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The Emperor Has No Clothes!
Unanswered Questions and Concerns on the Response To Intervention Procedure

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Abstract

Recent legislation offers the option of using a response to intervention (RTI) procedure for documenting a learning disability. While we generally support the use of response to intervention procedures for eligibility determinations, there are many unanswered questions on implementation of this procedure as well as some question as to the overall efficacy of this procedure when used as an eligibility tool. This article presents many of these issues, and suggests our recommendations as to the possible solutions.

The Emperor Has No Clothes!
Unanswered Questions and Concerns on the Response To Intervention Procedure

With the recent passage of the Individuals with Disabilities Education Improvement Act in December of 2004 the federal government officially allowed students to be classified as learning disabled based on documentation of how well they respond to educational interventions--a procedure commonly referred to as RTI (Fuchs & Fuchs, 2005; 2006; Gersten & Dimino, 2006; Marston, 2005; Scruggs & Mastropieri, 2002; Mastropieri & Scruggs, 2005). However, this RTI procedure has largely been untested for use in determining eligibility for learning disability services, though ample evidence exists for use of RTI as a progress monitoring tool for students with and without disabilities (Fuchs & Fuchs, 2005; 2006; Marston, 2003; Vaughn, Linan-Thompson, & Hickman, 2003; Vellutino, Scanlon, Sipay, Small, Chen, Pratt, & Denckla, 1996). Of course, it is not unheard of for federal initiatives to be proposed or even implemented without complete and through testing of the newly proposed procedure and this initiative seems similar in that regard. At the risk of being somewhat pedantic, we collectively have the sense of *deja vu* all over again, and thus, we wanted to present some unanswered questions for professional discussion.

The RTI approach to documenting a learning disability resulted from the general dissatisfaction with previous approaches to documenting learning disabilities, in particular a dissatisfaction with the discrepancy model in which a learning disability is documented by demonstrating a substantial difference between a child's cognitive level (using IQ scores) and his or her achievement (Gersten & Dimino, 2006; Kavale, Holdnack, & Mostert, 2006). Many policy makers believe that the discrepancy model results in over-identification of students with learning disabilities, thus increasing the overall costs of special education (Fuchs & Fuchs, 2006), and the unspoken hope is that RTI will reduce such over-identification. Other reasons for dissatisfaction with current eligibility procedures include inconsistency in definitions of learning disabilities from one state to another (Scruggs et al., 2002), and the tendency of discrepancy procedures to identify students as learning disabled who have merely been

exposed to less than effective instructional procedures; Vellutino, Scanlon, Sipay, Small, Chen, Pratt, A. & Denckla, (1996) used the term instructionally disabled for children identified with a learning disability who merely received inadequate instruction.

In contrast to the discrepancy procedure used for identification of students with LD presently, the RTI procedure involves exposing a child to educational interventions and seeing how well he or she responds to that educational intervention (Kavale, Holdnack, & Mostert, 2006; Fuchs & Fuchs, 2006). More specifically, the RTI procedure involves actual implementation of several education intervention procedures which under normal conditions, would be expected to result in reasonable academic growth. In the absence of such academic growth, a learning disability is assumed to exist. Proponents of the RTI approach suggest that RTI will result in a tightening of the eligibility procedures for documenting a learning disability, and thus, a reduction in the number of students labeled as LD (Fuchs & Fuchs, 2005; 2006; Marston, 2003; Vaughn, et al., 2003; Vellutino et al., 1996).

The purpose of this paper is to present a series of unanswered questions about the response to intervention (RTI) procedure. We intend to present these questions, as well as several possible answers, based on extant writings in the field on RTI, as well as our observations on how well such untested federal initiatives have worked in the past. We note that we are not the only professionals concerned with the implementation of RTI (Gersten & Dimino, 2006; Kavale, Holdnack, & Mostert, 2006), and as concerned professionals in the field, we are not certain how exactly this procedure will work. Further, we are not at all certain that this procedure will accomplish what the proponents of RTI suggest i.e. create a more accurate system for identification of children with learning disabilities, and reduce overidentification. While we are not opposed to RTI in principle--indeed we see many benefits for this type of procedure--we do have serious concerns on how this might be implemented and what results such implementation may have on the children we all serve. The various headings below address different sets of issues, but we acknowledge that much overlap may exist, and that there are additional concerns that may not be addressed here.

Scruggs and his co-workers (2002) suggested that any alternative to the current diagnostic procedures must include certain criteria to be considered valid and be met with general acceptance. We present these points here, because we believe these questions can guide the thinking in the field and assist in consideration of how to implement RTI. The criteria include the following:

- a) the procedures must address the multi-faceted nature of a learning disability;
- b) the procedures must be able to be administered across the age spectrum;
- c) administrators of the procedures must be able to demonstrate technical adequacy of the procedure;
- d) the procedures must show a reduction in overidentification;
- e) the procedures must reduce inappropriate variability across state and local agencies;
- f) the procedures must identify students that meet the conceptualizations of learning disability.

How Is RTI Supposed to Work?

In the professional literature on RTI (Fuchs & Fuchs, 2005; 2006; Marston, 2003; Vaughn, Linan-Thompson, & Hickman, 2003; Vellutino et al., 1996), a 3 tiered system involving

several interventions is typically recommended as best practice. For example, the National Joint Committee on Learning Disabilities described a three tiered system of interventions (NCJLD, 2005) in which a child is exposed to a different, increasingly intensive educational intervention at each tier. Further, in the research literature an educational intervention procedure--referred to by some as the “standard treatment protocol” --has emerged as the method of choice for monitoring pupil progress in each tiered intervention (Fuchs & Fuchs, 2005; 2006; Gersten & Dimino, 2006; Marston, 2005; Mastropieri & Scruggs, 2005; Vaughn, Linan-Thompson, & Hickman, 2003; Vellutino et al., 1996).

In the first tier of the standard treatment protocol (i.e. the first intervention), the general education teacher, upon first suspecting a learning disability, would be expected to implement a scientifically validated reading curriculum, using the curriculum as it was designed to be used for a period of several weeks. The teacher would monitor that child’s progress over that time period. Fuchs and Fuchs (2005) suggest monitoring on a weekly basis for tier one interventions. The teacher would then chart those academic scores of reading skill to present a picture of the child’s learning in response to that educational intervention. For example, the data in Figure 1 represents weekly progress monitoring for a student, Andre, in terms of learning new vocabulary terms. These data indicates that Andre did not progress in mastery of new words over a period of 8 weeks. Thus, he was not progressing in the first tier of the RTI process and, for that reason, he would be placed into a second tier intervention (See Figure 1)

Typically, tier two interventions involve a more intensive reading program for an additional period of several weeks. Fuchs and Fuchs (2005) suggest that in tier two the intervention should involve intensive small group instruction involving no more than an adult and two or three children. Various researchers have recommended different frequencies of time for progress monitoring; for example, Fuchs and Fuchs (2005) recommended weekly monitoring in tier two, while Vaughn and her colleagues (2003) recommended less frequent monitoring. In contrast, we recommend daily progress monitoring for the second tier intervention. We believe that daily progress monitoring is truly, the “best practice” today, because the literature on curriculum based measurement has documented that daily monitoring facilitates frequent instructional modifications by the teacher when these become necessary (Deno, 2003). Also, we hasten to point out that many curricula are structured to allow for daily monitoring of academic progress. Figure 2 presents another progress monitoring chart on Andre’s daily progress in the second tier intervention (See Figure 2).

One would hope that intensive interventions of this nature result in documented progress for most students. However, some students, such as Andre might not benefit even from these intensive interventions. Pending a lack of sufficient growth during the tier two intervention, the child’s team would meet and consider placing the child in special education. This meeting, and subsequent educational treatments, would represent the third tier of the RTI process.

Of course, while documenting how a child responds to educational interventions should be routine in educational circles, the fact is such documentation is fairly rare, even in today’s world of high stakes assessment. In many educational districts, yearly assessments of student progress represent the only documentation of academic growth. Clearly such assessments would not be appropriate for the RTI procedure, so in some ways, the RTI procedure involves

creation of a progress monitoring system that has not been widely utilized before, at least in the general education classroom.

One concern involves the level of preparedness of general educators to document progress on target children this closely. In short, are general educators prepared to participate in progress monitoring for individual students, as required in tier one of the intervention? Clearly, this will require considerable professional development, not only for special educators, but for general educators as well, as has been recommended in the literature (Fuchs & Fuchs, 2006; 2005).

Prevalence of Learning Disabilities

One of the first questions on RTI is will it accomplish what proponents hope? Will implementation of RTI reduce over-identification, and tighten up the diagnostic procedures for LD? This question clearly strikes at the issue of prevalence of students with LD, and there has always been considerable debate concerning how many children are learning disabled.

Since the introduction of learning disability (LD) in the Education for All Handicapped Children Act (PL 94-142; 1975), prevalence rates have changed drastically. The population of individuals identified with LD has increased by 150% to 200% since its introduction in 1975 (U.S. Department of Education, 2000; Bradley, Danielson, Doolittle, 2005; Wagner & Garon, 1999), and prevalence figures now seem to hover between 2% and 8%. Based both on this variance from state to state, as well as on this drastic increase, Wong (1996) suggested that teachers may have included all students with learning difficulties under the label of LD, and not limited the LD diagnosis at all. Again, will the implementation of RTI decrease or increase the prevalence of students with LD?

