult presence. For example, when more adults were present other than the teacher and the paraprofessional aggression dramatically reduced because of 1:1 support for children (sessions 8 & 10). Sessions where the paraprofessional was absent leaving the teacher alone caused atypically high aggressive behavior across the classroom because of an increased ratio of children to teacher (sessions 15, 16, & 19). After the teacher received coaching, aggressive behavior decreased an additional 5% from the beginning of intervention 1 (modifications).

Limitations

Originally, we had planned to have three classrooms participate in this study to meet the quality indicators of single subject research specified by Horner, Carr, Halle, McGee, Odom, and Wolery (2005). However, one of the teachers withdrew from the study leaving the design as data based case studies. Due to the small sample size the results cannot be generalized to other classrooms.

Implications for Classroom Practice

The classroom environment is a complex infrastructure comprised of the physical layout of furniture and belongings. The infrastructure impacts important facets of the day, such as routines, transitions, and learning opportunities. The findings of both case studies support that teachers and children benefited from modifying their classroom infrastructure. Infrastructure changes in two early childhood classrooms decreased the aggressive behavior of young children during targeted transition times. Although decreased aggressive behavior was recorded without coaching, the intervention was most effective when the teachers received coaching, an average of 45 minutes. This is consistent with previous research showing that teachers of young children need training on how to work with young children who have challenging behavior (Hemmeter, Santos & Ostrosky, 2008).

Aggression in young children can be an indication of a serious problem and is recognized as a predictor of violent behavior and other long-term risk factors such as familial abuse, depression, and violent crimes (Tremblay et al., 2004). Many young children display normative misbehavior due to an inability to regulate emotions and undeveloped

language skills (Kostelnik, Whiren, Soderman & Gregory, 2009). However, as expressive language and social-emotional skills develop, most young children are able to use other strategies to resolve conflicts, and physical aggression typically decreases upon entry into school (Levin, 2003). When prekindergarten and kindergarten students do not “outgrow” aggressive behavior additional support is often needed to deal with daily frustrations, especially during transition times.

Modifying the classroom infrastructure is an effective strategy that allows children to manage their own behavior and provides teachers with additional behavioral support. There are several modifications to the classroom infrastructure that can be made to help reduce aggressive behaviors. One modification will not eliminate aggressive behavior; however, implementation of multiple modifications may help to discourage the behaviors instead of responding to them after they occur. Structuring the classroom to support positive behavior is an unobtrusive, preventative intervention, and supports student and teachers equally.

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Tables

Table 1

Classroom	Baseline	Intervention 1 (Modifications)	Intervention 2 (Coaching)
Classroom 1			
Mean	27%	17.5%	15%
Median	28%	15%	15%
Range	25-28%	0-20%	10-18%
Classroom 2			
Mean	16%	15%	10%
Median	16.5%	18%	11%
Range	3-29%	4-21%	0-22%

Mean, Media, and Range of Challenging Behavior

Table 2

Interview Responses

Questions	Teacher Responses
What did you like most about the intervention?	T1-“I have more time to teach...Love the carrels, everyone has a place to go after transition” T2-“provided more on task behavior and start and complete tasks as in easy cleanup of a material a student chose to work with.”

Do you think your students have benefitted from having their classroom modified?

T1-“More spacious and welcoming...children stopped wandering around the room...Children had their own space and could focus on learning-they weren’t hitting each other”.

T2-“Increased positive behavior in the classroom...the modification changed behavior from off task to more on task, the ability to start and complete something, and to follow directions which many of these areas was a real struggle for students in the classroom before the modification....Helped with making transitions more graceful and decreased time it took to transition from one activity to the next.”

In what ways do you think other teachers can benefit from this intervention?

T1-“It is good having people to do research with...having support made me open to change.”

T2-“The intervention could improve their classroom management skills...it supported students to be more independent in the room because they knew what expected of them.”

Table 3

Modifications, Rationale, and Perceptions of Impact of the Modifications

Modification	Rationale	Teacher’s Perception Likert Scale from 1 to 5 (1= strongest effect)	
		Classroom 1	Classroom 2
Shelves with materials were covered with curtains to reduce visual stimuli and access to materials (Dye, Baril & Bavelier, 2007; Guardino & Fullerton, 2010; Neville & Lawson, 1987; Proksch and Bavelier, 2002)	Children were going to shelves, mixing and throwing materials	1	1

Reduced Furniture (Evans & Lovell, 1979; Weinstein, 1979)	Caused congestion. Children used extra furniture inappropriately.	1	1
Individual work area defined (Evans & Lovell, 1979; Proshansky & Wolfe, 1974)	Children would fight over materials and interfere with others workspace	1	1
Created barriers from pre-existing furniture (Evans & Lovell, 1979; Gump, 1974; Proshansky & Wolfe, 1974)	Children did not have clearly defined boundaries and roamed from place to place	2	1
Sufficient space for group & large group activities (Fullerton & Guardino, in press)	Children were hitting one another because the work spaces were too small	1	1

***Development of Web Quest Lesson Enhancing Thai Reading Skills
for Students with Down Syndrome at Lower Elementary***

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Abstract

The purpose of this research was to enhancing the Thai language oral reading skills of lower elementary students with Down syndrome using WebQuest lesson. The sample groups were the 5 lower elementary students, purposively selected from Watnonsaparam public school under the Office1 of Saraburi Educational Service Area, Thailand. The research instruments were the Thai language reading tests for students with Down syndrome, the WebQuest lesson with 12 units based on Thai language oral reading problems of students with Down syndrome, the two observation forms for Thai language oral reading tests. The findings revealed that Thai language oral reading problems of the students with Down syndrome varied greatly on the pronunciation of consonants, vowels, tone marks, different kinds of words and short sentences. Nevertheless, at first round of WebQuest usage, the four of five students with Down syndrome were able to correctly pronounce the Thai alphabets and show the understanding of basic reading skill. Most of them had problems with Thai vowels in terms of both the pronunciation and the meaning decoding; they took much more time than usual to read. The students' usage of WebQuest had led to the improvement of Thai oral reading lesson to suit more the needs of students with Down syndrome. The new menus for skill practices, resource searching and communication among students, parents and teachers were added, as well as some graphics and symbols. More sounds were put to accompany all words and sentences of WeQuest lesson.

***Development of Web Quest Lesson Enhancing Thai Reading Skills
for Students with Down Syndrome at Lower Elementary***

Reading and writing skills are important for everyday life and for access to the world of literature. They are also powerful tools for teaching speech and language to children with Down syndrome and for mediating their cognitive development. Reading and writing can support communication, enable children to achieve greater independence and enrich education and academic attainments across the curriculum (Antonarakis et al., 2006). Children with Down syndrome, like neurotypical children, are growing up with extensive exposure to computer technology. Computers and computer-related devices have the potential to help these children in education, career development, and independent living. Wood, (2004) purposed that computers and technology can play a big role in supporting learning, especially for students with special educational needs. Hardware such as digital cameras, scanners and printers can be used in conjunction with computers to develop personalized resources and enhance activities (Glenn & Cunningham, 2005). Computer-based learning is particularly suitable for students with Down syndrome, for a number of reasons. Advantages of computer-based learning are suits visual learners, allows for non-

verbal and non-written responding, allows pupil to be in control and move at own pace, provides immediate feedback, allows for practice and repetition of basic skills in a fun way, Provides fun and enjoyment, very motivating, errorless learning - pupil does not fail, but is supported to succeed and assistive technology can be used to adapt computer and/or activity for almost any level of ability. Furthermore, Ortega-Tudela & Gómez-Ariza (2006) revealed the extent to which computer-assisted teaching facilitates the learning of basic mathematical concepts and skills in children with Down Syndrome (DS). They found that the effectiveness of a multimedia teaching method is compared with a traditional one in the teaching of counting and cardinality abilities and concepts. In the study, two groups of DS children were trained. One of them was taught by using mathematical multimedia software whereas the other learned by means of pencil–paper-based tasks on the same material as the multimedia group. The children of both groups were evaluated before and after training sessions. The multimedia group showed a higher performance than the paper and pencil assisted teaching group on a variety of tasks and measures, suggesting a clear relation between teaching method and mathematical learning in DS children. However, Jinjuan & Jonathan (2010) revealed a large-scale survey that collected computer usage information from the parents of approximately six hundred children with Down syndrome. They found that the text responses collected in the survey and is intended as a step towards understanding the difficulties children with Down syndrome experience while using computers.

A WebQuest can be defined as an interactive learning exercise in which students have to use several Internet resources (Benz, 2000). According to Dodge (2001) defines a WebQuest as “an inquiry oriented activity in which most or all of the information used by learners is drawn from the Web. WebQuests are designed to use learners' time well, to focus on using information rather than looking for it, and to support learners' thinking at the levels of analysis, synthesis and evaluation.” March (2003), on the other hand, defines a WebQuest as “a scaffolded learning structure that uses links to essential resources on the World Wide Web and an authentic task to motivate students' investigation of a central, open-ended question, development of individual expertise and participation in a final group process that attempts to transform newly acquired information into a more sophisticated understanding. The best WebQuests do this in a way that inspires students to see richer thematic relationships, facilitate a contribution to the real world of learning and reflect on their own metacognitive processes” (March, 2003, p.43).

Thus the objective of this article is to develop the WebQuest Lesson Enhancing Thai Reading Skills for Lower Elementary Students with Down syndrome and study the results of the implementation and the improvement of the WebQuest Lesson Enhancing Thai Reading Skills for Lower Elementary Students with Down syndrome.

Methodology

Population and Sample

Population. The populations used in this research were the students with Down syndrome at lower elementary.

Sample Group. The sample groups for the analysis of problems on Thai Reading Skills consisted of 5 students with Down Syndrome that were purposively selected from Wat Nonsaparam school under Saraburi Education Service Area Office 1 in educational year 2009 . The same sample group of 5 students with Down syndrome purposively selected from Wat Nonsaparam School in educational year 2010 was used for the implementation and the improvement of the WebQuest Lesson. None of them presented hearing problems and reported no history of hearing difficulty. All of them were monolingual Thai language speakers.

Research Instruments

The research tools consisted of the observation and screening forms for Thai reading skills problems of students with Down syndrome (Daranee, 2003). The WebQuest lesson enhancing Thai reading skills for students with Down syndrome and the observation forms for sound recording at the end of units in WebQuest lesson were developed by using the survey result from Nantawan K, & Maturos C.(2011). The frequency and the descriptive narration were used to analyze the data.

Procedure

1. The six specialized Thai teachers tested each student' reading abilities using the questionnaire and the observation form. The survey and observation were conducted from May to September 2008. The students were individually evaluated on the following reading abilities:
 - consonants and vowel
 - Thai tone marks
 - Thai syllables
 - Thai vocabulary
 - Thai short sentences
2. The researcher collected the survey results from 6 specialized Thai teachers and analyzed the data using the percentage. The problems on Thai Language oral reading were identified leading to the conclusion the content of Thai Language oral reading that should be used for making the WebQuest lesson for students with Down syndrome at lower elementary level.
3. The WebQuest lesson was then created, following by script writing on 12 WebQuest units and website creation. All of them were approved by the experts on curriculum and instruction and on ICT-based teaching and learning. They were uploaded on the site with the following URL:
<http://www.nonsaparam.ac.th/webquest/>
4. The 12 units of the WebQuest lesson were used in round 1 by the students with Down syndrome under the control of the researcher and 4 special education teachers.

5. The results were analyzed and the conclusion was made leading to the improvement of the WebQuest lesson and the website menus.
6. The students with Down syndrome tried again the units in problems of the WebQuest lesson under the control of the researcher and 4 special education teachers.
7. The results were then analyzed and the conclusion was made with success of the students with Down syndrome.

Findings

The finding of the results of the implementation and the improvement of the WebQuest lesson enhancing Thai reading skills for lower elementary students with Down syndrome were as follows:

1. The WebQuest Lesson containing 12 units on Thai language oral reading for lower elementary students with Down syndrome as presented in the figure 1-3. The WebQuest Lesson Enhancing Thai Reading Skills for Lower Elementary Students with Down syndrome consisted of the website for 12 units of Thai oral reading in 3 language levels: alphabets, words and short sentences, and the 2 testing tasks on students' sound recording and on the matching pairs between sounds and language symbols.
2. The round 1 and round 2 usage results of the WebQuest lesson on Thai Language Oral Reading were as presented the Table 2. Results of tests in round 1 had given the directions for the improvement of the WebQuest lesson and the results of the tests in round 2 had revealed the success of all students with Down syndrome at excellent levels of Thai oral reading skills.
3. The improvement of the WebQuest Lesson to meet more specific needs of the students with Down syndrome were the additional practice menu and the additional resources menu, the additional sounds for every alphabet, word and short sentence, and the additional communication tool for teachers, parents and students, the webboard menu.

Table1.

The Round 1 and Round 2 Usage Results of WebQuest lesson on Thai oral reading skills by 5 lower elementary students with Down syndrome.

List of Students	Success Unit Contents Round 1	Success Unit Contents Round 2
Student 1	Satisfy	excellent
Student 2	Good	excellent
Student 3	Good	excellent

Student 4	Good	excellent
Student 5	Good	excellent

Conclusion

In conclusion, student with Down syndrome can enhance their Thai language reading skills after studied following the WebQuest lesson. Both of the students enjoyed the WebQuest lesson, as many typical students do.