In all of the discussions of prevalence, there appear to be three issues that affect the prevalence rate of LD; variability, conceptual problems and specificity. Each of these issues is discussed in turn.

Variability in Prevalence Rates

The variability in prevalence rates for LD ranges from a low of 2.10 % in Georgia to a high of 8.66% in Rhode Island (Coutinho, 1995; Finlan, 1992). Out of an estimated forty-five million students in the United States in 1995 this variance in prevalence can indicate a significant difference in the size of the LD population from state to state. Some have proposed that the implementation of response to intervention (RTI), will decrease some of the variability since RTI is based on scientifically validated educational curricula. As this perspective goes, regardless of the location of the students who are challenged by academic work, those students would be presented with data-based instruction which will determine eligibility. Thus, many proponents postulate that implementation of an RTI protocol, should stabilize the prevalence rate for LD, and decrease the size of the population identified as learning disabled, as well as eliminate problems in over-identification of students with LD.

However, this set of propositions is not at all certain. First, such standard treatment protocols have not been widely utilized as eligibility tools, and practitioners in the field cannot be certain how implementation of this concept will impact prevalence rater (Gersten & Dimino, 2006; Kavale, Holdnack, & Mostert, 2006). Next, we must note a phenomenon which as not been discussed previously in the RTI literature to our knowledge—the age of onset of LD.

For the last several decades, the bulk of students identified as learning disabled have been so identified at some point during their third or fourth grade year. Teachers in the recent past seemed to wish to “give the benefit of doubt” to students struggling with academic work in kindergarten, grade one, or grade two. However, under the RTI model, and given the emphasis in all of the available literature on phonologically based early-reading problems (see discussion of that point below), one may well assume that students who do not perform well on phonological exercises in kindergarten or rapid letter naming and word mastery in grades one and two might now be identified as learning disabled. In short, in the recent past, we’ve been identifying students in only during the last 10 years of a 13 year (Kindergarten through grade 12) public school period. However, under RTI, such identification is much more likely in all 13 of these public school years. This fact alone, may increase the number of students with LD overall. Further, the few studies that have used RTI as a way of determining eligibility has shown prevalence rates for learning disabilities that are at least as high or higher as current rates (Vaughn, 2003; O’Conner, 2003). Thus, there is some question on the proposition that RTI will decrease the prevalence of students with LD. The impact of RTI on over-identification is also still unknown.

Conceptual Problems in Definitions of LD

Kavale and Forness (2000) suggest that the principal cause for the high variability of prevalence rates among states is the absence of a standard definition to learning disability. In fact, many state definitions differ considerably from one another, and thus, a student may manifest a disability in one state and not in another, which in turn, can lead to differing prevalence rates among the states. Proponents of the RTI model this variability would be eliminated because students that fail to respond to interventions in one state will also be likely to fail to respond in another.

However, again, this is not certain. Given the wide variety of educational interventions that could be utilized in the RTI procedure, it might be possible for higher variability in prevalence rates to result from implementation of the RTI procedure. For example, some states might delineate exclusively phonologically based reading interventions as the only acceptable intervention for RTI utilization, whereas other states might allow for the use of any scientifically validated curriculum in any subject area (e.g. a direct instructional program in mathematics, or language arts, or perhaps even a scientifically validated computerized, social studies curriculum). Thus, this utilization of a wider range of acceptable curriculum for use in the RTI process could possibly result in a higher prevalence for LD in some states. It is not at all certain that shifting to an RTI procedure will reduce inter-state variability in prevalence rates.

Specificity of LD and Prevalence

For several decades now, researchers have suggested that individuals with learning disability can not be reliably distinguished from individuals with low achievement. Others have stated more specifically that students with reading disabilities can not be distinguished from generally poor readers (Algozzine, 1985; Ysseldyke, Algozzine, Shinn & McGue, 1982; Fletcher, Francis, Rourke, Shaywitz, 1992; Fletcher & Foorman, 1994; Spear-Swerling, 1999; Wagner et al., 1999). In one early study comparing low achievers to students identified with learning

disabilities, Ysseldyke, Algozzine, Richey and Graden (1982) concluded that the two groups were psychometrically equivalent.

These results highlight one of the long-standing issues in learning disabilities—specificity of the learning disabilities construct, vs. low achieving students, vs. students with other disabilities. To be more pointed, how can we tell the difference between a child with a learning disability, a low achieving child and/or a child with emotional/behavioral problems and academic delay resulting from those behavior problems?

Proponents of RTI argue that implementation of RTI could assist in eliminating at least some of the specificity concerns, since RTI would probably allow the teacher to distinguish between a student with a learning disability and a student who was low achieving. Students who responded to the intensive interventions in tier one and two would, presumably be low achieving for some reason other than a learning disability. Thus, in this one area, RTI may hold the promise for addressing one of the oldest concerns in the field of learning disabilities.

However, this has yet to be established by research, and some research indicates that this assumption may likewise be wishful thinking. In one early study, RTI was shown to reduce the number of minority students referred to special education (Marsten, Muyskens, Lau & Canter, 2003). Yet in the same report, the authors noted that RTI was prone to systematic errors in identifying students with LD. Specifically those errors arose from the potential for RTI to identify students that are generally low achievers, such as the environmentally disadvantaged, minority students and English Language Learners. Thus, it is by no means certain that RTI will result in improved diagnostic procedures.

Should RTI be the Sole Criteria of a Learning Disability?

As indicated above, there is some question as to how RTI will impact prevalence of LD. In particular, it is not clear if the issue of over-identification will be adequately addressed using this procedure and we are not convinced that RTI will reduce inappropriate variability across state and local education agencies. For this reason, Scurggs and his co-workers (2002) suggested an alternative to the exclusive use of RTI—they recommend the use of RTI in combination with a discrepancy criteria. The RTI model would be used to distinguish between those responding and those not responding to research-based interventions, and the discrepancy procedure would likewise be used to eliminate students who are achieving commensurate with their potential. Under this proposal, when it is determined that the child is not responding to interventions both psychological/IQ and achievement tests would be administered to the child to determine if a discrepancy exists. If a discrepancy exists at a predetermined level the information on the child would then be submitted to a referral team to decide on placement and educational setting issues. If a student does not have the predetermined discrepancy then the child would not be considered learning disabled. Of course, there should be some form of education support for those students other than services as learning disabled (Scruggs et al, 2002).

Initially, this combination approach has some appeal. One strength of this dual model for diagnosis is the fact that valid evidence-based instruction is provided to all students before any eligibility determination is made. This ensures that students are given sound instruction and any lack of achievement is due to a disability within the student and not the instructional

procedures. Although it is hoped by professionals, as well as mandated by law, that every student be given good instruction, the fact is there is no federal or state system in place that we are aware of that allows for documentation of “effective instruction.” Vellutino and his colleagues (1996), used the term “instructionally disadvantaged” to represent the students who may have received less than effective instruction, resulting in a classification as learning disabled. Thus, any procedure such as RTI which facilitates improved instruction and progress monitoring for students holds some appeal for concerned professionals.

Another strength of this dual approach involves the distinction between students with a learning disability and “slow learners” who may have a lower than average IQ. Presumably students with an IQ in the range of 70 to 85 would be somewhat less responsive to instruction than students with an IQ over 85, and coupling RTI with the discrepancy procedures currently in place would prevent those students with the lower IQ from becoming labeled as learning disabled.

Some estimates of the “slow learner” population suggest that around 15% of the total population may be slower learners (Scruggs et al, 2002), and this is almost twice the rate of LD even the “highest LD prevalence” states. Clearly, if that group were identified as LD, and were thus allowed to “drain” resources intended for students with learning disabilities, school districts nationwide would have serious concerns. Of course, many students with lower IQs would respond to instruction, and would not therefore drain the federal and state budgets for students with learning disabilities. However, it is uncertain how the RTI procedure, when utilized alone, would deal with these “slow learners.”

Is RTI New?

While response to instruction for documentation of a learning disability has been discussed at least since the report of the Presidential Commission on Excellence in Special Education in 2001, only some 18 months ago was the legislation passed which allowed the use of RTI as an eligibility procedure (Marston, 2003). This is not the first time such untested legislative mandates have emerged from on high, and it probably won’t be the last. However, it may assist us to consider other top-down efforts to implement rigorous progress monitoring for students who are struggling in school. Perhaps comparisons of this nature can guide us at this point, or at least inform us of the likelihood of success of RTI.

One comparison of these federal legislative mandates on enhancing instruction involves the relationship between RTI and various interventions which are currently required prior to identification. Gersten and Dimino (2006) previously described the apparent similarity between RTI procedures and the pre-referral interventions which have been required since the late 1980s for all students with special needs. As these authors indicate, pre-referral interventions have proven to be significant challenges to many general education teachers, and in many cases pre-referral procedures seem to be merely a checklist of normal teaching tactics rather than an individual pre-referral intervention. In many instances, we find that the only documentation that pre-referral interventions were undertaken at all is a one page check-off sheet indicating that a teacher has implemented a token economy, or a behavioral contract, or some other such intervention.