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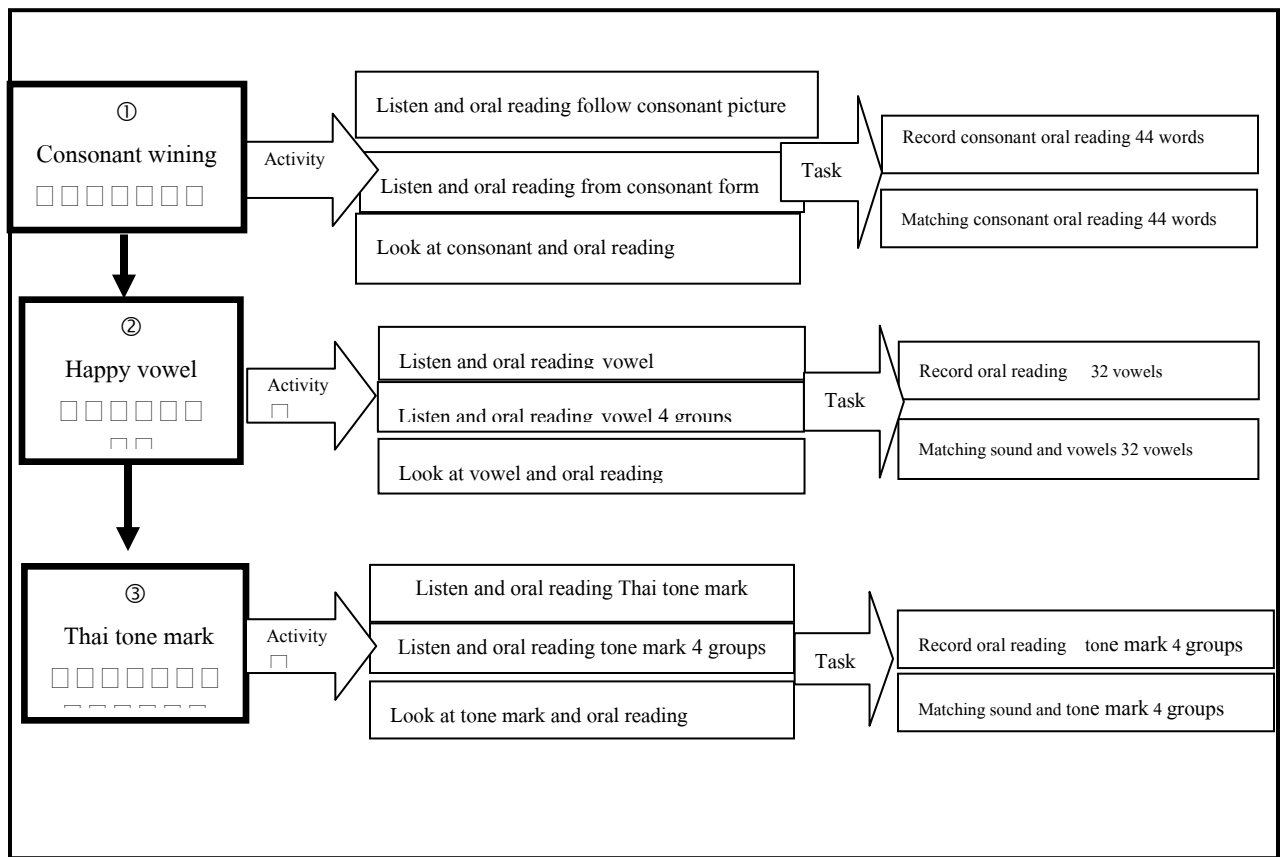


Figure 1. Structural of the activity menu in the learning on Thai consonant level of the WebQuest lesson enhancing Thai reading skills for lower elementary students with Down syndrome



Figure 2. Structural of the activity menu in the learning on Thai short sentence of the WebQuest lesson enhancing Thai reading skills for lower elementary students with Down syndrome.

Should Children with Auditory Processing Disorders Receive Services in Schools?

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Abstract

Many children with problems learning in school can have educational deficits due to underlying auditory processing disorders (APD). For these children, they can be identified as having auditory learning disabilities. Furthermore, auditory learning disabilities is identified as a specific learning disability (SLD) in the IDEA. Educators and professionals assessing children for learning problems often do not understand or accept that there are such things as auditory processing deficits or APD. This paper presents a tutorial discussion of what are APDs, how they can affect children in schools, and how they should be assessed.

Should Children with Auditory Processing Disorders Receive Services in Schools?

Often children are seen in schools described as having difficulties learning in class when material is presented verbally. Teachers may complain of difficulties for these children in following verbal directions, understanding what is said, or, in general, difficulties listening. Some of these children have difficulties listening because of primary problems with attention and what is often referred to as executive functioning. However, many of these children have excellent auditory attention abilities, but have difficulties taking in and “processing” what they hear, a factor called an auditory processing disorder or APD.

When a child is identified as having problems learning, and testing reveals that the child has an APD, often school teams determining eligibility for the child to receive special education services under IDEA refuse to classify the child as being eligible because these teams cannot find an appropriate category or “label” by which to identify the child as meeting the criteria for special education services. The problem often faced by school district teams is one of the following. First, they do not see the term “auditory processing disorder” or APD in the IDEA and, thus, do not define the child as having an APD and, therefore, an educational disability. Second, the team as a whole or team members do not believe that there is such a thing as an auditory processing disorder, so a child cannot be identified as having an educational problem due to APD issues. Third, the team may not understand what an appropriate assessment is for a child with listening problems in order to identify whether that child has APD and to differentiate it from other problems, such as attention disorders like ADHD. Often, the problem with the eligibility team not being able to recommend services for children with APD is that they do not really understand what auditory processing disorders are and how to appropriately identify such disorders. The following paper discusses various factors in order to help the reader have a better

understanding of what are auditory processing disorders, how we need to access APD and differentiate APD problems from other problems, and where in the IDEA APD is and has always been a recognized educational disability.

APD and the IDEA

The Individuals with Disabilities Education Act or IDEA (1990, 1997, 2004) was passed to support children who were not being provided with a free and appropriate education because of some specific educational disabilities. Many of these disabilities are medically or physically based such as vision problems (e.g., blind), hearing problems (e.g., deaf), and physical handicaps such as a child diagnosed with cerebral palsy. Others are based on some specific issues such as specific language impairment or SLI, or specific learning disability or SLD.

For some educators and other professionals assessing and working with children having learning problems, the specific category of auditory processing disorder or APD is confusing or they do not believe there really are such problems. However, understanding what APDs are can help professionals identify that such disorders are and have always been identified in the IDEA. Thus, we need to better understand what APDs are and then see where in the IDEA such specific disorders are identified.

What Are APDs Really All About?

At present, the professionals and professional organizations which look into auditory processing disorders have defined APD as a disorder specific to the auditory system in which the person has normal hearing but cannot successfully use information that person hears (American Academy of Audiology, 2010; Bellis, 2011; Working Group on Auditory Processing Disorders, 2005a). This focus can be called an audiocentric approach focusing on the “A” in APD. In contrast, APD is really a problem in processing which focuses on the “P” rather than the “A.” Thus, in order to understand what APDs are really all about, one must understand what is involved in the processing of information we hear.

In order to focus our understanding of processing in APD, this author takes a developmental approach. As such, consider yourself as a young infant brought into this world filled with sensory stimuli bombarding you, including bombarding your auditory system. As a young infant, you do not have the knowledge of vocabulary and the “symbols” we use to represent the things in our environment (called the words we use to express things). Furthermore, you have not yet extracted sufficient “linguistic information” in order to realize the rules that govern the use of words (semantics), word structure and grammar (morphology), sentence structure (syntax), and the social uses of language in communicative situations (language pragmatics). You merely are hearing and learning to extract from what you hear what is going to be significant or important to eventually lead to the development of the symbols which we can manipulate in thinking and for language structure and communication.

Consider that you are an infant in the living room of your house with your mother, and you hear some new auditory message. It has a specific pitch or frequency, a certain volume or intensity, and the auditory part of this message lasts a specific length of time with the same sound repeated for a total of five repetitions with a specific quiet interval of time between each of these five sounds, and this interval of quiet is the same between each of the new “sounds” you hear. You extract that the sounds you hear are a “pattern” called an auditory event. Additionally, you realize that this auditory pattern is different from all of the auditory patterns you have heard so far in your short life. Suddenly, your mother gets up, walks over to a place which you later will learn is called “the door,” and sounds come out of her mouth (which you later will learn is “speaking”). To your surprise, the door also makes this “speaking sound,” and your mother opens the door and there is another thing on the other side of the door which you later will learn is a person.

Now, imagine if this happens over and over again with the same auditory event just prior to your mother “answering the door.” You think about what you have heard and realize that when that specific auditory or acoustic pattern is heard, it means that your mother will “answer the door.” As time goes on, you realize that factors such as the ones described here occur for every meaningful acoustic pattern in your life, not just someone knocking at the front door.

Then, one day, you hear five knocks of the same frequency as the “knocking on the door,” but of a much louder intensity and, although they last for the same length of time as the “knocking on the door,” the time interval between the “knocks” is much longer. You scan your “auditory memory,” and you realize this is *not* the same pattern as “mommy is going to answer the door.” Instead, mommy calls out to daddy working in the basement, “what’s with all the banging?” Thus, you have learned to discriminate and distinguish one pattern of knocks (knocking on the door) as being similar (same pitch) but different (louder and with longer pauses between the knocks) from the other (daddy hammering in the basement). You have processed the auditory message or you have done auditory processing. Let’s consider what was involved.

What is first involved is your ability to hear. Second, your ability to remember and then match similar auditory patterns and store that information related to what you saw and noticed happening in response to that auditory pattern. You learned that a similar but different auditory pattern meant something very different from the first. Overtime, you learned to figure out what the differences are in the two auditory patterns and come to understand these differences even if you do not have the language to explain what the differences are. You have the auditory and cognitive capabilities to think through and learn to make judgments about the auditory events in your listening experiences. Thus, auditory processing exists and is a separate factor from language and language processing. Auditory processing, as the above examples demonstrate, involved your hearing and auditory system as well as your cognitive system in making decisions about the auditory pattern and in remembering that pattern and being able to compare it with other previously learned patterns. Many children cannot make sense out of the auditory events they experience in their learning environments and, thus, they have auditory processing disorders or APD.

Whereas the above examples used non-verbal auditory patterns (knocking and banging), in school the auditory information children receive most is verbal information or spoken language. During the course of listening to a lesson presented by a teacher, new words, unfamiliar words and differences in the way words may be pronounced are heard and processed, and the auditory processing issues faced by children is to get these spoken language auditory patterns into the brain where the cognitive decision making and the language “systems” can make sense out of the information and the child can learn. Auditory processing of spoken language involves the ability to differentiate between the primary speech messages one hears and all of the other sounds, noises, and competing verbal messages that can be present in the typical classroom setting. It involves the child being able to take in and make sense out of the phonological information in the spoken messages from which the language system is able to make sense of the words, and the auditory system’s abilities to differentiate between phonological information that changes meaning in words vs. phonological information that does not change meaning in words. To better understand this last statement, consider the following example.

School children in this example have three teachers. One is from the New York City (NYC) metropolitan area, one is from a typical mid-west town, and the other is from what we sometime refer to as the “deep south.” All of them say to the class the word, “can.” The person from NYC would say that word with what is sometimes called a “flat a” sound. The person from the mid-west might say it the way we expect to hear it, while the person from the south has changed the pure vowel, “a,” into a diphthong. The child’s auditory system would hear these differences and should process they are different. The child’s language system would indicate the word, “can,” was spoken three times but the word, itself, was not different, so each person meant “you are able to do that because you ‘can’ do it”. Previous experiences hearing people speaking from different parts of the country with what we call different regional accents or dialects indicate to the cognitive system that the three speakers are from three very different locations, but they are saying the exact same word. A deficit in auditory processing could lead a child to think that the three words were totally different words having different linguistic meanings. Language deficits would only mean that regardless of whether the child heard the word spoken with a “flat a” or a diphthong, the child does not understand the meaning of the word. Cognitive deficits could mean that the child does not know what to make of the three different pronunciations, so the child ignores what each teacher said appearing to be lost and without understanding of the spoken messages. Thus, as the reader can see, it is not easy to differentiate a child with an APD from a child with a language deficit or cognitive limitations unless we assess the child to make such distinctions. The evaluation processes is discussed later.

APD as Defined in the IDEA

Understanding auditory processing as it was described and help one see that problems or deficits with auditory processing (and, thus, APD) can lead to learning difficulties. If we were to define APD, one could state that auditory processing disorders are disorders in understanding spoken language which is not due to primary language or cognitive

deficits. Additionally, the cause of the disorder in understanding spoken language would be an imperfect ability to listen in the absence of primary attention or hearing problems. Also, when a professional identifies APD, one of the diagnoses provided is a disorder of auditory perception (ICD-9-CM code 388.40) (American Medical Association, 2011). Thus, APD can also be called a perceptual disorder.

If one were to read the definition in the original education of handicapped children's law, PL94-142 (EAHCA, 1975), the original IDEA (1990), and all of the reauthorizations and modifications of IDEA (1997, 2004) one would find that the definition of a disorder in understanding spoken language due to an imperfect ability to listen that may also be called a perceptual disorder is directly cited from the definition of a specific learning disability or SLD. Thus, an APD is an SLD when a child is found to have problems learning in the educational setting and the primary reason is an inability to successfully process spoken language or verbal information and there are no language deficits, attention disorders, or cognitive problems present.

Do APDs Really Exist?

For some professionals and educators, they do not believe there is a separate disorder called and APD. For them, APD is nothing more than a fancy word for a language disorder. Thus, a child who passes the language testing but has problems "listening" and learning does not have APD and a child who is said to have APD must have language problems and, thus, be treated with language based services. This is not true. The following should help the reader better understanding APD.

The processing of auditory information, as described above, involves the processing of auditory or acoustic patterns prior to these patterns gaining linguistic meaning and prior to our cognitive systems thinking about and making decisions about the acoustic patterns heard. There are only three primary factors that lead to acoustic patterns. These factors are: pitch or frequency, volume/loudness or intensity, and time or the temporal factors such as those discussed earlier in this paper. Pitch can change which consonant we hear. Intensity can tell us someone is upset at us or just asking us to do something. Time can change the whole meaning of words and sentences. The following are examples of each of these three auditory factors.

Acoustic research has identified that rising pitch after vowels vs. falling pitch after vowels is related to the change in the consonant following the vowel related to what we call the "place of articulation." Thus, for one pitch change we might be producing the consonant "p" and for a different pitch change, the consonant /t/. Thus, the change in pitch has a great influence on which phoneme we hear. Therefore, deficits in processing at this level can lead to auditory phonemic processing problems and affect the learning of phonics and, thus, reading and spelling.

Intensity changes can lead to our cognitive system making changes in the interpretation of messages on an emotional level. A soft spoken message might be interpreted as sweet, kind, and caring. In contrast, a loud message, even the same message as before, would be

interpreted as coming from someone who is angry or upset. Additionally, intensity is an important auditory cue to indicate urgency and emergency in various situations.

Time (temporal characteristics of the auditory message) changes word meaning and sentence meaning. For example, it is the pause or lack of pause between the “n” and “h” of the words “green” and “house” that will lead to our language systems interpreting whether we live in a house painted green (a green house) or we are growing flowers in the house made of glass (a greenhouse). A joke that I sometimes use in teaching students to interpret such changes is to ask them “What do you put on a hotdog?” I ask this of two or three students getting responses such as “mustard,” “ketchup,” “relish,” etc., and then I ask the next student, “What do you put on a hot dog?” Typically, the student, whether a child, adolescent or adult will say something else like, “chile,” or “onions;” I respond, “Well, I’d put cold water on a hot dog,” and the class may take some time and, hopefully, get the joke and laugh. What the reader must remember is that when we listen, we don’t have the visual “space” to be seen between words like “hot” and “dog” to tell if I am talking about something we can eat or a dog that is overheated. Thus, it is our auditory processing systems that must “put in the space” or identify there is no space so that our language and cognitive systems can interpret the message appropriately.