In our experience, when one requests to see a behavioral chart representing documentation of how well the child responded to the pre-referral interventions, one is most frequently met with blank stares; often the one-page check-off sheet is handed back to the questioner for further perusal. This may suggest that teachers in our nation have become highly skilled at planning pre-referral interventions, or completing forms to indicate that such interventions have indeed been implemented. However, actually conducting such interventions and monitoring a pupil's progress throughout them is somewhat less frequent.

More recently, behavioral improvement plans have been required legislatively for many students with special needs. One might well expect that, given the recency of this initiative dating from the late 1990s, teachers are somewhat better prepared to implement rigorous interventions in the general education classroom and/or the special education classroom and monitor student progress on those interventions to curb undesirable behaviors. However, our experience tells us that many behavioral improvement plans, like the pre-referral interventions mentioned above, result in a one or two page statement of intention (i.e. a plan) but no charted data on how a child responded to the intervention. Like Gersten and Dimino (2006) in their discussion of pre-referral interventions, we simply don't see that behavioral improvement plans are being implemented with rigor, or that progress towards reduction of problematic behaviors is being monitored in any systematic fashion in most schools.

Of course, this forces the question, even with this new legislation in place, will teachers implement these tier one or tier two interventions, and will they monitor the progress of the students with rigor? The answer to that question is not certain, but we would suggest that the pre-referral and behavioral improvement plan experience might provide guidance toward the answer; if so, then the answer is not positive on the prospects of RTI actually being implemented rigorously.

In a related question, we should consider the relationship between these required interventions. Specifically, will the tier one interventions described above as the first step in the RTI procedure replace the current requirement for pre-referral interventions for students suspected of demonstrating a learning disability, since both of these interventions take place in the general education classroom? We have heard some school administrators indicate "yes" and others "no" to that question. One school administrator even suggested the possibility of using current state and/or federal programs in reading instruction (e.g. Title One programs, as one example), as the tier one intervention in the RTI process. Does this suggest that every student who does not progress in a Title One program may be considered for a learning disability? What, indeed is the relationship between these various non-special education intervention procedures, and will these meet the requirements of either tier one or tier two interventions under RTI?

While the questions posed above have not been discussed in the field, as yet, we can suggest one possible answer. Historically, special education has been reluctant to utilize existing procedures for documentation of special services. As one example, special education has not generally recognized the use of group administered assessments that were administered to every child, but rather, has insisted on individually administered assessments for documentation of eligibility decisions. We would recommend the same principle here. In short, we believe that, in moving toward implementation of RTI, we should require teachers to

implement rigorous instruction using scientifically validated instructional procedures, and that utilization of instructional data that is generated for all students in the class not be utilized in the RTI process, except as the initial screening measure. Alternatively, if the multiple educational interventions required in both tier one and tier two under RTI prove too costly (in either time or money), we would recommend that interventions which are routinely conducted in the general education or federally funded basic skills programs be used exclusively as tier one interventions, but not be considered acceptable as tier two interventions. We believe that tier two interventions, if not both tier one and tier two, should be exclusively related to the child in question, and thus we hope to encourage the teacher to concentrate on the issue at hand, and to implement that intervention with integrity and instructional validity.

Specifying Appropriate Responsiveness to Instruction

One of the many unanswered questions regarding RTI is how to best determine the appropriate level of responsiveness to instruction. In short, how much learning is considered adequate progress for a particular child? Thus far, researchers have not adequately addressed this vitally important question.

One possible solution for determining the appropriate level of response is to use a teaching method called Precision Teaching (PT). Precision Teaching has been used to facilitate progress for a wide range of learners from those with severe handicaps to graduate students (White, 1986), and it can provide the teacher with a quick, yet constant and precise measure of the skill acquisition of each child (Johnson & Brothen, 1975). Precision Teaching allows learning to be measured through a systematic use of recording devices, such as daily celeration charts, on which student responses are plotted (Keel, Dangel, & Owens, 1999). Probes or task sheets are used to monitor target skills daily.

In one early intervention study on RTI, Vaughn et al. (2003) utilized a reading posttest as the measure of how well a student responded to intervention. While that early study was certainly a benefit to our understanding of RTI, we would propose that such one-shot performance measures not be used for performance monitoring in RTI. Unlike standardized tests which only test a small sample of skills, PT provides a direct measure of performance by using frequency of response to measure the number of correct and incorrect responses in a specific time period (typically a one-minute period).

Tier two of RTI (Fuchs & Fuchs, 2005) requires implementing a scientifically validated curriculum resulting in the standard tutoring protocol. However, we would suggest that instead of a scientifically validated curriculum, why not require implementation of a scientifically validated “instructional procedure” such as PT? Using a validated instructional strategy such as PT can result in the same goal--increased achievement—and doesn’t tie any teacher’s hands in terms of what curriculum to utilize.

For example, Figure 3 and Figure 4 show data collected over a 30-day period in a middle school math class where PT was implemented. Daily one-minute probes were used for 2-digit by 2-digit multiplication and 2-digit by 3-digit multiplication problems. Each day the student received 10 minutes of direct instruction before completing their 10-question probe. Using the median of the class scores for each probe sheet (10 correct responses), the teacher could quickly set aims for the student.

Day one of implementation of 2-digit by 2-digit multiplication the student scored 6 correct responses. Day 12 of intervention, the student scored 10 correct responses in a one-minute period. On day 13, 2-digit by 3-digit multiplication was introduced; the student scored 5 correct responses. Seventeen days later the student's number of correct responses increased to 9 correct responses per minute. The acceleration shown on the chart indicates that the student's number of correct responses increased over a period of 30 days. Thus, this student responded to intervention and reached the average level of achievement consistent with the achievement of his/her peers. Precision teaching also includes documentation of appropriate levels of academic growth. For example, the *Basic Skills Curriculum* available from Sopris West, Longmont, CO, is a precision teaching curriculum which involves daily data collection, and options for daily charting in virtually every basic skill area across the elementary grades (See Figure 3 and Figure 4)

If general educators are going to be held accountable for implementing RTI in their classrooms, PT should be considered as a possible standard protocol for instruction in Tiers 2 and 3 of RTI. Most curricula are currently set up to facilitate PT principles such as daily progress monitoring; in short, most computer based curricula automatically monitor progress via click and print charts on daily performance. While some researchers (Fuchs & Fuchs, 2005; Vaughn et al., 2003) propose monitoring progress weekly or less frequently, we recommend setting a higher standard for best practice by requiring teachers to keep a daily data chart such as that used in PT. Indeed, in this day and age, why would we set a standard for best practice that is less than the best practice available? One cannot monitor academic progress more accurately than daily monitoring (Deno, 2003), and PT allows for and facilitates such monitoring. Thus, we strongly feel that the field should opt for daily progress monitoring, at least in tier two and higher.

There is an additional advantage for use of PT as the basic model for RTI. To date, the majority of research done on RTI is limited to reading intervention studies done with children in grades K-3. There are only limited data available to indicate the effects of using RTI in math or in reading interventions with students above grade 3. However, in the field practitioners may face the necessity, at least on occasion, to implement RTI for students in higher grades. Specifically, students in middle school and high school also have difficulties with basic reading and math skills and need to be identified in order to receive services/intervention. RTI interventions must not be limited to those that are geared only towards the early grades; they must include methods that can work at any age, any level, and with varying types of disabilities, so that secondary students and students with disabilities in mathematics, language arts and/or other subjects are not overlooked. PT provides one option for implementation of RTI across the grade levels, and in varied curricular areas.

As an example, the second author used PT methods in a 9th grade World History inclusion classroom. Students were given multiple choice/matching tests at the end of each chapter. Teaching probes which presented factual questions from the class were used with each unit (e.g. River Civilizations, Ancient Egypt) to help students break down information into chunks and commit it to memory. The probe sheet, presented in Figure 5, consisted of 16 fill in the blank questions. Sixteen blank corresponding blocks were placed on the back so students could write down the answers from the questions on the front. Students were then given blank

probes throughout the week and a one-minute period to see how many they could answer correctly (See Figure 5)

Data for Melissa were collected and charted, since Melissa had demonstrated difficulties in previous grades. As the data in Figure 6 shows, the PT probes were highly effective, and Melissa's chart showed considerable growth in this secondary subject area. Here, these tier one data demonstrate that Melissa could profit from effective instruction in secondary social studies, and thus, even though she demonstrated an ability/achievement discrepancy, she would not be considered for services as LD using this method for RTI. Overall, in this particular class, the over 90% of students with and without disabilities correctly answered the multiple-choice questions from the probe sheets on their unit test. Thus, these data indicate that such PT based instruction could serve as an effective tier one intervention in the general education classroom in a secondary subject area (See Figure 6)

We should point out that the implementation of precision teaching principles has been a growing phenomenon in special education, though the term "precision teaching" has not been widely utilized recently. Instead many of the principles of precision teaching are currently embodied in curriculum based measurement procedures which, over the last 30 years, have been widely studied (Deno, 2003; Lembke & Foegen, 2006). Research has documented the technical adequacy of this type of progress monitoring, as well as the efficiency of curriculum based measurements for classroom settings (Deno, 2003; Lembke & Foegen, 2006). Further, curriculum based measurement has been employed as both a screening tool--to identify students who may required special assistance—and a pre-referral intervention procedure. For purposes of RTI implementation, we believe that precision teaching methods, as embodied in the current emphasis on curriculum based measurement, will be the best option for appropriately monitoring pupil response to interventions.

LD on Monday and Not on Tuesday

One additional concern on RTI implementation involves the question of who is likely to be identified as having a learning disability using RTI. Will the group of students identified using RTI be different from the group of students currently identified using the discrepancy practice, as some have suggested (Coutinho, 1995)? In particular, we believe that we can identify several groups of students whose status may change as a result of RTI, and this raises the question, can a student have a learning disability one day and not have one the next?

First, under current practice one child that is frequently identified with learning disabilities is the gifted child with learning disabilities. Typically this child would have an IQ in excess of 130 (i.e. which would be two standard deviations above the norm on traditional assessments of IQ), whereas his or her achievement would be significantly below that (e.g. a standardized score on reading or math of 108 on a mathematically comparable scale). We might wish to ask, what is likely to happen to this child under RTI provisions?

Given that child's IQ is quite high, and his/her reading performance is slightly above grade level, we would anticipate that this gifted LD child would fail to meet the criteria of non-responsiveness to instruction under the new RTI provision. In short, that child is likely to respond to instruction to some degree, though he or she may not respond to instruction at a level commensurate with his or her IQ. Do we, as a field, intend to stop serving gifted

students with learning disabilities altogether, and would that not be one predictable result of instituting RTI?

A second group of students that are currently identified as learning disabilities who might be at risk for exclusion under RTI provisions is the group currently identified as non-verbal LD. Rourke and his colleagues (Rourke, 2005; Rourke, Ahmad, Collins, Hayman-Abello, Hayman-Abello, & Warriner, 2002) have suggested that various brain imaging techniques have progressed to the point from which learning disabilities may be identified by using these newly developed techniques (Rourke, van der Vlugt, & Rourke, 2002). While historically, an assumption was made that learning disabilities were based on some unspecified dysfunction in the brain these researchers suggest that, using the modern brain study technologies such as fMRIs, we can now document these brain dysfunctions (Rourke, 2005).

Specifically, Rourke and his colleagues (Rourke, 2005; Rourke, Ahmad, Collins, Hayman-Abello, Hayman-Abello, & Warriner, 2002) have proposed two subtypes of learning disabilities, including (1) basic phonological processing disabilities, and (2) non-verbal LD. Given that almost all research on RTI has been implemented with students who have basic phonological processing difficulties, one may well assume that the newly proposed RTI procedures would adequately identify those students at least from Kindergarten up to grade 3. However, what is to become of students with non-verbal learning disabilities?

Non-verbal learning disabilities are characterized by several factors including, well developed single word reading/spelling processing, efficient use of verbal information in social situations, onset of disability symptoms after the age of 4 years, excessive hyperactivity after 4 years, decreases in hyperactivity over the next decade of life, possible withdrawal, anxiety, depression, and/or social skill deficits in adolescence. Further, this type of learning disability is notably different from the phonologically based learning disability. For example, the spelling errors of students with nonverbal learning disabilities are almost always phonetically accurate, whereas misspellings of students with phonologically based learning disabilities are frequently phonetically inaccurate (Rourke, 2005). Based on these initial findings, differential educational intervention options may be called for for these two different types of learning disabilities. However, for our purposes here, the question must be asked; do we intend to terminate services to this group of students with non-verbal LD, if as anticipated, their tier one and tier two interventions show progress in reading? Again, these students have a learning disability under the present guidelines, but may not demonstrate such a disability under RTI.

Finally, we have an addition concern about the students described above as “slow learners.” This group is not currently served under the “learning disabilities” disability, but we suspect that the RTI procedure might open that door. Generally students with IQs between 70 and 85 have not been considered learning disabled since one criteria for LD was “normal intelligence.” Therefore, these students have in most school districts, not been eligible for services. However, if we terminate use of IQ scores, and consider how learners in this ability range may respond to the first two tiers of intervention under RTI, it is quite possible that these learners will not progress at an appropriate learning rate. Are these students now to be considered as having a learning disability? In fact, has anyone addressed the question of continued use of the IQ cutoff score in the RTI procedure? Will IQ assessments even be administered using the RTI procedures?

Alternatively, are we going to apply the same exclusion criteria as previously (i.e. you must have an IQ of 85 or above to be LD), and merely overlay the added requirement of RTI interventions? Further, what will service of this group of students do to the prevalence estimates for LD?

When taken in mass, the questions above raise one scary possibility; it is possible that implementing RTI will result in highly selective provision of services, only for students with one type of learning disability (a phonologically based reading disability), while we begin to serve a large number of students with somewhat lower IQs, who have previously not been so identified. Do we intend, as a field, to “change out” the LD population entirely?

Conclusions

As we rush headlong into implementation of the RTI procedures which are now allowed under federal legislation, we have experienced a heartfelt desire to shout “Wait a minute. Is this Emperor’s gown truly as radiant as others would suggest?” In other words, “Will RTI deliver as promised?”

We know that progress monitoring is effective as an instructional paradigm, and we applaud the effort to mandate enhanced instructional efficacy for students with learning disabilities. Still, there are these unanswered questions and concerns on the implementation of RTI, and to our knowledge many of these issues have not been raised previously, let alone addressed in thoughtful debate. Where possible, we have suggested procedures which we believe will increase the likelihood of successful implementation of RTI as an eligibility tool, and we have pointed out the advantages of RTI where we see positive benefit. However, the paucity of research on RTI and the use of RTI as an eligibility tool causes us considerable concern, and only through professional dialogue can concerned practitioners and researchers find a reasonable method to facilitate implementation.

In point of fact, we all are highly motivated to serve students with learning disabilities in the most effective way possible, and of course accuracy in identification is critical to that end. We sincerely hope these questions and potential solutions further that goal.

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Figure 1: Shows Andre as being non-responsive to Tier 1 intervention in learning new words after 8 weeks.

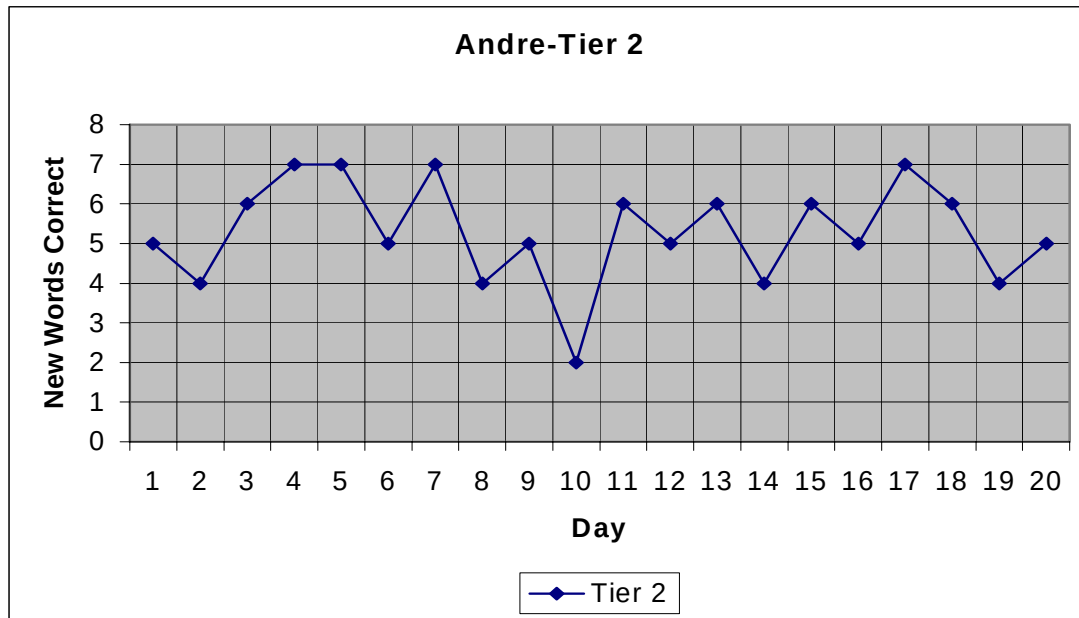


Figure 2: Shows Andre as non-responsive to Tier 2 instruction after 4 weeks of daily progress monitoring.