Another example of how time can change the meaning of spoken utterances can occur at the sentence level. Imagine hearing a person say the following four words, “look,” “out,” “the,” “door.” If the time between each word is equal, the sentence will be heard as, “Look out the door,” and I will go see what is on the other side of the door. However, if the time between the “t” of “out” and the “th” of “the” is much longer than between the other two words, then I will get away from that door as fast as possible because I would have interpreted this auditory pattern of the spoken message as being, “Look out! The door!” Thus, our auditory processing system is critically important in our learning and understanding of language and of information in general.

In reviewing what has been written in this section, hopefully the reader will understand that auditory processing does exist, and there are students in school who have deficits in processing what they hear that affects their understanding of spoken language and, thus, can lead to learning disabilities. The question then arises, “How do we assess auditory processing disorders and differentiate between APD, language problems, and cognitive limitations.

Assessing Auditory Processing

As with any assessment, we must be sure that what we say we are assessing is what we are really assessing. This seems like a simple statement, but consider that many of the evaluations used by professionals for assessing children for specific learning disabilities do not control for confounding variables that could be the real, underlying factors accounting for the presenting problem or failure on tests. For example, the verbal comprehension parts of IQ measures, such as the WISC-IV, are language based tasks. Thus, a child with a language disorder could be seen to have very deficient verbal comprehension abilities and, thus, be classified as cognitively limited rather than

language impaired. Additionally, language tests often have strong cognitive components that can lead to students with limited cognitive abilities being misclassified as being language impaired rather than having cognitive disorders. What most professionals and educators do not understand is that both language tests and verbal comprehension tests are presented live voice, orally, to students in uncontrolled auditory modes. That is, the professional presenting the questions and instructions to the student does *not* have control of or know what is the exact intensity level in decibels at which the person is speaking, does not know the exact rate of speaking which can affect timing between words, sentences and, even, phonemes in words, and does not know whether the listener has normal hearing. Only sometimes does the speech-language pathologist screen a student prior to testing to insure that the student's hearing is normal on the day of the evaluation. Often, hearing is evaluated days, weeks, or even months before any verbal testing is accomplished, and hearing in children can fluctuate, especially due to middle ear problems, allergies, upper respiratory deficits, and other factors.

What is important to remember is that deficits in auditory processing can greatly impact language based tests such as those administered by speech-language pathologists, psychologists, and educational evaluators. Therefore, a child with a primary APD problem can fail verbal IQ measures, verbally presented language tests, and verbally presented academic achievement tests.

When looking at tests to evaluate auditory processing, from the discussion in this paper, the reader should identify that auditory processing is much more than just phonological awareness. Additionally, auditory processing is totally different from auditory attention. Auditory attention deficits are typically due to some underlying attention, self-regulation, or executive functioning problem. Yet, one psychological evaluation (the Woodcock-Johnson – Third Edition (NU) Tests of Cognition or WJ-III-Cog) (Woodcock, McGrew, Mather, 2001) has a section called “auditory processing.” Only two subtests make up this section. One is a measure of phoneme blending (i.e., one and only one aspect of phonological processing). The other is a measure of auditory attention, (i.e., a measure of attention using verbal information). Thus, a child could pass the phonological processing subtest and fail miserably on the attention test and be diagnosed by the psychologist as having an auditory processing deficit.

Neither of these subtests of the WJ-III-Cog are administered at a standardized, calibrated, intensity level. The psychologist does not take out some calibration measuring device to determine the exact decibel level for setting the volume control of the player for the listener or at which to say the test items when they are presented verbally. Additionally, if earphones are used, the psychologist does not know whether the two ear phones are presenting equally intense auditory signals to each individual ear. Any change in the auditory message (being too loud or too low, or an imbalance between the volume levels in the two ears) could affect performance on any listening task and lead to the child failing the test. Therefore, failure on the auditory processing part of the WJ-III-Cog, for example, does not mean a child has auditory processing deficits or APD.

Another test used by psychologists and speech-language pathologists is a test called the Test of Auditory Processing Skills – Third Edition or TAPS-3 (Martin & Brownell, 2005). This test could be broken down into three sections: phoneme based subtests, memory subtests, and language-cognitive subtests. The following is a discussion of each of these parts of the TAPS-3 demonstrating that the test is not at all an assessment of auditory processing skills regardless of its name.

The three subtests of the TAPS-3 that deal with phonemic information involve sound discrimination, phonological blending, and phonological segmentation. The sound discrimination subtest asks the child to identify if two words spoken by the evaluator to the child are the same or different. However, the words are presented orally with no controls over the auditory pattern for any word presented. That is, the presenter could speak one word loudly and the second word softly, which would make the two words differ on an auditory level, or the presenter could say the vowel in one word slightly different from the vowel in the second word which would also make the two words different on an auditory basis. Yet, if these two words were, “house – house,” the only correct answer is “They are the same” even if the volume level or “ou” vowels were different. When asked why they are the same, even the developers of the TAPS-3 might say, “Because they mean the same thing,” indicating their linguistic meaning has not changed. In contrast, “cat” and “rat” would be different even though they rhyme, they have the same vowel, then both end with “t” and they are both animals. It is the fact that “cat” and “rat” mean different things, or are different “labels” for different word meanings that make them different just as the different auditory presentations for “house” did not make them linguistically different. As such, this subtest on TAPS-3 is a test of language discrimination and not auditory discrimination.

As for the blending and segmentation tasks, since they are presented live voice, there are many acoustic variables that could affect the outcomes of these subtests that are not controlled as confounding variables. For example, if the phonemes are spoken with a regional dialect different from that which is common to the student taking the test, the auditory message would be very different than if the speaker were of the same regional dialect as the student. Yet, this is not considered on the TAPS-3. However, we could state that the blending and segmentation subtests might be the only two subtests from this section of the TAPS-3 that have anything to do with auditory processing and assessment of APD. However, just as the criticism was raised for the WJ-III-Cog, only one of the subtests on that test focused on blending, phonological processing is only one component of auditory processing. Thus, a child with excellent phonological processing and very poor processing in other auditory system domains can pass the WJ-III-Cog and TAPS-3 phonological subtests and be considered having normal auditory processing rather than having a severe APD affecting other areas of auditory processing and, thus, learning.

The second part of the TAPS-3 involves memory. Memory has nothing to do with auditory processing. Actually, it is after auditory signal is processed and is “translated” into some “internal” symbol (usually linguistic) that it is placed into memory. Thus, memory is a thinking/decision making or cognitive process along with a linguistic process. As such, a student with language or cognitive deficits (such as an executive

functioning problem) can fail the memory parts of the TAPS-3, but because it is called the Test of *AUDITORY PROCESSING* skills, the evaluator will diagnose the child as having APD.

The last two subtests of the TAPS-3 are Auditory Comprehension and Auditory Reasoning. Reasoning by its definition is a cognitively based process. Additionally, the Auditory Reasoning subtest asks the child to make cognitive decisions about linguistically based messages, not auditory based messages. Thus, this subtest is a test of language reasoning and should be called a measure of language processing or language reasoning and not auditory reasoning.

The subtest called Auditory Comprehension does not ask the child to make any decisions about his/her comprehension of any *auditory* messages. The child is asked to make decisions about the language aspects of the short stories presented. Thus, this is a test of language comprehension.

When looking over tests like the TAPS-3 or the Auditory Processing Abilities Test (APAT) (Ross-Swain & Long, 2009), it is obvious that these are tests of language and cognition and not tests of auditory processing. Additionally, all the subtests used for scoring and diagnosis are presented orally (i.e., live voice) with no controls provided for auditory variables that can affect such tests. Thus, one should never accept as a diagnosis APD when tests like the WJ-III-Cog, TAPS-3, APAT, or other language based tests are used in making the diagnosis. It is true that the phonological sections of each of these tests does tap into one aspect of APD, phonological processing, however, this can also be said that the WISC-IV Verbal Comprehension subtests tap into aspects of language, but they would never be considered diagnostic assessments of a child's language abilities, and language tests such as the CELF-4 (Semel, Wiig, and Secord, 2003) and CASL (Carrow-Woolfolk, 1999) ask children to make decisions, but no one would consider them as tests of cognitive processing.

When we consider looking specifically at a student's auditory processing abilities, we need to insure that the tests control for language variables and cognitive variables as well as all of the auditory variables that can be controlled. Formal tests specifically of auditory processing all have the auditory signals used presented via pre-recorded materials. Thus, every student administered tests of auditory processing is administered the same audio-recording and the audio-recordings are typically presented via earphones that have been calibrated to some level that should be stated in the report from the professional presenting the auditory processing tests. Additionally, just prior to the testing for auditory processing, the evaluator should rule out a hearing loss or other hearing problem that could affect the outcomes and be confounding variables that would lead to failure on the auditory processing tests.

Typically, auditory processing tests are administered by audiologists. The professional associations to which audiologists are affiliated (American Speech-Language-Hearing Association and the American Academy of Audiology) have strong positions that auditory processing testing and diagnosis of APD must be made by an audiologist

(American Academy of Audiology, 2010; Working Group on Auditory Processing Disorders, 2005b). The author of this paper only states the following. The professional who is doing the auditory processing testing must first rule out hearing loss or account for the hearing loss as part of the analysis and interpretation of the test findings; the evaluator must use pre-recorded material for all tests, must have a baseline measure for each of the cognitive and linguistic components used in the test battery to insure that the student is able to do the tasks involved in each test, must have objective measures to help differentiate between APD and probable attention, self-regulation, or executive functioning problems, and must know how to relate the APD results to educational and learning issues for students. When all of these factors are met, then an appropriate assessment of auditory processing can be made.

Conclusions

The bottom line is that students who have difficulties listening and learning through their auditory systems may have auditory processing deficits or APD. There is a need to assess all variables under controlled conditions to rule out possible attention/executive functioning problems, cognitive deficits, language problems, or auditory based processing problems as the underlying factor accounting for a student's learning problems. When attention and executive functioning are found to be normal, when cognitive abilities are normal, when there are no language deficits, but the child fails auditory processing tests administered under the controlled conditions as discussed in this paper, we have a student with an auditory learning disability. And, if that student is having learning problems in school, then the auditory learning disability is a specific learning disability which, under IDEA, makes the student eligible for special education services. Therefore, the question posed at the beginning of this paper, "Should Children with APD receive school services?" is answered as follows, "Yes, when the auditory learning disability has led to a specific educational problem."

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***The Use of a Rubric as a Tool to Guide Pre-Service Teachers
in the Development of IEPs***

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Abstract

The challenge of developing Individualized Education Program documents that are representative of a team decision making process and are in compliance with IDEA 2004 is well documented in the literature. One of the main objectives of IEPs is to serve as the foundation of a child's academic program. Inclusion of children with disabilities in the general curriculum requires active involvement of all members of the child's educational team. In an effort to instruct pre-service teachers in the development of compliant IEPs, this study investigated the use of an IEP Rubric to assist teacher candidates in the development of compliant IEPs. Results of the study indicate that the use of an IEP Rubric shows promise as an instructional tool to help in the preparation of preservice teachers.

***The Use of a Rubric as a Tool to Guide Pre-Service Teachers
in the Development of IEPs***

Segregated teacher preparation programs for general and special educators contribute to the barriers experienced with inclusion (Winn & Blanton, 2005). A small number of general and special education teacher preparation programs are unifying the training of general and special educators through overlapping courses and field experiences (Brownell, Ross, Colon, & McCallum, 2005; Ross, Stafford, Church-Pupke, & Bondy, 2006; Van Laarhoven, Munk, Lynch, Wyland, Dorsch, & Bosma, 2006). Yet, few examples of inclusive teacher preparation programs exist and have a strong focus on Individualized Education Program (IEP) development and training (Blanton, Griffin, Winn, & Pugach, 1997; Griffin, Jones, & Kilgore, 2007). Studies such as Blanton, Griffin, Winn, & Pugach, 1997; Griffin, Jones, & Kilgore, 2007; Holdheide and Reschly, 2008 have focused on teacher preparation programs and training to support the inclusion of students with disabilities within the general education classroom, however such studies have failed to understand the role the IEP plays in the successful inclusion of students and how a student's IEP goals and services can determine if a student with special needs will be successful.

The challenge of developing IEP documents that are representative of a team decision making process and are in compliance with IDEA 2004 is well documented. While IEPs

are to act as a product and process in guiding instruction of children with disabilities, often they are treated as artifacts rather than vital guiding documents that direct instruction (Lee-Tarver, 2006; Yell & Stecker, 2003). The intention of IEPs is to serve as the foundation of a child's academic program. Inclusion of children with disabilities in the general curriculum requires active involvement of all members of the child's educational team. The use of an IEP as a roadmap that is meaningful and compliant which informs both general and special education teachers as they plan instruction for students with special needs is a paradigm shift. All members play a critical and active role in the development and implementation of the IEP. Under the reauthorization of IDEA (2004) the development of a child's IEP is no longer the exclusive responsibility of the special educator, the concentration has shifted to the general educator to not only play a key role in the development of the IEP but also the implementation in order to assure students' success (Lee-Tarver, 2006).

The literature indicates that IEPs are often viewed as artifacts that are produced by special education teachers in order to be in compliance with federal and state regulations (Rosas & Winterman, 2010). Use of an IEP by general educators to inform them on instruction planning has not been common practice. Teachers involved in the development of the IEP have a greater chance of integrating learning goals of individual students into an overall curricular plan. Explicit demonstration of how knowledge of specialized instruction can benefit the construction of a general education classroom stands a better chance of survival.

Building capacity of educators around IEP goals can directly enhance instructional strategies that allow all students to be successful within the classroom. In a study conducted by Rosas and Winterman (2010) they found that teachers' (N=951) perception of professional development provided by their school district that focused on how to address the needs of students with disabilities was not useful. Given this perception, educational teams should consider reviewing the IEP document as a training opportunity to inform general educators as to their unique and powerful role in the development of a student's IEP. School teams need to become more cognizant of the importance of providing ongoing training of their staff as to the significance of IEP document as mandated by IDEA. The annual goals of the IEP have increased odds of being aligned within the tiers of instruction when IEP development is integrated into how teachers use formative assessment, progress monitoring, and lesson planning. Pre-service teachers often perceive that they were adequately prepared to instruct students with disabilities (Rosas and Winterman, 2010). Adequate perception of readiness to teach students with disabilities is unacceptable. Institutions of Higher Education are charged with providing competently prepared teachers to meet the needs of inclusive settings. Mere adequacy is not sufficient. One means to address this problem is the use of a rubric to standardize the development of IEPs.