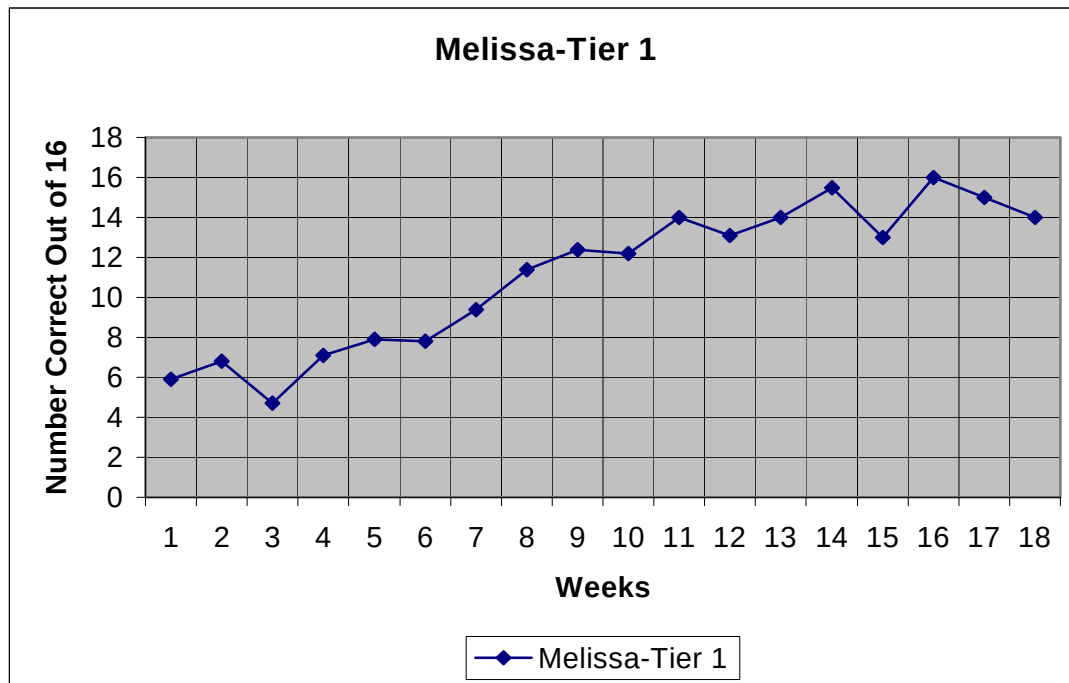


Figure 3: Indicates progress in learning multiplication of 2 X 2 math problems using precision teaching.

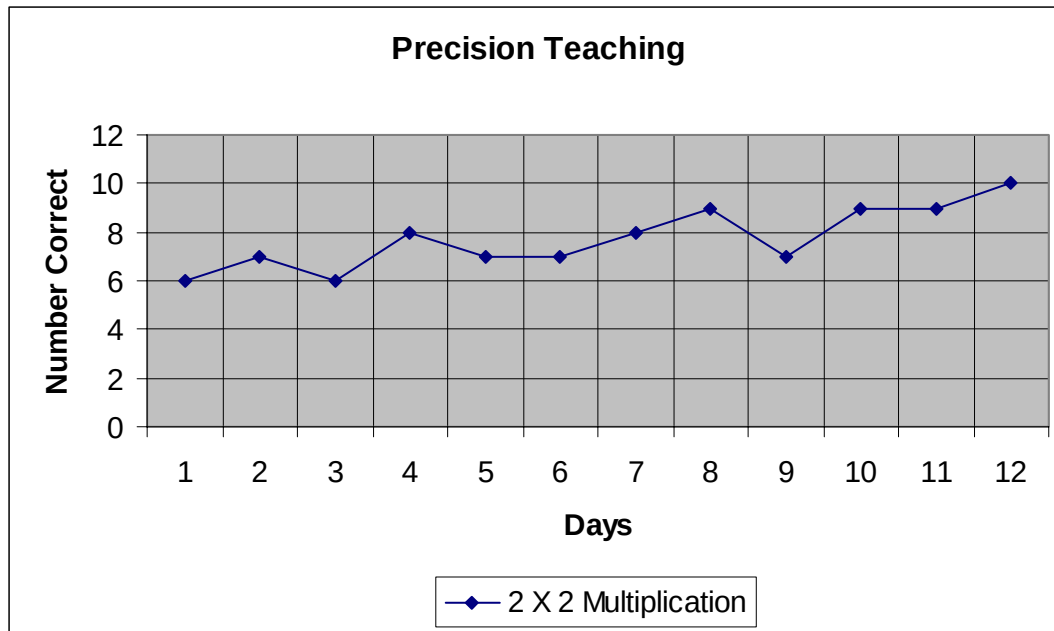


Figure 4: Indicates progress in learning multiplication of 2 X 3 math problems using precision teaching.

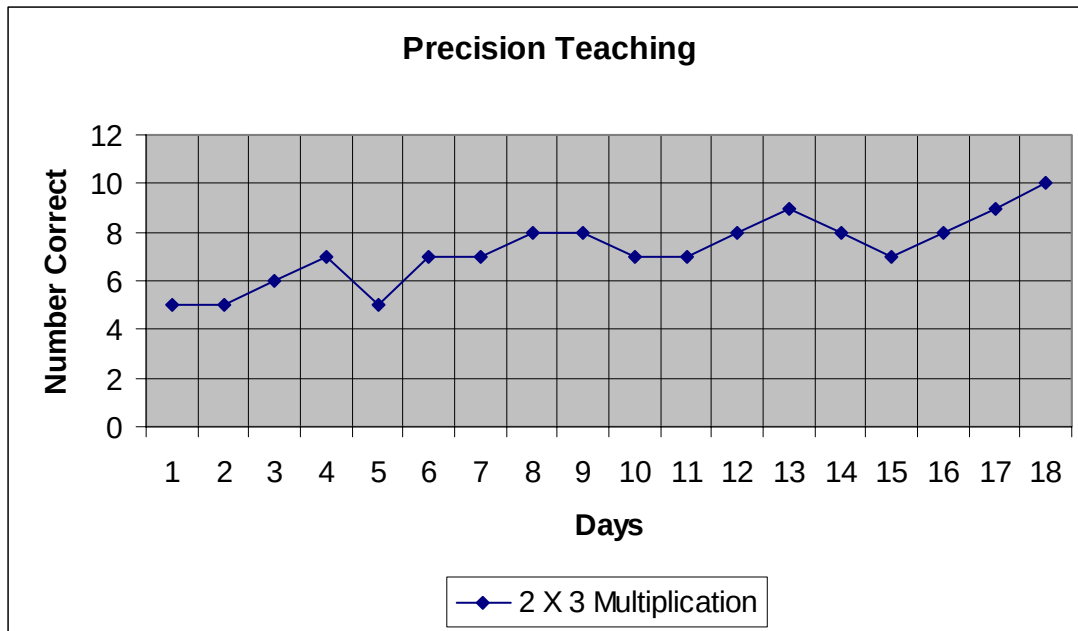
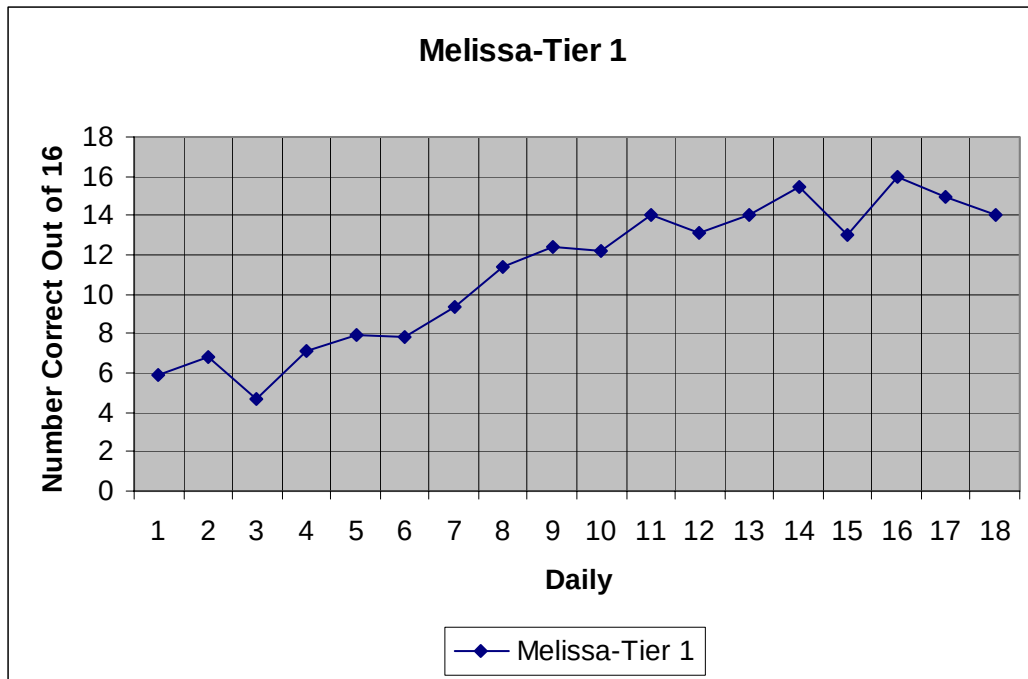


Figure 5: Example of probe sheet used during Tier 1 instruction in 9th grade World History classroom.