Rubrics have gained popularity as an assessment tool to measure student performance based on set criteria. In higher education, rubrics are perceived as a means to standardized grading in order to provide transparency through a common set of objectives (Mansilla, Duraisingh, Wolfe, & Haynes, 2009). While rubrics have been found to be a

reliable and valid assessment tool, it is also recognized as an important instructional tool to guide student learning. Isaacson and Stacy (2009) found that the use of rubrics clarifies expectations and minimizes subjectivity in the evaluation of student performance in the field of nursing, but also allowed students to objectify the subjective clinical experience. De La Paz (2009) found rubrics to be a “powerful teaching device” for creative writing instruction (p. 134). Reddy and Andrade (2010) studies suggested that rubric use was associated with improved academic performance. Jonnson (2010) reviewed empirical research studies on rubrics and concluded that not only do rubrics increase reliable performance assessment, but also shows promise in improving learning and instruction. One-third of all the empirical studies reviewed indicated that the use of a rubric resulted in some type of positive learning improvement. As a result of the review, Jonnson concluded that “rubrics support learning and instruction by making expectations and criteria explicit which also facilitates feedback and self-assessment. Thus, the use of a rubric shows promise to improve learning outcomes in addition to measuring the degree of attainment of outcome. Clearly defining objectives and standards is critical for student learning.

One of the fundamental goals of teacher preparation programs is to train educators in the development and use of IEPs in order to improve the quality of education for students with disabilities. Historically, teacher preparation programs have not adequately prepared all teachers, both general and special education, in the development and use of IEPs (Winterman & Rosas, 2011). Both general and special education teachers frequently indicate that they do not have sufficient background knowledge necessary to develop compliant IEPs. The literature clearly documents the problem with non-compliant IEPs. In order for teachers to be able to write an effective and compliant IEP, they first need to identify the key components of an IEP. In an effort to instruct pre-service teachers in the development of compliant IEPs, this study investigated the use of an IEP Rubric to assist teacher candidates in the identification of key components of an IEP. The following questions led to this investigation:

1. Does the use of an IEP Rubric support pre-service teachers in the identification of key components of an IEP?
2. Do pre-service teachers perceive the IEP Rubric to be a useful tool in identifying compliant IEPs?

Methodology

Participants

The major purpose of this study was to investigate the use of an IEP Rubric as an instructional tool for training pre-service teachers. The participants of this study consisted of 84 teacher candidates (i.e. pre-service teachers) who were seeking licensure in special education or general education at two institutes of higher education in Southwestern Ohio. All participants were enrolled in a general special education course that was required for their program of studies. The curriculum for this survey course in special education included the development of IEPs and its use in planning instruction for students with disabilities.

Instrumentation

The researchers, along with two other college professors from two additional IHE in Southwestern Ohio, initially developed the prototype IEP Rubric. The researchers of this study modified the IEP Rubric to consist of two ratings, yes or no, in an attempt to simplify the identification of key components of an IEP for pre-service teachers. The subheading/labels in the rubric consisted of the key component of the IEP as noted in IDEA 2004. The criteria for each key component of the IEP consisted of performance descriptors which are aligned with requirements for IDEA 2004. See Figure I for example of the IEP Rubric's subheading, rating and performance descriptors.

Procedures

As part of the normal course requirements, students enrolled at the two universities in the general special education course received extensive training by their college professors on key components and standards for meeting IDEA 2004 IEP requirements. Through the use of explicit instruction, students were directed and coached on the use of the IEP Rubric to identify key components of the IEP. Teacher candidates were then instructed to independently inventory an IEP using the IEP Rubric to identify key components of the IEP. The instructors reviewed the completed IEP Rubric to determine the preservice teachers' accuracy in the identification of key components/standards of the IEP. Upon completion of the independent IEP assignment, students were asked to give their feedback with regard to the comprehension, clarity, usability and actual use of the rubric. Data was aggregated and analyzed using descriptive statistics.

Results

This study addressed two primary research questions: (1) Does the use of an IEP Rubric support pre-service teachers in the identification of key components of an IEP? (2) Do pre-service teachers perceive the IEP Rubric to be a useful tool in identifying compliant IEPs? Table 1 addresses the first question by providing the percentage of students who accurately identified the key components of an IEP. As the data in the Table 1 indicate, overall the pre-service teachers accurately identified 93.6% of key components of the IEP. The most striking data was the percentage (19.3%) of IEPs reviewed that did not include or meet the requirements of key components of the IEP as noted in the rubric. Notations from some of the pre-service teachers regarding the IEP Rubric indicated that the IEP reviewed either did not include the requirement as noted on the IEP or was not included due to the item not be required due to the student's academic needs such as transitioning not being noted for a young child.

Table 1
Percentage of IEP Components Correctly Identified by Pre-Service Teachers

Key Area	Requirements/Standards	Total Percent Identified (n)	Standard Met (n)	Standard Not Met (n)

Student's present levels of academic achievement and functional performance	Statement that explain the effect of a student's disability on his or her educational performance and involvement and progress in the general education curriculum	95.3% (80)	64.3% (54)	31.0% (26)
	Statement that clearly indicates actual performance in academic and functional areas (e.g. behavioral, communication).	94.0% (79)	60.7% (51)	33.3% (28)
	Statement of child's strengths and needs (present levels of academic achievement and functional performance). Sufficient details on level of functioning to develop goals.	95.0% (79)	85.5% (71)	09.5% (8)
	Present levels are prioritized based on student's needs.	95.3% (80)	64.3% (54)	31.0% (26)
Goals	Statement of measurable annual goals that include goals in <i>academic and/or functional areas</i> .	97.6% (82)	83.3% (70)	14.3% (12)
	Goals are written using specific, observable, and measurable terms.	98.8% (83)	89.3% (75)	9.5% (8)
	Goals describe skills that can realistically be achieved within one year.	98.8% (83)	88.1% (74)	10.7% (9)
	Goals are clearly connected to the statement(s) on the student's present levels of <i>academic achievement</i> and <i>functional performance</i> .	96.5% (81)	79.8% (67)	16.7% (14)
	Goals are listed in the order that reflects the priority of the needs of the student in the present levels section.	98.8% (83)	57.1% (48)	41.7% (35)
Benchmarks and short-term objectives for those students who take alternate assessments	At least 2 objectives written for each goal.	98.8% (83)	94.0% (79)	4.8% (4)
	Each objective includes a condition and measurable behavior.	98.8% (83)	95.2% (80)	3.6% (3)
	Specific criteria that match the skills being measured are written for each objective.	97.6% (82)	88.1% (74)	95.0% (81)
	Objectives are clearly connected to the present levels of <i>academic achievement</i> , <i>functional performance</i> and goals, addressing student abilities and needs.	97.6% (82)	78.6% (66)	19.0% (16)
	Benchmark/objectives are listed in the order that reflects the priority of the needs of the student in the present levels section.	98.8%	77.4%	21.4%

		(83)	(65)	(18)
Measure and Report Progress	Statement of how a student's progress toward meeting his or her annual goals will be measured	96.5% (81)	91.7% (77)	4.8% (4)
	Statement on when and how periodic reports will be provided to the student's parents.	94.0% (79)	82.1% (69)	11.9% (10)
	Statement lets the reader know that the reports are issued as frequently as students in general education receive their report cards.	89.2% (75)	70.2% (59)	19.0% (16)
Services to achieve goals	Statement of the special education and related services and supplementary aids and services to be provided to the student.	91.6% (77)	82.1% (69)	9.5% (8)
	Statement of the program modifications or supports for school personnel that will enable the student to advance appropriately toward attaining his or her annual goals.	90.4% (76)	70.2% (59)	20.2% (17)
	Statement of the program modifications or supports for school personnel that will enable the student to be involved in and make progress in the general education curriculum.	94.1% (79)	67.9% (57)	26.2% (22)
	Special Education and related services and supplementary aids and services are based on peer-reviewed research to the extent practicable.	88.0% (74)	44.0% (37)	44.0% (37)
Least Restricted Environment (LRE)	Statement that students have access to the general curriculum	96.4% (81)	77.4% (65)	19.0% (16)
	Explain/rationale why a child is not participating in general education, curriculum	86.9% (73)	36.9% (31)	50.0% (42)
Accommodations /District Tests	Accommodations match the services delivered in the classroom on a regular basis	82.1% (69)	61.9% (52)	20.2% (17)
	Accommodations derived from student needs (present levels of <i>academic achievement</i> and <i>functional performance</i>)	83.3% (70)	72.6% (61)	10.7% (9)
	The accommodations adhere to local and federal guidelines.	80.9% (68)	69.0% (58)	11.9% (10)

N=84

In the area of transition planning, 52% (n=44) reviewed IEPs that included transition. Overall 97.9% of the pre-service teachers accurately identified the key components of the transition plans in the IEPs reviewed. The most striking information was that 32.5% of the transition plans reviewed did not meet the requirements/standards as noted in the IEP.

Table 2
Percentage of IEP Transition Plan Components Correctly Identified by Pre-Service Teachers

Key Area	Requirements/Standards	Total Percent Identified (n)	Standard Met (n)	Standard Not Met (n)
Transitions beginning at age 16, coordinated activities that meet these criteria	Statement of quality of life goals: results-oriented, focused on improving academic and functional achievement, facilitate movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation	99.9% (44)	72.7% (32)	27.2% (12)
	Vision: based on the child's needs, taking into account the child's strengths, preferences, and interests	95.4% (42)	54.4% (24)	40.9% (18)
	Resources and Inter-agency collaboration: description of the course of study needed to reach stated goals, including instruction, related services, community experiences, development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation.	95.4% (42)	65.9% (29)	29.5% (13)

N=44

This study not only investigated the use of an IEP Rubric as a learning tool to assist teacher candidates in the identification of key components of an IEP, but also examined if pre-service teachers perceived the IEP Rubric to be a useful tool in identifying compliant IEPs. Results of the survey on the use of the IEP Rubric suggest that the pre-service teachers did find the IEP rubric to be valuable. Using a 5-Point Likert Scale ranging from 1 through 5 (1= Strongly Agree to 5 = Strongly Disagree) the pre-service teachers strongly agreed that the rubric was useful ($M=1.69$, $SD = 0.69$). Furthermore, results of this study found that participants strongly agreed that they would use the rubric in their practice ($M=1.79$, $SD = 0.68$). Additionally, the pre-service teachers indicated that the

rubric helped them identify components needed in an IEP ($M = 1.77$, $SD = 0.88$), and moreover that the rubric ultimately will help students ($M = 1.95$, $SD = 0.70$). The pre-service teacher participants agreed that they found creating an IEP to be difficult than they expected; however, the Rubric made it easier ($M = 2.24$, $SD = 0.86$). In addition, the pre-service teachers agreed that they would recommend the IEP Rubric to other teachers ($M = 2.06$, $SD = 0.86$). Table 3 provides a summary of pre-service teachers' perception of the IEP Rubric.

Table 3
Pre-service Teachers' Perceptions of IEP Rubric

Statement SD	Mean	
This Rubric was useful. 0.69	1.69	
I will use this Rubric in my practice. 0.68	1.78	
I already use a tool like this. 1.01	4.76	
I found the Rubric confusing to follow. 1.12	3.37	
Rubric allowed me to see components needed in an IEP. 0.84	1.77	
I will recommend that other teachers use this Rubric. 0.86	2.06	
The Rubric will go on my to-do stack and be forever lost. 0.93	4.64	
Using the Rubric was enjoyable. 0.86	3.03	
I would make significant changes to the Rubric. 1.01	4.51	
I found the Rubric a burden to use.	3.71	0.90
Creating an IEP is difficult for me, the Rubric made it easier.	2.24	0.86

This Rubric will ultimately help students.
0.70

1.95

5-Point Likert Scale: 1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; 5 = Strongly Disagree

In addition to asking the pre-service teachers to rate their level of agreement to statements regarding the IEP, they were also asked to rate their reaction in the use of the rubric from 1 to 7 (1 = Very Positive, 7 = Very Negative) utilizing word pairs. As noted in Table 4, pre-service teachers had a positive reaction to using the rubric as noted by the positive rating of word pairs such as good ($M = 2.12$, $SD = 2.04$), valuable ($M = 2.11$, $SD = 1.07$), important ($M = 2.02$, $SD = 1.16$), understandable ($M = 2.85$, $SD = 1.62$), helpful ($M = 2.34$, $SD = 1.13$), effective ($M = 2.29$, $SD = 1.14$), and useful ($M = 2.06$, $SD = 1.02$).

Table 4
Pre-service Teachers' Reaction in Response to Using the Rubric.

Word Pairs	Mean	SD
Good to Bad	2.12	2.04
Valuable to Worthless	2.11	1.07
Important to Unimportant	2.02	1.16
Understandable to Confusing	2.85	1.62
Helpful to Not Helpful	2.34	1.13
Effective to Ineffective	2.29	1.14
Useful to Not Useful	2.06	1.02

N=84

7 Point Rating Scale: 1= Very Positive: 7= Very Negative

Discussion

For IEPs to be truly useful general and special education teachers need to collaborate in the development of IEPs; so, they are used as documents to guide instruction. When training tools such as an IEP Rubric are incorporated into pre-service teacher training for all teachers, it has the potential to improve instruction for students with disabilities. The practical importance of this investigation includes the opportunity for teachers of similar student populations to work together to build ideas and strategies to improve student learning while building their own capacity. Pre-service teacher candidates were provided a unique look at how they teamed with colleagues to support children while provided the guidance of trained experts in the field to support their learning. Following the direct training, preservice teachers will be able to maintain their skills through their ongoing use

of the rubric. The participating universities will be able to continue to train teachers though the ongoing use of the IEP rubric model where teachers can provide a train the trainer support to each other. In summary, the development of compliant IEPs is a job responsibility of all educators. Team implementation of collaborative practices during the IEP process can easily be integrated into the current practices as no additional funding or time is required. The use of an IEP Rubric shows promise as a tool that can assist teams in the development of IEPs that can be useful in planning instruction for students with disabilities.

Conclusion

Holdheide and Reschly (2008) believe improved integration of students with disabilities into the general education classroom can be achieved but mere physical presence alone does not lead to true inclusion. Students must be provided with access to effective curriculum dependent on the relevant competencies of both the general and special education teachers. Improved teacher preparation programs and professional development activities are necessary for realizing the goals of inclusive services—specifically, improving results for students with disabilities (p. 4).