1. Ziggurat is another name for _____.
2. The ruler of the Akkadians was _____.
3. The _____ were famous for the development of coins.
4. _____ is the lower part of Mesopotamia.
5. _____ was the leader of the Babylonians.
6. The Persians were great _____ builders.
7. Nebuchadnezzor was the leader of the _____ Empire.
8. _____ developed the idea of city-states.
9. The _____ main God was Marduk.
10. The _____ practiced human sacrifice.
11. The area around the Tigris and Euphrates Rivers is known as the _____.
12. The Tigris and Euphrates Rivers flow _____.
13. The Hebrews worshiped _____.
14. The _____ is another name for Hebrew scripture.
15. The _____, _____, and _____, lived in the western end of the Fertile Crescent.
16. _____ is where the 10 commandments were given.

Figure 6: Shows progress made by Melissa using the probes sheets in a 9th grade inclusive World History classroom.



**Creating a Motivating Classroom:
What Really Motivates Students to Achieve in Secondary Content-Area Classrooms?**

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Abstract

The purpose of this study was to investigate the motivational factors that lead to academic success for students with and without learning disabilities (LD) in high school inclusive content-area classrooms. Ninety-one students in regular education and 59 students with learning disabilities in grades nine through twelve were surveyed and responded to six open-ended questions to examine their attitudes and perceptions about factors that are motivating in school. Both qualitative and quantitative measures were used to analyze the data. Results indicated students with and without disabilities have common perceptions about motivational aspects in school, however, students with LD were perceived to more be extrinsically motivated by their teachers and more intrinsically motivated by their parents, while their counterparts without disabilities were found to be more intrinsic in motivational orientation. Finally, limitations of the study, implications for classroom instruction, and future research questions are discussed.

**Creating a Motivating Classroom:
What Really Motivates Students to Achieve in Secondary Content-Area Classrooms?**

Motivation to achieve in school is often a major challenge and struggle for students with and without disabilities at the secondary level. In comparison to students without disabilities, students with mild disabilities (e.g., learning disabilities) commonly experience serious academic deficits (e.g., Bender, 2004) and speculated motivational problems, which has the potential to negatively impact their learning and academic success in schools. More specifically, students with learning disabilities often exhibit a number of complex learning and behavior characteristics. Some of these include reading, writing, and math difficulties, failure to develop and mobilize cognitive strategies, poor motor abilities, disorders of attention, a lack of motivation, low self-concept, and avoidance of tasks (Hallahan & Kauffman, 2003; Lerner, 2003).

In addition, students with LD compared to their peers without disabilities often exhibit social and emotional problems such as a lack of motivation (Borkowski, 1992), low self-esteem

(Heath, 1996), poor self-concept (Bender & Wall, 1994), experience lower levels of social peer acceptance (Tur-Kaspa, 2002), and tend to display lower academic self-efficacy beliefs and negative academic attribution styles (Tabassam & Grainger, 2002). Also, students with LD are less likely to be intrinsically motivated compared to their peers without disabilities (Adelman & Chaney, 1982), attribute success and/or failure on tasks to external factors (Pintrich, Anderman, & Klovucar, 1994), and exhibit unfavorable attitudes toward academic tasks (Wilson & David, 1994), which can interact negatively with school success and may result in problem behaviors.

As a result, these behaviors are among the reasons for referral and classification of students as having learning disabilities. In addition, many speculate that when students perform poorly academically they will be less motivated to try hard in school. However, the specific nature of what appears to motivate students with and without disabilities in school is less well documented in the research literature. What are the intrinsic and extrinsic motivational factors that motivate students' with and without disabilities to achieve in secondary content-area classrooms?

Therefore, the purpose of this study was to examine students' attitudes and perceptions about motivating aspects in school with respect to specific content areas to determine what aspects of school are motivational for both students with and without disabilities. Through this investigation, teachers will gain greater insights into motivational factors that influence student behaviors and explore ways to creating a motivating and exciting learning environment.

Method

Subjects and Settings

Approximately 2,000 ninth through twelfth grade students attended the high school located in a suburban area in a mid-Atlantic state. A total of 150 students were included in the study and represented the range of socioeconomic status, gender, and ethnicity. Of the 150 students who participated in the survey, 91 (60.7%) were regular education students and 59 (39.3%) were identified as Learning Disabled (LD). These students met federal and state criteria for the disability classification. A description of the participants is shown in Table 1.

With the consent of administrators and teachers, who had indicated in advance that they were interested in the study as it related to student academic success, six content area teachers agreed to administer the survey in their classrooms.

Dependent Measures

A six-item open-ended survey to assess motivational factors for secondary students with and without LD was developed and piloted in three secondary inclusive classrooms to assess reliability of the instrument and to identify ambiguous or difficult to answer questions. Students were asked to review the questions for clarity and understanding. Minor revisions were made based on feedback from the preliminary group of participants.

Survey questions included the following: 1) What do you like best about school? 2) What kind of teacher do you like best? 3) What does your favorite teacher do that motivates you to work hard? 4) What motivates you to try hard at school? 5) What motivates you to complete your homework? 6) What kinds of things do your parents do to motivate you?

Procedures

Six secondary content area teachers were provided with copies of the survey and asked to administer the survey during the class period. The study was presented to the students as an effort to learn what they thought were the factors that motivate them to achieve academic success in the classroom. One hundred and fifty secondary students in inclusive content area classrooms provided written responses to the six open-ended questions.

Data Analysis

Both qualitative and quantitative techniques were used to analyze the data. Regular and special education students' perceptions of the factors that motivate them to achieve academic success were examined using a Student Motivation Survey. The process of analytic induction (Glaser & Strauss, 1967; Robson, 1993) was used to analyze the open-ended questions. Responses were categorized by the researchers and an independent rater and grouped into similar themes to facilitate the comparison of data and to establish specific relationships. Further, the themes were revised and redefined to provide a comprehensive representation of categories. The categories were evaluated by coding the answers into SPSS and analyzing the frequencies of each question comparing regular versus special education.

Results

Based on the students' written responses to the six open-ended questions, categories were identified and analyzed for each of the questions. Results are provided for each question and shown in Table 2.

Results for Question One

In response to the question that examined what the students liked best about school, four categories were identified. Sixty-nine (78.4%) of the regular education students and 42 (73.7%) of the students with LD chose "Friends" as the number one motivating factor. Fifteen (17%) of the regular education students identified "Extra curricular activities" as something they liked best about school. The lowest categories for the regular education students were "Teachers" and "Learning" with only two (2.3%) responding for each category. As for the students with LD, five students (8.8%) each identified "Extra curricular activities," "Teachers," and "Learning" as motivating factors.

Results for Question Two

Five categories emerged when students were asked to describe what kind of teacher they liked best. The highest category for both groups of students was "Respectful" with a response of 34 (37.4%) of the regular education students and 33 (56.9%) of the students with LD. The second highest category for both groups of students was "Interesting" with 27 (29.7%) of the regular education students and 14 (24.1%) of the students with LD responding. A teacher's "Sense of humor" and "Teacher's age" were third and fourth for both groups. While seven (7.7%) of the regular education students identified "Organized" as being a motivating factor of teachers they like, none of the students with LD identified this category.

Results for Question Three

The students responded to the question regarding what your favorite teacher does that motivates you to work hard with five categories. The highest category for both groups of students was "Inspires, encourages, and motivates" with 34 (39.1%) of the regular education students and 23 (43.3%) of the students with LD identifying this category. "Engages students

in classroom activities” and “Provides incentives” was second and third for both groups. The lowest category for both groups was “Gives clear direction” with two (2.3%) of the regular education students responding and three (5.7%) of the students with LD responding.

Results for Question Four

In response to the question that examined what motivates students to try hard at school, twenty-seven (30.7%) of the regular education students identified “Parents” as their number one motivating factor while 24 (27.3%) of the students chose “Future goals and colleges” as second. Nineteen (35.8%) of the students with LD identified “Future goals and college” as their main motivating factor and “Parents” as their second factor with 16 (30.2%) students responding. The lowest motivating factor for the regular education students was “Teachers” with 6 (6.8%) responding and the lowest motivating factor for students with LD was “Grades” with 5 (9.4%) responding.

Results for Question Five

Five categories emerged when students were asked what motivates them to complete their homework. Twenty-seven (30.3%) of the regular education students reported that they were self-motivated while 8 (14.5%) of the students with LD identified self-motivation as a motivating factor. “Family,” “Rewards,” and “Grades,” were all important factors for the regular education students. “Family” was the strongest motivator for students with LD with 24 (43.6%) identifying this factor, but “Rewards” were also somewhat important with 13 (23.6%) reporting. The lowest motivating factor for both groups was “Don’t do homework.”

Results for Question Six

The final question on the survey examined what kinds of things their parents do to motivate these students. Thirty-eight (44.7%) of the regular education students identified “Intangible Rewards” as being the strongest motivating factor with an additional 26 (30.6%) of the students choosing “Tangible rewards” and 21 (24.7%) of them choosing “Discipline.” The students with LD were closely distributed between the three areas. Nineteen students (36.5%) identified “Tangible rewards” as the highest category with 17 (32.7%) and 16 (30.8%) following closely as the second and third categories.