The IEP Rubric offers a means for changing the current practices and provide for a truly just education for all students. Based upon the principal investigators' pilot study, an IEP Rubric shows promise in providing a level playing field in writing IDEA compliant documents by allowing participants to contribute as equal team members in the writing process (Rosas, Winterman, Kroeger, & Jones, 2009). The IEP rubric may serve as a reference tool to bolster the confidence of team members, especially those who have not had formal special education training.

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Figure I Sample of IEP Rubric IEP Rubric's Subheading, Rating and Performance Descriptors.

Criteria Key Area (IEP Section): <i>Student's present levels of academic achievement and functional performance</i>	Score & Comments
P1: Present Levels are prioritized based on student's needs.	☐ Yes ☐ No
P2: Statement that explain the effect of a student's disability on his or her educational performance and involvement and progress in the general education curriculum	☐ Yes ☐ No
P3: Statement that clearly indicates actual performance in academic and functional areas (e.g. behavioral, communication).	☐ Yes ☐ No
P4: Statement of child's strengths and needs (present levels of academic achievement and functional performance).	☐ Yes ☐ No

Figure I is a sample of one section of the IEP Rubric. The rating consisted of yes or no as related to the IEP under review. The key area and performance descriptors for each area originated from IDEA 2004 IEP mandates.

Quality Care for Down Syndrome and Dementia

Amanda Tedder

Abstract

This article will give both examples and methods to use when providing services to individuals with a dual diagnosis of Down syndrome and Dementia. This is a prevalent issue that most care facilities are facing as the population with Down syndrome age. Staff training, schedule adjustments, living space adjustments and a new thought process regarding active treatment are essential for successful, quality care to take place.

Quality Care for Down syndrome and Dementia

Intermediate Care Facilities for the Mentally Retarded (ICF/MR) are facing the aging of the individuals whom they serve. This aging has led to many of the residents with Down syndrome being diagnosed with dementia. This growth in dementia can be dramatic and overwhelming for both the person with the diagnosis as well as the caregiver and family members. Lott (2008) reported: "more than 25% of persons with Down syndrome over the age of thirty five will develop symptoms of Alzheimer's type-dementia where as in the general population Alzheimer-like indications do not usually develop before the age of fifty". Individuals with Down's syndrome (DS) often survive long enough to develop dementia, and their increasing life expectation has major social and health service implications. "Knowledge of the natural history of DS in late middle age is essential for planning the provision of adequate family and community care for this population. Clinical signs of the disease have been found to develop during the fifth decade of life, associated with poor memory and deterioration in living skills" (Holland)

The difficulties involved in providing quality care for these individuals has led to new and innovative ways to help staff learn how to provide the care needed by these persons. In order for these persons to receive the care they need, the caregivers and families need to learn how to become advocates. This will be essential if there is to be any change in policy or law dealing with Dementia. "Caregiver advocates must lead the fight for policy changes that expand in-home and community based options for adult day programs; protect access to quality intermediate care options for those who need it; and provide some type of compensation or credit for the effective training of direct care staff in all settings." (Riggs 2003-2004)

One of the most difficult areas to make sense of when dealing with this population is getting an accurate diagnosis of dementia. "It is difficult to distinguish between cognitive deterioration and the various degrees of pre-existing intellectual disability." (D.Kay,2003) "The current neuropsychological batteries are unsuitable for testing up to one-third of people with DS because the difficulty in assessment of those with profound ID. (Haxby 1989; Crayton et al. 1998; Hon et al. 1999) The Prudhoe Cognitive Function Test (PCFT), provides a reliable quantitative measure of cognitive function in individuals

with Down syndrome. This testing instrument is used to develop a baseline of intellectual functioning in individuals. Using a behavioral scale could help determine whether any skills in everyday activities might be a more sensitive indicator of the onset of dementia than the direct measurement of cognitive change. Observing a client in their daily living and self help skills, is a much easier way to begin to chart the declines seen in an individual who is on a dementia watch list. This information comes almost exclusively from the persons who care for these individuals. Thus most of the scales used to help with the diagnosis of Dementia are completed by the people who provide the care for dementia patients.

Many individuals with a diagnosis of Down syndrome reside in either an ICF/MR facility or a group home operated by the facility. This living arrangement is great for the individuals as it allows them to be in the community where they work, participate in activities and develop relationships with others. The difficulty arises when signs of dementia begin to come to the fore front. “ This is particularly true for younger age adults with intellectual disabilities where they are able to age in place. Aging in place is defined as remaining in the same residence where one has spent his or her earlier years.” (Cohen & Day,1993) “Group homes, typically community homes with a small number of residents, have been identified as an alternative housing option for all people with dementia, but many are not equipped to maintain an individual in the later stages of the disease” (Coons & Mace, 1996).

Quality of life is another issue that must be considered with individuals with a diagnosis of Down syndrome. A decision has to be made by the staff and guardians about what living situation is best for the quality of life of someone with dementia. Tough decisions must be made due to the medical complications that often accompany a diagnosis of dementia. Most community and group homes are not equipped to deal with the numerous medical issues that arise. Staff training and education are essential factors in contributing to the quality of life for individuals with dementia. “There is a need to support caregivers in coping with cognitive and behavioral change associated with dementia and Down syndrome. If interventions are to be implemented they need to be put in place via caregivers as the knowledge and skills of the caregiver are essential to ensuring good quality of life and care for the person with intellectual disabilities and dementia (Wilkinson et al. 2005). Interventions in the form of training are likely to be helpful in supporting caregivers and improving the life experiences of the individuals for whom they care.” (S. Kalsy*, R. Heath*, D. Adams & C. Oliver p. 65)

Along with quality of life issues, there are also issues of providing active treatment to individuals with dementia who live in ICF/MR community homes. Active treatment is a process of offering continual learning opportunities to promote development of new skills. This is difficult if not impossible with individuals with dementia. “Included in this conflict with the philosophy of care management, there may also be difficulties with compliance of mandated documentation of services such as the writing of goals and objectives for the person’s individual support or service plan. A possible approach is to use the principle of habilitation. This is described as an approach that is based upon maintenance of skills and enhancement of well-being by creating a positive environment

through the promotion of personal worth, basic trust and security in the environment and others.” (Koenig-Coste & Raia, 1996).

One method that will help staff program for persons with dementia is using person centered planning. Person centered planning allows staff to program based on each individual they serve. It allows for personalization of the program. Things that are important to that individual are given the most emphasis in the programming. “Person-centered planning is a process of discovery, a way of supporting a person and his or her family to identify what is important to them in their lives while identifying what is necessary to achieve it (Mount and Zwernick 2000, Department of Health (DH) 2001, O'Brien and O'Brien 2001, National Disability Authority 2005, Kilbane and McLean 2008).” Using person centered planning allows the staff, family, and the individual to establish a plan that will address all of the issues that are important. A person with the diagnosis of dementia, this can include things that are familiar and provide emotional stability for them. Attention can be given to things such as fingernail polish, favorite television shows, particular clothing, etc. that contributes to the feeling of familiarity needed.

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***Does Repeated Reading Improve Reading Fluency and Comprehension
for Struggling Adolescent Readers?***

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Abstract

This was a 12-week study that explored the effects of repeated peer readings on struggling adolescent readers. It was a quasi-experimental design with one treatment group and one control group. There were two small group English classes that were consistently using the repeated reading strategy (the treatment group) and students in the co-teach English class who were not using the repeated reading strategy (the control group). The students were not randomly assigned. The pre- and posttests given were the AIMSweb (to measure fluency) and Scholastic Reading Inventory (to measure comprehension). This study investigated the effects of repeated peer reading on reading fluency and comprehension. It also explored the relationship between reading fluency and comprehension. In the area of reading fluency, the results showed that one participant in the treatment group increased and five participants from the control group improved. In the area of reading comprehension, six of the treatment group participants increased and six of the control group participants improved. The participants in the treatment group had larger gains in comprehension than did the control group participants. The data indicated an inconsistent relationship between reading fluency and comprehension.

Repeated Readings Improvement on Fluency & Comprehension

Reading fluency is usually developed in second or third grade, but there are many adolescents who struggle with this basic reading skill that was never developed at an earlier age. Many adolescents with learning disabilities struggle to read fluently and comprehend what they are reading. "Struggling adolescent readers read as few as 10,000 words per year, whereas average readers may read 10 times or even 100 to 500 times this number of words" (Dudley, 2005, p. 16). It is the responsibility of the high school intervention specialist who works with these students to implement research proven strategies that will aid in the improvement of basic reading skills to improve both reading fluency and comprehension. Repeated reading is the specific strategy that is being investigated in this study.

Related Literature

Reading Fluency

Reading fluency is a key element in the reading process. “Reading fluency is recognized as one of the five essential components of reading development” (Dudley, 2005, p. 17). Samuels, Ediger, and Fautsch-Patridge (2005) provide five stages of reading as they relate to expression, attention, and the comprehension process and how reading fluency plays an integral part in each of the five stages. **Stage zero** is the prereading stage where students can retell stories, recognize letters in the alphabet, and can write their names. **Stage one** is the decoding level where simple text with predictable wording can be “sounded out,” and it is noted that word recognition is the main focus of this stage. **Stage two** is the confirmation level where the short texts are read with increased and improved fluency. In this stage, word recognition is becoming more automatic. **Stage three** is the reading to learn stage where readers learn information (ideas/concepts) from words on the page. In this stage reading is still becoming more automatic, but the readers comprehend what they are reading. **Stage four** is called multiple view points. The readers can read difficult material and provide perspectives and attitudes based on the text. The **final stage** is construction where students are automatic at decoding and are able to comprehend simultaneously (Samuels et al., 2005). In each of the stages listed above, the students’ reading fluency is essential to progress to the next stage.

For now, reading fluency is defined by educational theorists. Samuels et al. (2005) defines reading fluency as, “The ability to decode and comprehend at the same time. Other components of fluency, such as accuracy, speed, and oral reading expression are simply indicators” (p. 2). In the definition stated above these authors include the component of comprehension as part of the reading fluency definition that the following educational theorists do not include. It is defined by Applegate, Applegate, and Modla (2009) as, “An indicator of the speed, accuracy, and prosody of oral reading” (p. 513). Dudley (2005) states that, “Oral reading fluency is defined as the mastery of these three observable behaviors: automatic processing or decoding of words, accuracy in decoding, and prosody” (p. 17). Therefore, if a student can automatically decode words with accuracy and prosody, then they are considered fluent readers by the definition stated by Dudley (2005). Rasinski, Rikli, and Johnston (2009) break down reading fluency into two components: automaticity and prosody.

Automaticity. Automaticity is one of the main elements of reading fluency. It is defined as “fast, accurate, and effortless word identification at the single word level” (Hook & Jones, 2002, p. 10). Kuhn, Schwanenflugel, and Meisinger (2010) state that the four characteristics of automaticity are, “speed, effortlessness, autonomy, and lack of conscious awareness” (p. 231). Speed is the first property of automaticity, but it is related to and emerges with accuracy. As the students read more accurately, they become faster readers. The second characteristic is effortlessness, which means that the reader has a sense of ease and is able to complete two tasks at the same time since the first one is easy. When readers do not have trouble recognizing words, reading is effortless for them. The next attribute is autonomy, which is basically when readers recognize words

as they see them with little to no choice but to read them. The last component that makes up automaticity is conscious awareness. Readers that have automaticity lack a conscious awareness in word recognition (Kuhn et al., 2010). The idea that automaticity is a reading skill that is vital to reading fluency has been evident since the 1970s.

The theory of automaticity came from LaBerge and Samuels in 1974. This theory states that readers who have not achieved automaticity in word recognition/fluency must apply a great amount of their finite cognitive energies to decode the words as they are reading. The students' cognitive energy which is applied to the low-level decoding task of reading is energy taken from the task of comprehending the text. (Rasinski et al., 2005). Since energy is taken away from comprehending the text, comprehension is negatively affected by the lack of automaticity a student may have (Rasinski et al., 2009). In essence, this theory states that the more a student can automatically decode words, the more focus they can have on comprehending what they are reading instead of focusing on the decoding aspect of reading.

In order to become an automatic reader there are underlying skills that must be achieved. A strong phonemic awareness base is the beginning of the process and with that comes the phonic word attack strategies (Hook & Jones, 2002). Then orthographic patterns begin to surface. Hook and Jones (2002) state that, "Automatic reading involves the development of strong orthographic representations" (p. 2). If students struggle with these underlying skills, they will struggle with automaticity when reading.

Prosody. The other component that makes up reading fluency is prosody. Prosody is when one reads with expression. When reading with prosody, it is like the reader uses spoken language when they are reading and it is the melody component when reading (Rasinski et al., 2009). Samuels et al. (2005) believes, "oral reading expression serves as an indicator of what the reader understands" (p. 2). Samuels et al. (2005) includes the following examples as part of oral reading expression: pitch changes in the reader's voice, pauses in punctuation, emphasis on words or ideas as the reader is reading, and pauses as the reader approaches certain punctuation.

Kuhn et al. (2010) demonstrates similar ideas to Samuels et al. (2005) but explains the features of prosody which are the following: fundamental frequency, duration, stress, and pausing. Fundamental frequency is another name for pitch. A reader's pitch needs to be taken into consideration when he is reading along with duration. When the reader is reading, the duration is the time amount in how the reader reads stressed and unstressed words. When a reader puts more emphasis on one word in a sentence than other words, that word is stressed. The last prosody feature given by Kuhn et al. (2010) is pausing. "Pausing is noted by a spectrographic silence in oral reading beyond that invoked by some consonant combinations" Kuhn et al., 2010, p. 235).

There are two ways that teachers can measure reading prosody among their students – by using rating scales and spectrographic measures (Kuhn et al., 2010). The two most common rating scales are the NAEP Oral Reading Fluency Scale and the Multidimensional Fluency Scale (Kuhn et al., 2010). The NAEP Oral Reading Fluency

Scale is based on a 4-point scale which differentiates between reading word by word and reading that is made into meaningful sentences. The Multidimensional Fluency Scale has four separate 4-point subscales which differentiate between phrasing and expression, smoothness and accuracy, and pacing.

Fluency and Comprehension/Achievement Studies

There are three studies and data from the state of California that examined the relationship between reading fluency and comprehension that affect achievement on standardized tests. Two prominent researchers, Hook and Jones (2002) and Rasinski et al. (2005), tend to have the same beliefs about reading fluency and comprehension. Hook and Jones (2002) state, "The speed and accuracy at which single words are identified is the best predictor of comprehension" (p. 2). This statement by Hook and Jones (2002) links reading fluency and comprehension by basically indicating that reading fluency influences the outcome of comprehension. Rasinski et al. (2005) performed a study on 303 high school students who after being assessed with a one minute reading probe had not achieved a level of normal or average fluency for their grade level. After computing the data, the results indicated that there was a statistically significant and moderately strong relationship between reading fluency and comprehension. "This means that about 28% of the variation in student achievement on the high school graduation test could be accounted for by variation in students' reading fluency" (Rasinski et al., 2005, p. 25). There was a correlation between the fluency scores and students' state scores on the state high school graduation test as Rasinski et al. reported (2005), "The results of our study lead us to conclude that improvements in fluency could account for significant and substantial gains in students' reading comprehension" (p. 25).