Discussion

Student responses from the regular education students and the students with LD provided a great deal of diversity within each of the questions. When students were asked what they liked best about school, 111 students identified friends as being the strongest motivational factor with 42 of the students with LD responding. Although research suggests that students with disabilities often have problems with social relationships (Meadan & Halle, 2004; Tur-Kaspa & Bryan, 1994), it clearly appears that friendships are an important motivator for them; however, as Meadan and Halle (2004) would suggest, it is possible that students with LD do not gauge their friendships based on reciprocity.

Teacher characteristics also appeared to have a positive effect on students with LD. Nearly one third of the regular education students and over half of the students with LD identified “Respect” as being an important factor in the kind of teacher they liked best. These findings

were consistent with Spencer and Boon (2006) who also found that showing students respect was a highly valued teacher characteristic for high school students with LD.

Interestingly, only a small number of students mentioned incentives as being a motivator, while in reality, many of the programs for students with disabilities provide incentives as part of their program. These results suggest that well-liked teachers do not rely on the use of incentives to motivate students, because they rely on encouragement and efforts that actively engage students in their work. Researchers and theorists have debated for and against the use of rewards for many years. Sprinthall, Sprinthall, and Oja (1998) stated that extrinsic motivators are necessary for learning, whereas McNinch (1997) proposed that the proper use of extrinsic rewards build a student's intrinsic motivation when the task is presented as relevant. Further research should explore whether or not incentives are a critical part of the academic program for students with LD, and what determines the efficacy of those programs.

With regards to parental influence, regular education students stated that parents had a stronger influence on their motivation at school, while students with LD indicated that future goals/college had a greater influence. Furthermore, grades were more important for regular education students, while teachers were more important for students with LD.

In addition, a number of students, both regular education and students with LD, responded that they do not do homework. It was unclear as to whether this meant that the students do not complete homework at all or they complete it at school so they do not have any work to take home. Students with LD stated that family had a greater influence on whether or not they completed their homework, while self-motivation was a greater factor for the regular education students. Parents providing intangible rewards were an important factor for the regular education students, while tangible rewards were more important for the students with LD.

Although this information provides some intriguing insights into the motivational factors of students with LD, there are a number of limitations to be considered in interpreting the findings of the investigation. First, since the population for this study only included six inclusive secondary content-area classes in one high school, the results may not be representative of all inclusive secondary classrooms. Second, the study included a relatively small sample size of students with learning disabilities. Finally, this study was limited in the representation of various disability categories.

Implications for Classroom Instruction

Results of this investigation provide some insight into what motivates students with and without disabilities in school and at home. While students with LD may often appear to be unmotivated, it may be due to chronic academic failure (Lerner, 2003). As a result of this failure, it is imperative that educators and parents have a greater understanding of how to effectively motivate these students to strive for academic success. Sometimes, it may be as simple as just asking the students, which according to the literature, is not something that is frequently done. This kind of information provides educators and parents with greater insights into the motivational factors for students with and without disabilities in inclusive content-area classrooms. Future research should investigate supplementary motivating factors that potentially impact student achievement and motivation across age, grade level, and disability categories across the curriculum.

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Table 1
Sample Demographic Information

	Percent
Grades	
9th	42.0%
10th	15.0%
11th	30.0%
12th	13.0%
Gender	
Male	41.3%
Female	58.0%
Race/Ethnicity	
Caucasian	54.0%
African American	7.0%
Hispanic	19.0%
Asian	15.0%
Other	5.0%
Primary Disability Area	
Regular Education	61.0%
Learning Disabilities	39.0%

Table 2
Student Responses on Student Motivation Survey

Questions	Group	
	Regular Education	Special Education
#1 What do you like best about school?		
Friends	78.4%	73.7%
Extra curricular activities	17.0%	8.8%
Teachers	2.3%	8.8%
Learning	2.3%	8.8%
#2 What kind of teacher do you like best?		
Interesting	29.7%	24.1%
Respectful	37.4%	56.9%
Organized	7.7%	0.0%
Teacher's Age	9.9%	6.9%
Sense of Humor	15.4%	12.1%
#3 What does your favorite teacher do that motivates you to work hard?		
Inspires/Encourages/Motivates	39.1%	43.4%
Engages Students in Classroom Activities	33.3%	28.3%
Challenges Students	6.9%	7.5%
Gives Clear Direction	2.3%	5.7%
Provides Incentives	18.4%	15.1%

Table 2
Student Responses on Student Motivation Survey (Cont.)

Questions	Group	
	Regular Education	Special Education
#4 What motivates you to try hard at school?		
Future Goals/College	27.3%	35.8%
Parents	30.7%	30.2%
Grades	19.3%	9.4%
Teachers	6.8%	11.3%
Myself	15.9%	13.2%
#5 What motivates you to complete your homework?		
Myself	30.3%	14.5%
Family	23.6%	43.6%
Rewards	18.0%	23.6%
Grades	16.9%	10.9%
Don't Do Homework	11.2%	7.3%
#6 What kinds of things do your parents do to motivate you?		
Tangible Rewards	30.6%	36.5%
Intangible Rewards	44.7%	32.7%
Discipline	24.7%	30.8%

Does Inclusion Work? Teacher Verification of Proof of Impact

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Abstract

Despite laws, research and public pressures, many educators remain unconverted regarding the beneficial impacts Inclusion can have. This research presents data from the teachers' perspective that further validates the favorable impacts of Inclusion for students with disabilities. Furthermore, the studies provide significant data regarding the beneficial academic and attitudinal impacts for the general education classmates, substantiation generally missing within the literature. Finally, a correlation between the level of implementation and the favorability of teacher attitudes, indicating that educator perceptions of Inclusion effectiveness improve as their experience with it increases.

Does Inclusion Work? Teacher Verification of Proof of Impact

Inclusion has become one of the preferred approaches – if not *the* approach – for meeting the needs of Students with Disabilities (Fuchs, Fuchs & Fernstrom, 1993; Kavale, 2002; U.S. Dept of Education, 2000; Public Law 94-142, 1990). The basis of Inclusion is that students with disabilities have a right to the social benefits of a full school experience – adjusted to their respective capabilities of participating – and hence should be included in classes with their non-disabled, General Ed peers (Huefner, 1988; Smith, Polloway, Patton & Dowdy, 1995; Snyder, 1999). Despite research, however, many educators remain less than converted regarding Inclusion (Coates, 1989; Davis, 1989; Gersten, Walker & Darch, 1988; Liberman, 1985; Rice & Zigmond, 2000; Semmel, Abernathy, Butera & Lesar, 1991; Snyder, 1999; Walther-Thomas, 1997).

Why are so many educators still neutral or even against Inclusion? The purpose of this study was to dispel at least two reasons why educators might remain openly or covertly conservative regarding the implementation of Inclusion. First, this study sought to confirm the benefits of Inclusion from the teachers' perspective (Barclay, Holmes, Elmore, Dupuis, Lewis, & Shaha, 2006; Snyder, 1999), the viewpoint we considered most realistic for evaluating the impact of Inclusion on students, teachers and the classroom setting: Do classroom teachers consider Inclusion to have been a positive thing? Second, this study asked the politically dangerous yet important questions regarding the impact of Inclusion on the General Ed students into whose

classrooms the disabled peers were being included: Was Inclusion beneficial or harmful to the General Ed students? Finally, we seek to determine how attitudes regarding Inclusion change as implementation proceeds: Do attitudes improve or fall as Inclusion becomes increasingly rooted within the classroom environment?

Method

The study was conducted in two parts, both relying upon classroom teachers as the source of data:

- A. Impacts of Inclusion by Student Type
- B. Correlation of Attitudes with Levels of Implementation

Both parts of the study employed the same web-administered survey, consisting of 24 Likert-scaled items (ranging from 0 for no agreement to 5 for complete agreement) created and validated for the purposes of this study (items Appendix A). Eight items addressed the impacts of Inclusion in general and for either student type, including Students with Disabilities versus General Ed Students. The other 16 items were matched (repeated) for addressing the impact of Inclusion specifically upon Students with Disabilities (eight items) and General Ed Students (eight items). The survey was executed web-based. Instructions clarified that all responses were voluntary, would not be reported by respondent (privacy, confidentiality and anonymity assured), and would not in any way affect any assessment of their performance as teachers. Responses for all items were summarized into favorable versus unfavorable, wherein favorable included ratings of 3-5 versus unfavorable for ratings of 0-2.

Part A. Impacts of Inclusion by Student Type

Three schools were selected from within the District based on their successful implementation of Inclusive classrooms. Respondents included 154 teachers involved in intact Inclusive classrooms participating in a co-teaching model, who responded to the web-based survey at the end of the academic year.

Part B. Correlation of Attitudes with Levels of Implementation

The web-based survey was executed throughout 60 schools within which Inclusion had been introduced. Schools were categorized by Level of Implementation for Inclusion by the District ESE leadership based a rubric (see Appendix B) that assigned a score ranging from 1, indicating no Inclusion yet or merely conceptual exposure, up to a score of 4, indicating the highest possible level of implementation of Inclusion. Respondents included 461 teachers from the 60 schools, representing a well-distributed sample along the continuum of Levels of Implementation (see Table 3), and for both General Ed (78.5%) and ESE (21.5%).