A study performed by Michael Albrecht (2009) examined the relationship between reading fluency and comprehension with eight elementary school students in third and fourth grade. The materials used in this study were the Reread-Adapt and Answer-Comprehend passage sets that included eight comprehension questions with each passage. The three variables being tested were the oral reading fluency (measured by correct words per minute), maze performance (every seventh word removed), and questioning (literal and inferential). The treatment session was five to seven consecutive days. The following steps were included in the treatment session: (1) teacher cued the student with a statement, (2) using the cue card the teacher prompted the student to read aloud, (3) the student reread the passage until the desired correct words per minute were reached, (4) teacher gave corrective feedback on word errors, (5) student answered cue card questions orally, and (6) the teacher adjusted the reading level for the next use. The results showed that there was a linear relationship between fluency and comprehension, there was a fluency range that predicted comprehension levels, and the relationship between fluency and comprehension was distinct (Albrecht, 2009).

In the two studies described above there was a correlation between reading fluency and comprehension, but the result from the state of California's data and results from Applegate et al. (2009) study contradict the above mentioned studies. The state of California placed heavy emphasis on instruction in fluency in the elementary grades for

the last several years. Now the standardized test data show a sizable decrease in reading comprehension scores across the state as students make the transition into high school (Curtis, 2004). The other contradictory article referenced was authored by Applegate et al. (2009) who performed a study with students having a high level of fluency measured by their rate, accuracy, and prosody. The study tested to see if students with high levels of fluency would also have high levels of reading comprehension. This study also tested to see if a student with high leveled fluency would have high leveled comprehension when assessed through thoughtful response to text. The students in this study were also recognized by their parents and teachers as strong readers. There were 171 students who participated in the study ranging from grades 2 through 10. The Critical Reading Inventory-Two was used to measure comprehension. Each student had to read two narratives, one orally and the other silently. After each passage they had to retell it, answer 10 open-ended questions, 8 text-based comprehension questions, and 12 higher order comprehension questions. The results of the study were that 30% of the students achieved a high level of reading comprehension in both literal and higher order thinking. A higher number, 36%, scored as proficient readers who needed some instruction in comprehension. “The most startling finding, however, was the fact that fully one third of our fluent and ‘strong’ readers struggled mightily with comprehension at their current grade level” (Applegate et al., 2009, p. 518). The results of this study demonstrate that even though students are fluent readers, it doesn’t necessarily mean that they comprehend what they are reading.

Repeated Reading Strategy

When repetition is used during the reading process, both automaticity and prosody improve. Kuhn et al. (2010) states, “Repetition allows for the deepening of traces and the freeing up of attention” (p. 233). If the attention is “freed up,” the readers can then focus more on comprehension. Kuhn et al. (2010) also says, “Repeating readings allow learners to establish prosody, identify appropriate phrasing, and determine meaning” (p. 233).

Repeated reading strategy is one of the most popular techniques used to improve reading fluency. Ediger et al. (2005) states, “Samuels (1979) ‘repeated readings’ technique is based on automaticity theory and the simple principle that “practice makes perfect” (p. 4). Repeated reading is also recognized by Curtis (2004) as a very effective approach to building fluency in older and younger students. They claim that repeated reading can be done by speeded practice in reading letters, syllables, words, and phrases or by reading the same text over and over until the pre-established criteria has been achieved (Curtis, 2004). The following quotes point out how a variety of educational professionals feel about the repeated reading strategy. “Repeated reading activities and non-repetitive wide reading are two methods that have been proven to have positive outcomes for building fluency” (Thomas & Wexler, 2007, p. 24). “Repeated reading is one of the most widely used and researched reading fluency interventions” (Dudley, 2005, p. 20).

The repeated reading method as stated above can be presented in a variety of ways by the classroom teacher. Pruitt and Cooper (2008) recognize the different ways classroom

teachers use the repeated reading technique. The common components among repeated reading models are the requirement that students read and then reread a short text that is meaningful, and that they are able to read it with a specified level of speed and accuracy. An additional component is that the students are orally reading text at their instructional level while being timed for one minute. If the specific requirement is not reached during this time period, the students will read the same text during the next session. When the student meets the criteria, they will then read a new passage (Pruitt & Cooper, 2008).

An important aspect of repeated reading is that it relates to the power law which is stated by Samuels et al. (2005), "Research by O'Shea, Sindelar, and O'Shea (1985) showed that significant improvement occurred after each re-reading, up to the fourth reading and then the size of the gains decreased." Samuels et al. (2005) suggests that, "Because performance is not likely to improve after four re-readings, it is in the student's best interest to move on to another passage" (p. 4). This is an essential limitation that classroom teachers utilizing this method need to be aware of. The power law stated by Kuhn et al. (2010) says, "Reaction time decreases as a function of practice until some irreducible limit is reached." "Speed increases throughout practice, but the gains are largest early on and diminish with further practice" (Logan, 1997, p. 123 as cited in Kuhn et al, 2010, p. 231).

Is repeated reading effective?

The repeated reading strategy has been around for a considerable amount of time. "Repeated reading, originally designed to supplement any developmental reading program, is based on three main goals: increasing reading rate, transferring increased reading rates to subsequent material; and increasing comprehension with each successive rereading of the text" (Dudley, 2005, p. 20). The controversy on whether or not repeated reading strategy improves reading fluency as well as comprehension is stated by Curtis (2004) that repeated reading is an effective technique on older and younger students, "However, gains in comprehension appear to be less striking and may be confined to improved processing at the sentence level" (Curtis, 2004, p. 127).

Rasinski et al. (2005) contradicts the statements made by Curtis (2004) and believes the following:

Repeated reading, another form of reading practice is one of the most powerful ways to increase reading fluency. Through repeated readings of a particular text, students increase their fluency and comprehension of the passage practiced. What repeated readings also lead to gains in fluency, comprehension and overall reading on other passages not previously encountered. (p. 26)

This statement links the variables of repeated reading with improved levels of reading and comprehension. The idea that repeated reading not only helps in the area of fluency but also comprehension, especially on new readings, is paramount.

Repeated Reading Strategy Studies

There have been five studies and a meta-analysis that contained 18 studies completed to examine the success of the repeated reading technique in the areas of reading fluency and comprehension. One study was performed to test the effectiveness of repeated readings with four secondary students (ninth graders) who were labeled as special education students. They were compared with a group of average ability readers. The intervention was three times a week for 20 minutes a session during a 10-week period of time. The reading passages were taken from the Timed Reading Series. At the end of each reading, there were 10 multiple choice comprehension questions which were both literal and inferential to which the students had to provide answers. The Woodcock Reading Mastery-Revised was used as the pre- and posttest. The results from the data collected demonstrated an improvement in reading fluency in three out of four of the students who had only 10 hours of extra practice. The students' reading speed increased from the baseline data. In the area of comprehension, the results of this study demonstrated that none of the students experienced an increase in the number of comprehension questions they answered correctly from the baseline to the intervention (Valleley & Shriver, 2003).

Roundy (2009) completed a study on 110 seventh graders. He was testing the effect of repeating reading on oral reading fluency, reading speed, reading oriented self-esteem, and the confidences of readers (especially those from diverse backgrounds). The participants were each at different academic levels ranging from honors to intensive students. The study's duration was five weeks and the data collected consisted of student interviews focusing on attitudes toward reading, a student reading survey, teacher observations, reflections on student behavior, documented repeated reading experiences, pre/post tests, fluency charts, observations of group sessions, and transcriptions of audio tapes. Roundy (2009) claims that, "It was evident that the achievements made were both academic and emotional" (p. 56) "At the end of the study, students seemed more motivated and less frustrated about repeated reading, and reading in general" (Roundy, 2009, p. 56). In the area of reading fluency, there were noticeable increases in reading fluency among the participants from the beginning of the study until the end (Roundy, 2009).

Musti-Rao, Hawkins, and Barkley (2009) performed a study on peer mediated repeated readings with 12 fourth grade African American students and six of the chosen students were special education students. The purpose of the study was to determine the effects of peer mediated repeated readings on oral reading fluency. The treatment sessions were three days a week for a total of 30 minutes weekly. The student's correct words per minute were the variable being tested and the DIBELS oral reading fluency was used weekly as the progress monitoring data. "At the end of the study, all of the students showed increases in oral reading rate with repeated reading compared with the silent reading (baseline) condition" (Musti-Rao et al., 2009, p. 20). The results showed that the students were able to meet the weekly goals with repeated reading; however, the oral reading rate did not transfer to the unfamiliar passage given in the beginning of the week.

Nelson, Alber, and Gordy (2004) completed a study with four second graders (three with learning disabilities and one with ADHD) using both word error correction and repeated reading strategy. The treatment occurred six minutes every morning for six weeks and sometimes once in the afternoon depending on the students' schedule. The text used in the study was the *Rigby PM Collection* reading series. The dependent variables in the study were the number of words read correctly in context per minute and the number of errors per minute. The baseline data used for the students was a five minute oral reading assessment with errors recorded by the teacher. The student then repeated the reading for one minute which was recorded. After the six week period the results showed that, "The average number of errors per minute decreased for all students during that condition" (Nelson et al., 2004, p. 192). Also, the results indicated that when repeated reading was added to the word error correction strategy, the average reading rates improved and their word errors decreased (Nelson et al., 2004).

Lo, Cooke, and Starling (2011) completed a study performed on three second grade (at risk) students who participated in a repeated reading program that included isolated word reading practice, unison reading, error correction, performance cueing, and feedback procedures. None of these three students was identified as having a disability. The reading probes used in the study were from Dibels Oral Reading Fluency, and the progress was monitored using this assessment as well. During this study, each student had a 15-20 minute individual session four times a week. Also during each session the teacher worked with the participants in the following areas: initial performance cueing and feedback, preview of difficult passage words, initial timed passage reading, performance feedback and error correction, error word or sight word practice, unison reading, repeated performance cueing and feedback, and timed passage rereading. "Results showed that the repeated reading program combining several research-based components improved fluency on second-grade transfer passages for the three participants" (Lo et al., 2011, p. 133).

A meta-analysis was completed by Therrien (2004) that examined 18 repeated reading articles. Therrien (2004) wanted to find out if repeated reading increased fluency and comprehension, the components that made repeated reading effective, and if students with a cognitive disability would benefit from a repeated reading strategy used in the classroom. The results of this analysis showed that repeated reading improves the reading fluency and comprehension of nondisabled students and students with a learning disability. The analysis by Therrien (2004) states, "All students obtained a moderate mean increase in fluency . . . and a somewhat smaller mean increase in comprehension" (p. 257). Therrien (2004) analyzed 18 studies and the results of the data showed improvement in both areas, but the area of reading comprehension had a smaller increase than the results of the fluency. The results of the important components showed that adult implementation was higher in both areas than when peers implemented the repeated reading program. Cueing the student for speed and comprehension was also another vital component to repeated reading. The data show that the passage should be read three to four times. Corrective feedback and performance criterion were other important components noted in the analysis. The nonessential components to the

repeated reading model were the peer-run interventions and comprehension measures (Therrien, 2004).

The studies listed above were performed on different multi-aged students; however, the results were similar. The student's oral reading rate when using a repeated reading program increased in all studies. The study by Valleley and Shriver (2003) points out that the student's comprehension did not improve with the repeated reading model in place, although the meta-analysis which examined 18 studies on the repeated reading model demonstrated an increase in both reading comprehension and reading fluency.

Research Methodology

Research Questions

This study was conducted to test the effects of repeated reading on struggling adolescent readers and to address the following questions:

1. Is there a significant relationship between repeated peer reading and overall fluency increase for struggling adolescent readers?
2. Is there a significant relationship between repeated peer reading and overall comprehension increase for struggling adolescent readers?
3. Is there a significant relationship between reading fluency and reading comprehension among struggling adolescent readers?

Participants/Sampling

The sample for this study consisted of 12 participants of 9th- and 10th-grade students with learning disabilities. Of these 12 students, six were 9th graders and six were 10th graders. There were three girls (one 10th and two 9th) and nine boys (six 10th graders and three 9th graders). This treatment group was serviced in English in a Resource Room. The cultural background for the treatment group was two African American (one boy and one girl) and 10 Caucasians. The control group consisted of 12 participants who are special education students and labeled as learning disabled. Of the control group participants, six of them were boys and six of them were girls. One of the students was African American (one girl) and 11 of the other students were Caucasian. The control group was all ninth graders who were in a co-teach English class and not receiving the repeated reading method or any other treatment of basic reading skills. All the participants attended the public school which has a low to middle socio-economic status. The participants in this study in both the treatment and control group all read below grade level.

Study Design

This was a quasi experimental design consisting of pretests, posttests, and weekly monitoring of both reading fluency and comprehension. The pretest and posttest for oral reading fluency was the AIMSweb fluency assessment and for reading comprehension the Scholastic Reading Inventory (SRI) was used. The variables being tested in this study were oral reading fluency, which was measured by the number of correct words per minute as the probe was orally read aloud. The other component being tested was

reading comprehension, which was measured by the lexile count produced by the Scholastic Reading Inventory (SRI). Progress monitoring occurred throughout the 12 weeks by reporting the results on individual weekly fluency charts (measured on Mondays and Fridays).

This was a 12-week study that examined the effects of repeating readings on oral reading fluency and reading comprehension. The students were paired by different ability levels. The higher achieving students were paired with the lower achieving students. The students read the same passage four times out of the week, one minute each time to their partner. While one of the students was reading, their partner was following along and verbally correcting any oral mistakes that were made. Each participant was assessed on Mondays and Fridays by that same reading passage for the week. The reading passages changed weekly. The reading probes came from *Daily Warm-ups* (Clark, 2006); the ninth grade treatment groups were reading and answering comprehension questions from fifth grade probes and the 10th grade treatment groups were reading and answering comprehension questions from a sixth grade probe. The levels of the probes did not change throughout the 12 weeks. The daily goals were to read faster than the previous day. The student's progress was reported and charted on Monday and Fridays based upon their one minute oral reading.

Instrumentation

When measuring fluency with the AIMSweb fluency assessment three different probes were given to the student during the one session. The student read each probe for one minute for a total of three minutes per session. The assessor recorded the wpm from each probe and then recorded the middle number (after ordering them from lowest to highest) as the student's average reading fluency. The highest level probe the AIMSweb has is the eighth grade probe. The numbers of words the students should be reading fluently from the eighth grade probe is given from the chart based on their grade level (see Appendix A).

The Scholastic Reading Inventory measured the students' reading comprehension by the number of lexiles they received. This is a computer-based assessment where students answer a variety of questions including vocabulary and reading comprehension questions based on short passages given. The SRI uses a three-phase approach when assessing a student's reading comprehension level; they are the start, step, and stop phases. During the start phase, the test determines where to begin testing the student on the lexile scale. The step phase controls the level of the questions that will be given to the student depending on how the student answered the prior question. The last phase is the stop phase, which means that the test has received enough information about the student to give a lexile number based on the student's reading comprehension level ("Technical Guide; Working," 2007). It takes the average student about 30 minutes to complete the assessment on the computer and the entire assessment is between 15-25 items depending on how the student answers the questions they are given. The student is allowed three skips as they take the test. When the students have completed the assessment, a lexile number will appear on the screen along with being able to view books of the student's

interest which are written at that certain lexile number. The lexile number can then be translated into a grade equivalent (see Appendix B).

The reading probes given were from *Daily Warm-ups* by Clark (2006). The fifth grade level probes were used for the ninth grade students, while the sixth grade probes were used for the 10th graders.

Results

The following are the major research findings as they related to the three research questions.

RQ#1- Is there a significant relationship between repeated peer reading and overall fluency increase for struggling adolescent readers?

When analyzing the data of the treatment group's reading fluency from the weekly fluency charts, there were major increases in reading fluency from Monday (cold read) to the Friday read. The total treatment group's average fluency increased each week when given the cold read (see Graph 1 and Appendix C for raw data).

However, when analyzing the data from AIMSweb pre- and posttest that was given, 17% of the participants' wpm increased, 75% decreased, and there was no change with 8% of the treatment group participants. In contrast, the control group had 42% of the participants' wpm increase and 58% decrease from the pre- and post-AIMSweb assessment that was given (see Graphs 2 and 3 and Appendices D and E for raw data).

RQ#2- Is there a significant relationship between repeated peer reading and overall comprehension increase for struggling adolescent readers?

When analyzing the data with repeated reading and reading comprehension, six of the students' lexile scores increased and one was the exact same. The other five students' lexile score decreased. However, the students who did increase improved by at least 50 lexiles. Graphs 4 and 5 represent the treatment group data for reading comprehension (see Appendix F for raw data).

The reading comprehension levels of the students in the control group had six students increase their reading comprehension level and six of the students did not increase their reading comprehension level. Three of the control group participants increased by less than 50 lexiles. Graphs 6 and 7 represent the control group data for reading comprehension (see Appendix G for raw data).

RQ#3 - Is there a significant relationship between reading fluency and reading comprehension among struggling adolescent readers?

When analyzing the fluency and comprehension data among the treatment group, there was one student who increased in both fluency and comprehension. The other 11

participants' data were inconsistent. When examining the data from the control group, four of the students increased in both areas. The other seven participants' data were inconsistent. Graphs 8 and 9 represent the data for the treatment and control group's fluency and comprehension.

Discussion of Results

Repeated Reading and Fluency

The first research question inquired about the relationship between the variables of repeated peer reading and reading fluency among struggling adolescent readers. The repeated reading method and overall reading fluency in the participants in this study showed weekly improvements in reading fluency as charted on their weekly graphs when given a text on their grade level; however, this improvement in reading fluency transferred to 17% of the participants and there was a 75% decrease from the previous assessment before the treatment was given.

Repeated Reading and Comprehension

The next research question investigated the relationship between repeated peer reading and comprehension among struggling adolescent readers. The repeated reading method and overall reading comprehension improved in half of the treatment participants' reading level by at least 50 lexiles. The overall participants who improved the most in comprehension out of the control group and treatment group were those participants who took part in the repeated reading method in the small group class. The treatment group participants who improved their comprehension had a larger increase in lexile numbers than those students from the control group who increased their comprehension.

Reading Comprehension and Fluency

The final research question explored the relationship between reading comprehension and reading fluency among struggling adolescent readers. The data from this study demonstrated that in the treatment group one participant increased in both comprehension and fluency, while three participants decreased in both areas. The remaining eight participants' data were inconsistent. In the control group, four participants increased in both comprehension and fluency, while five decreased in both areas. The other three participants' data were split between comprehension and fluency.

Implications

The results of this study demonstrated that an intervention specialist who is trying to improve their students reading comprehension can use the repeated reading method with struggling adolescent readers and see an improvement in half the students' reading comprehension but will not see improvement in reading fluency of more difficult texts.

When analyzing the fluency data from the treatment group, it is assumed that 75% of the participants did not transfer the basic skills taught in the prior 12 weeks to the more difficult text as the participants in this study demonstrated. When they were given the more difficult text to read, they struggled with even the basic words that they demonstrated automaticity on during the 12-week period. Many of the studies reviewed in this article demonstrated both improved comprehension and fluency, but the results of this study only demonstrate improved comprehension.

After completing this study, when examining the variables of reading fluency and comprehension, it is important to decide which one is more important for your students to be proficient in. I have come to realize that fluency is not as important as comprehension especially when working with students who have a learning disability in reading since they will get extended time to complete their assignments.

The text used during the repeated reading strategy treatment was at the participant's true reading level. For those interested in utilizing the repeated reading strategy in their classroom, they should try using probes that are several grade levels below the participant's grade level. The results could possibly then have improved fluency as well as comprehension.

I will definitely utilize this method or similar techniques to this in my future teaching but will try it with lower level readings. When the students monitored their own fluency on the chart, they were very intrinsically motivated; however, there were a few students who needed an extrinsic reward. Next time, I will make the goals for the students well known and add extrinsic rewards to maintain the student's motivation with the strategy. The basic reading skills do need to be reinforced extrinsically and intrinsically at the high school level, and it only took two minutes a day to improve struggling reader's comprehension.

Since I have completed this study, my teaching has changed. This study had me and my students constantly monitoring their progress. I was always interested in their progress as were the participants. Currently, I have found myself charting and monitoring progress daily like what was done in the repeated reading method study in order to ensure my techniques in the classroom are working efficiently. I find myself pre- and post-assessing more than ever in order to ensure progress is being made.

Many school officials believe that small groups classes should not exist, but the results of this study prove the opposite. The participants who were part of the treatment group had larger gains in comprehension versus the control group participants who came from the co-teach setting. Many districts are eliminating small group instruction and only have co-teach classes for their special education students. If students are sitting in a co-teach English Class and need to be practicing their basic reading skills, they will not get the practice they need in this setting. It is assumed by the regular education teacher and special education teacher that these skills are already developed and proficient. This study demonstrates that small group classes (Resource Room Classes) do have a place in

the school setting and are very much needed in order to help improve struggling adolescent readers.

Concluding Thoughts

There are other factors that are not taken into account in this study that have been mentioned by other researchers that affect the testing results. One of the major factors is the reading interest of the students especially when dealing with the Scholastic Reading Inventory. It does not take into account the student's interests as they are completing the assessment. When students read texts that they are interested in, their comprehension of the text will be higher. The text selection on the Scholastic Reading Inventory does affect how the students will score.

When giving the AIMSweb reading fluency, it is a timed test. The timing variable of this test produces anxiety which, depending on how the participant deals with anxiety, could possibly determine their success on this assessment. The timed aspect of this assessment produces anxiety which can alter the final results of this assessment for anyone who is about to take it.

When reading texts, automaticity and prosody are basic skills that should have already been developed and/or treated by a method like the repeated reading method. These basic skills need to be instilled in students at the elementary and middle school levels. The elementary and middle schools teachers should be using methods like this one daily to improve their students' basic reading skills. The reading instruction that the students had prior to this study is unknown. The amount of time the students read on their own outside of the classroom is also unknown information that could affect the results of this study.

Another factor that could have affected the results of this study is the time period that the posttests were given. The participants completed the 12-week study, and on the first Monday back after completing Ohio Graduation Tests (and the repeated reading method); they took the Scholastic Reading Inventory. This could have affected the results.

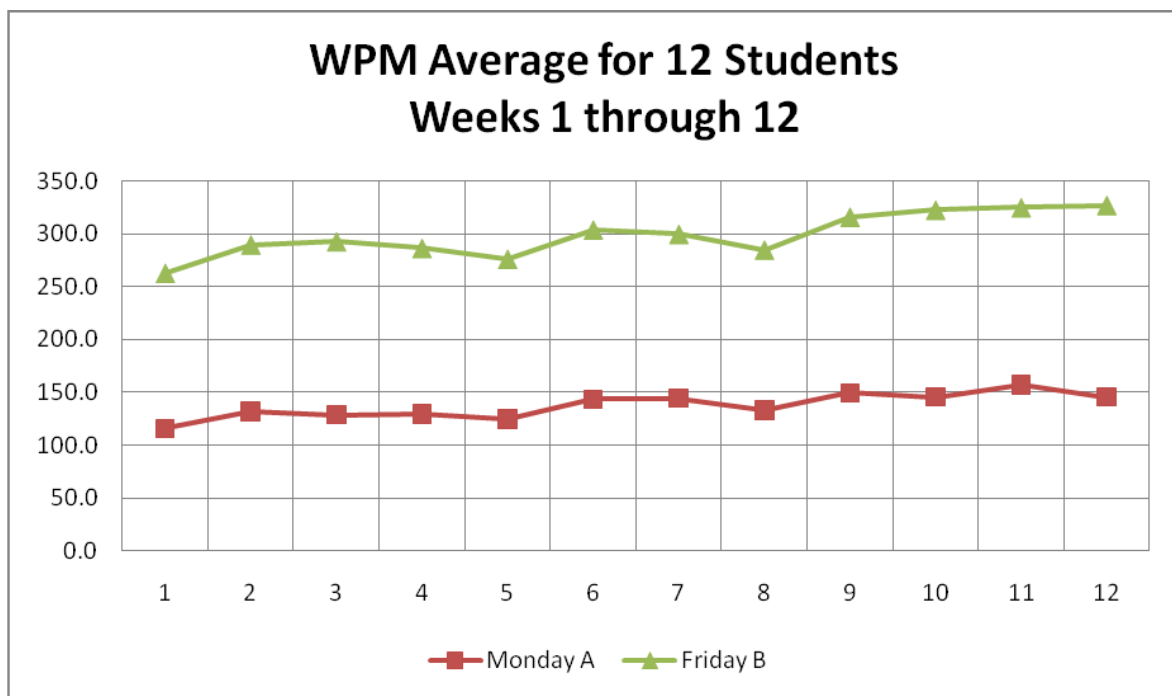
The motivation and maturity of the students in this study need to be taken into account when examining this study. The students who had the best outcomes were the hard workers who gave 100% effort on a daily basis. The students who had lower outcomes were the ones who struggled with staying on task and completing the repeated reading method accurately and efficiently. The majority of the participants in this study are "at risk."

In this study the repeated reading method improved overall comprehension but did not improve fluency of more difficult texts. The students who participated in the small group class and received the repeated reading method intervention did benefit from the daily reading practice and reinforcement of the basic reading skills. The comprehension of half the participants did indeed improve. Researchers in the area of reading fluency and comprehension do suggest that there is a correlation between these two components; however, the data from this study are inconsistent and currently do not prove to agree with the previously mentioned conclusions.

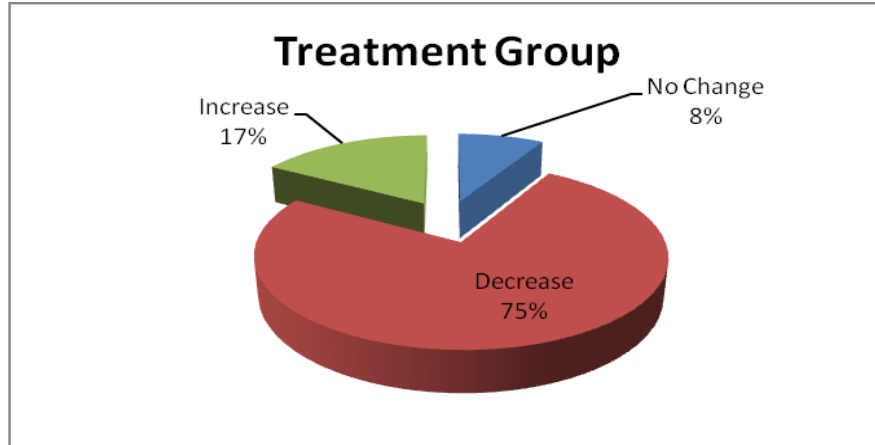
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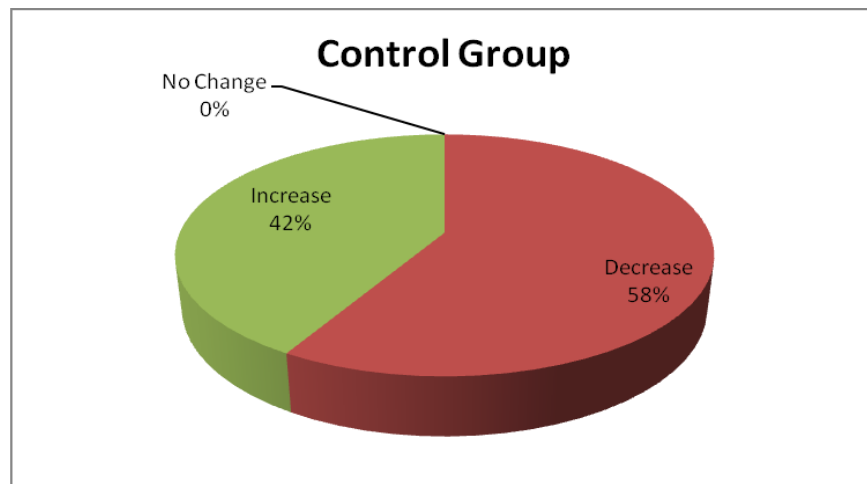
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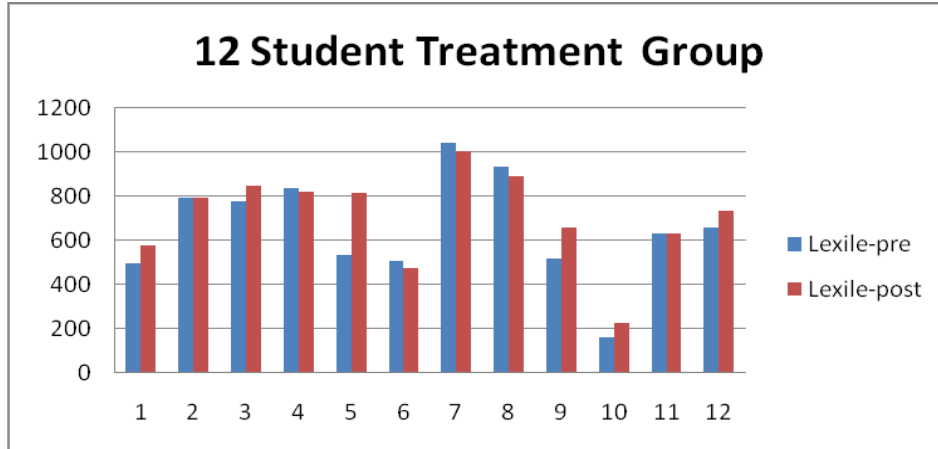
Graph 1. Monday and Friday fluency assessment.



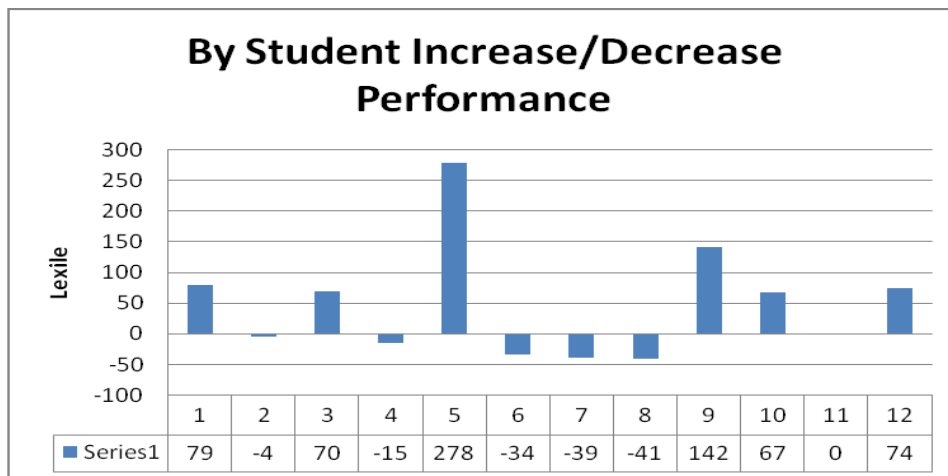
Graph 2.-Treatment group AIMSweb pre and post-assessment.



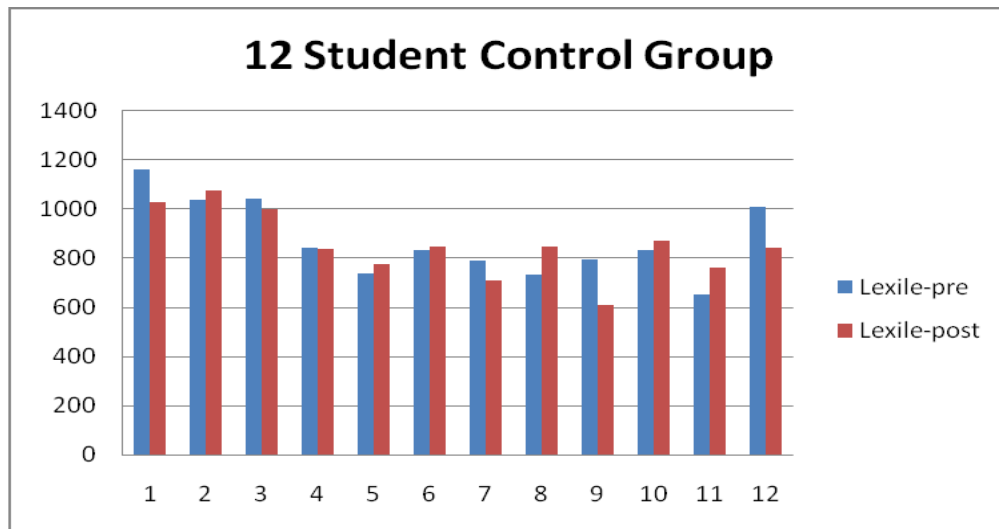
Graph 3. Control group AIMSweb pre- and post-assessment.



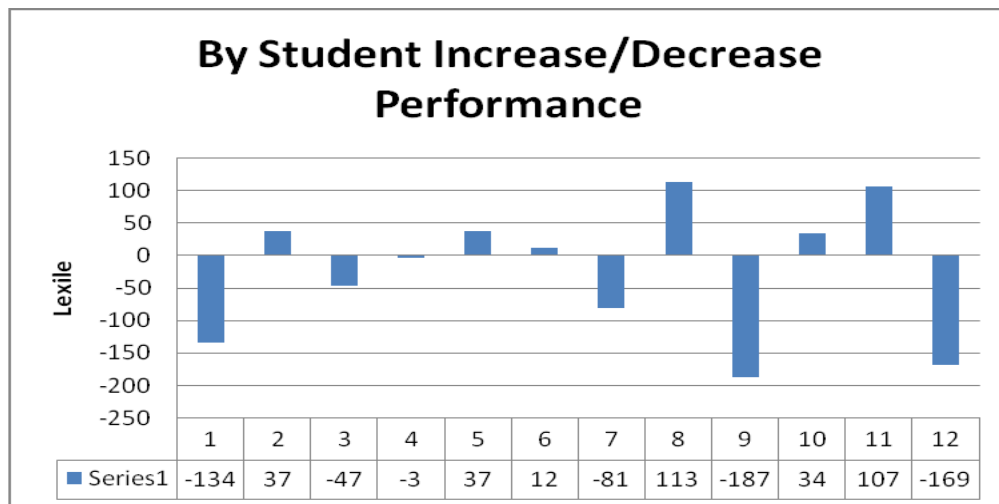
Graph 4. Treatment group pre- and post-SRI assessment.



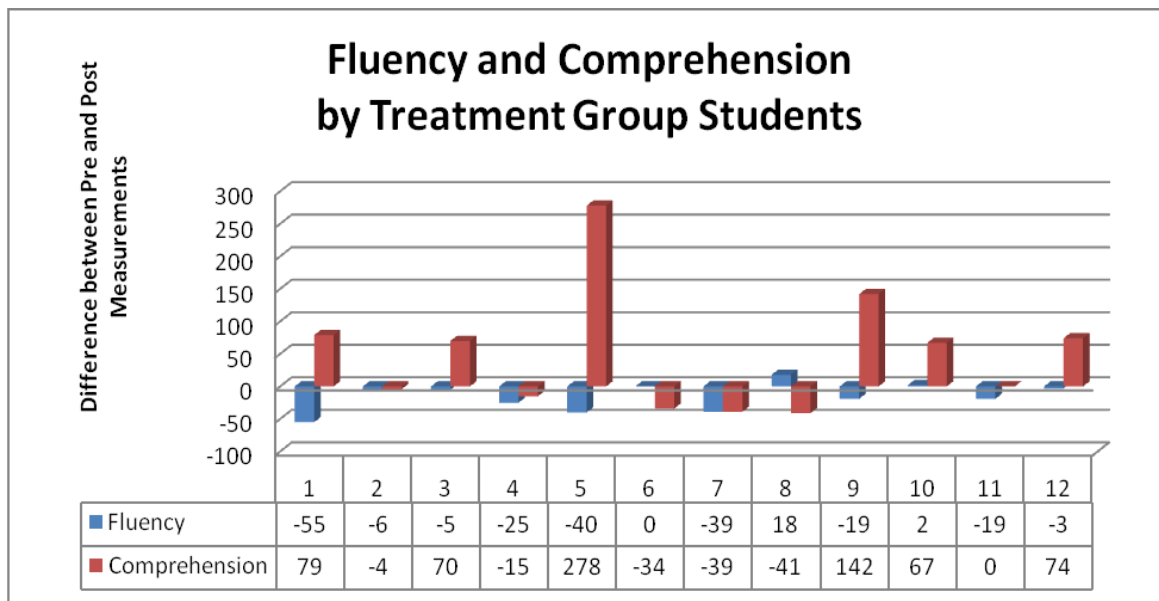
Graph 5. Treatment group increase/decrease from the pre- and post-SRI assessment/



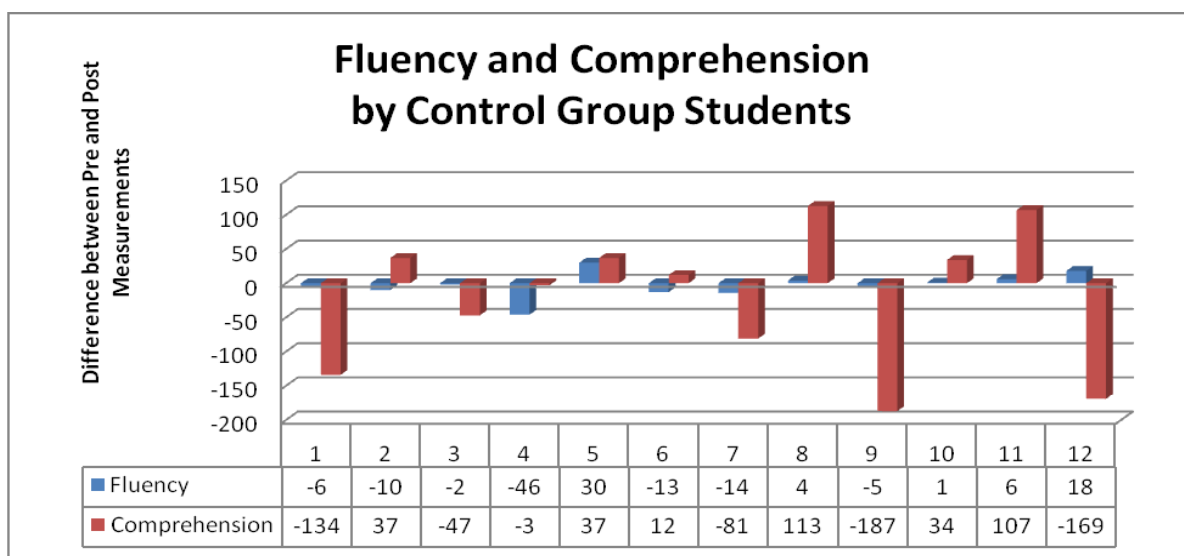
Graph 6. Control group pre- and post-SRI assessment.



Graph 7. Control group increase/decrease from the pre- and post-SRI assessment.



Graph 8. Treatment group fluency and comprehension.



Graph 9. Control group fluency and comprehension.

Appendix A

National Oral Reading Fluency Benchmarks

	Fluency (WPM) Norms			GE reading level		
	Sept.	Jan.	May	Sept.	Jan.	May
Kdg.			12-14			k.8-k.9
1 st Grade	15	25	45	1.0	1.5	1.8
2 nd Grade	50	70	90	2.0	2.5	2.8
3 rd Grade	85	95	110	3.0	3.5	3.8
4 th Grade	100	110	120	4.0	4.5	4.8
5 th Grade	110	116	125	5.0	5.5	5.8
6 th Grade	120	125	130	6.0	6.5	6.8
7 th Grade	125	130	135	7.0	7.5	7.8
8 th Grade	140	145	150	8.0	8.5	8.8
9 th Grade	150	155	160	9.0	9.5	9.8
Gr. 10-12	165	170	175	10.0	10.5	10.8

Appendix B

Grade Equivalent to Lexile Counts

Grade	Lexile number
1	100-400
2	300-600
3	500-800
4	600-900
5	700-1000
6	800-1050
7	850-1100
8	900-1150
9	1000-1200
10	1025-1250
11 & 12	1050-1300

Appendix C

Weekly Monday/Friday Progress Monitoring

	Students											
Week #	1	2	3	4	5	6	7	8	9	10	11	12
Week 1A	105	110	150	110	120	125	135	105	125	65	125	115
Week 1B	150	155	185	135	140	135	175	165	135	105	140	145
Week 2A	110	155	185	110	120	115	180	135	135	60	145	135
Week2B	165	165	190	115	180	165	200		145	105	150	155
Week 3A	105	135	175	135	135	135	165	135	115	85	130	95
Week 3B	170	165	210	155	180	180	200	145	145	100	155	
Week 4A	105	125	180	100	120	120	215	130	115	80	150	115
Week 4B	165	165	205		140	150	200	160	145	105	160	130
Week 5A	110	115	165	95	130	120	180	110	120	70	155	125
Week 5B	140	145	180	135	155	155	200	165	145	100	165	135
Week 6A	145	135	175	130	155	165	150	155	140	90	155	126
Week 6B	160	160	180	160	190	150	175	176	153	96	164	
Week 7A	135	125	175	135	160	160	169	154	119	74	155	171
Week 7B	160	165	180	150	195	160			163	75	164	142
Week 8A	110	130	170	100	165	130	177	142	132	68	151	125
Week 8B	145	160	170	150	165	170	183	164	135	75	150	
Week 9A	115	125	150	160	160	150	225	183	156	89	148	131
Week 9B	145	155	175	170		175	249	162	138	109	186	169
Week10A	130	130	150	135	135	170	198	160	125	87	183	144
Week10B	155	165	182	160	195	177	261	203	150	107	193	
Week11A	139	171	162	154	213	184	206	158	128	81	166	122
Week11B	168	173				163						
Week12A	95	156	161	124	124	151	221	179	112	81	196	146
Week12B	150	170	204	180	204	165	227	202	170	116	198	193

Appendix D

Treatment Group

Student	Aims-Pre	Aims-Pos
1	137	82
2	110	104
3	160	155
4	148	123
5	177	137
6	121	121
7	165	126
8	90	108
9	114	95
10	58	60
11	170	151
12	113	110

Appendix E

Control Group

Student	Aims-Pre	Aims-Pos
1	160	154
2	119	109
3	172	170
4	183	137
5	170	200
6	143	130
7	127	113
8	101	105
9	165	160
10	114	115
11	74	80
12	150	168

Appendix F

Treatment Group

Students	Lexile- pre	Lexile-post	Increase/ Decrease
1	495	574	79
2	795	791	-4
3	775	845	70
4	837	822	-15
5	535	813	278
6	508	474	-34
7	1044	1005	-39
8	933	892	-41
9	515	657	142
10	159	226	67
11	631	631	0
12	660	734	74

Appendix G

Control Group

Student	Lexile-pre	Lexile- post	Increase/ Decrease
1	1163	1029	-134
2	1038	1075	37
3	1044	997	-47
4	841	838	-3
5	740	777	37
6	834	846	12
7	791	710	-81
8	734	847	113
9	797	610	-187
10	835	869	34
11	654	761	107
12	1011	842	-169

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