All analyses were conducted using SPSS for Windows (ver. 11.0 or higher), and all results are reported in accordance with accepted guidelines on standards for describing research participants (Rosenberg, Bott, Majsterek, Chiang, & Wesson, 1992).

Results

Part A. Impacts of Inclusion by Student Type

Analyses for the first part of the study focused on documenting teacher attitudes toward inclusion (1) in general and (2) by student type (i.e. General Ed vs. ESE):

General Attitudes toward Inclusion. Analyses were conducted for the six items focused on assessing teacher attitudes *in general* regarding the impact of Inclusion on both the Students with Disabilities and their General Ed peers sharing experiences within Inclusive classrooms. Detailed analysis of responses to each item confirmed four statistically significant patterns (see Table 2). All statistical contrasts were performed as pair-wise t-tests, whether comparing percent favorable versus unfavorable, or percent favorable by teacher types. Results are discussed in the sequence they appear within the Table, from left to right:

- o All staff (respondents) cumulatively showed that significantly more responded favorably (from 57.8% to 79.9%) than unfavorably for each of the six items, indicating that Inclusion was considered to have a favorable impact in general for all students.
- o General Ed Teacher responses showed that significantly more responded favorably (from 57.6% to 72.9%) than unfavorably for each of the six items, indicating that General Ed Teachers considered Inclusion to have a favorable impact in general for all students.
- o ESE Teacher responses showed that significantly more responded favorably (from 58.3% to 91.7%) than unfavorably for each item, indicating as anticipated that ESE Teachers considered Inclusion to have a favorable impact in general for all students.
- o General Ed Teacher response patterns were contrasted with their ESE Teacher colleagues (column labeled ESE vs. Genl Ed):
 - o General Ed Teacher responses were *equally* favorable (*not* statistically different) for three of the six items in contrast to their ESE Teacher colleagues. This indicated that General Ed and ESE Teachers were equally positive regarding the impacts of Inclusion for items regarding faculty collaboration, and higher levels of acceptance among General Ed and ESE Teachers, respectively.
 - o ESE Teachers responses were significantly more favorable for the other three items, including those addressing the overall benefit of Inclusion for all students, personal confidence and capability re Inclusion, and improvement in attitudes re impact on SWDs.

Inclusion from Specific Student Perspectives. Analyses next focused on the 18 items that specifically assessed the impact of Inclusion by student type, whether Students with Disabilities or General Ed Students. Detailed analysis of responses to each item confirmed several statistically significant patterns (see Table 3):

- o All staff (respondents) cumulatively showed that significantly more responded favorably (from 63.6% to 97.4%) than unfavorably for all 18 items, indicating that Teachers collectively considered Inclusion to be beneficial for *both* Students with Disabilities and their General Ed peers.
- o General Ed Teacher responses showed that significantly more responded favorably (from 58.8% to 95.3%) than unfavorably for all 18 items regarding each student type, indicating they considered Inclusion to be beneficial attitudinally and academically to all students involved, including:
 - o Students with Disabilities (numbered 1-11 in Table 3).
 - o General Ed students (numbered 12-18 in Table 3).

- o ESE Teacher responses showed that significantly more responded favorably (from 64.6% to 100%) than unfavorably for all 18 items regarding each student type, indicating they considered Inclusion to be beneficial attitudinally and academically to all students involved, including:
 - o Students with Disabilities (numbered 1-11 in Table 3).
 - o General Ed students (numbered 12-18 in Table 3).
- o General Ed Teacher response patterns were contrasted with their ESE Teacher colleagues (column labeled ESE vs. Genl Ed):
 - o General Ed Teacher responses were *equally* favorable (*not* statistically different) for 11 of the 18 items in contrast to their ESE Teacher colleagues, including eight of nine items addressing impacts of Inclusion on General Ed Students, and three of the items regarding impact on Students with Disabilities. This indicated that General Ed and ESE Teachers were essentially equally favorable in their perceptions of the impacts of Inclusion on General Ed Students, both attitudinally and academically.
 - o ESE Teacher responses were significantly more favorable for seven of the 18 items, all of which illustrated their more favorable perceptions of the impacts of Inclusion on Students with Disabilities.

Part B. Correlation of Attitudes with Levels of Implementation

Next the District sought to better understand how the Level of Implementation of Inclusion affects teacher attitudes. Correlational analyses were conducted to evaluate the relationship between teacher attitudes toward Inclusion and the Level of Implementation at their respective schools. Correlation coefficients were computed (Pearson's, as well as Spearman's Rho with Kendall's Tau for confirmatory purposes), producing the levels of statistical significance shown in Table 4.

While positive results were anticipated, the magnitude of the results was surprising: Statistically significant correlations were verified for 23 of the 24 items. The only item for which the correlation was not statistically significant was the one indicating that General Ed Students might experience better "attitudes toward themselves as individuals" due to participation in classes with Students with Disabilities included. These results indicated that attitudes were more favorable regarding the impacts of Inclusion on both Students with Disabilities and General Ed Students as the Level of Implementation became more imbedded and systemic.

Figure 1 provides a graphic representation of the correlations found within the data (see Table 5). Data points in the figure represent cumulative attitudinal ratings for all respondents at each of the four Levels of Implementation of Inclusion. The figure illustrates a significant increase in mean ratings between levels 3 and 4 of Implementation of Inclusion ($F=6.856$, $p<.001$). Subsequent analysis confirmed that attitudinal scores at level 4 were significantly greater than those at levels 1, 2 or 3, between which there was no significant difference (Scheffe post-hoc multiple comparison procedure).

Discussion and Conclusions

From the data, we conclude that Inclusion represents a significantly favorable philosophy and approach that creates a positive atmosphere for both school staff and students. The data clearly verify that General Ed and ESE teachers alike believe that Inclusion has – and is having – beneficial impacts on both Students with Disabilities and their General Ed peers. General Ed Teacher response patterns were never lower than 58.8 percent favorable, and ESE Teachers only served to confirm that positive perspective. Those significantly favorable response patterns held for items addressing impacts on either student type, whether the Students with Disabilities or their General Ed classmates.

There is no indication of polarization in attitudes, therefore, between General Ed and ESE teachers, an important factor for any district attempting to implement change. The absence of polarization indicates that potential fragmentation among staff and students is absent, thus avoiding inconsistency in implementation that has plagued other initiatives toward change. Inclusion demonstrates both a desirable change and a positive attitudinal environment for the participants.

Data also powerfully verify that the more imbedded Inclusion has become, then the more favorable the attitudes are. This finding underscores that teachers become ever *more* convinced of the positive impacts of Inclusion on both Student with Disabilities and their General Ed peers as Inclusion becomes more a part of the everyday educational experience and instructional pattern. Rather than prove itself wrong by implementation, doing Inclusion more broadly and consistently strengthens beliefs in its impact. The data are also consistent not only between the participants but between different sites and grade levels: Inclusion can, therefore, be replicated in a wide variety of educational sites with desirable attitudinal impacts, and districts can purposefully initiate district-wide inclusion policies without experiencing the feared attitudinal backlash from teachers.

The teacher perspective of the impact of Inclusion, or any educational initiative, represents arguably the most accurate viewpoint as it reflects the detailed, day-to-day and hour-to-hour account of student-by-student educational outcomes. A major reason for focusing on the teacher perspective was our need to “convert” those teachers whose open or convert opinions regarding Inclusion were not favorable – we determined that data from within our “own district” would provide the most compelling evidence. Therefore, conducting a study of teacher post-implementation reflections regarding the effect of Inclusion provides educators with the optimal perspective for assessing its most profound impacts. No one knows better than teachers, especially from among our own schools.

Effective Inclusion still needs to reflect a keen sense of the needs of students as options are matched to individual needs. Implementation should reflect a balance of levels of inclusion (e.g. Regular ed, resource, separate class) and service models (e.g. co-teaching, consultative, support facilitation). The data reported in this study reflect just such a balance, which in part explains the success achieved.

Many organizations and educators have determined to watch and wait before they fully commit to Inclusion. They have decided that the evidence in the literature has not become substantive enough to provide compelling evidence that Inclusion is *the* philosophy of choice for meeting the needs of Students with Disabilities. They have also held back because of fears that

Inclusion might do harm to the General Ed students they serve, whose outcomes are also important in leaving no child behind. The results of this study provide definitive evidence that Inclusion *does* represent the philosophy of choice for meeting the needs of Students with Disabilities, and for having an equally positive impact on the attitudes and learning of the General Ed peers sharing inclusive classrooms.

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Disclaimer: The opinions presented in this manuscript represent those of the authors and not those of the district, schools or leadership from whose schools, classes or students that data were collected.

Table 1. Percent of Respondents by Level of Implementation of Inclusion

Level of Implementation	Percent of Respondents
1	16.4%
2	28.6%
3	25.0%
4	30.0%

Table 2. Response Patterns for General Inclusion Items

		All Staff	Signif. Favorable	Genl Ed Teachers	Signif. Favorable	ESE Teachers	Signif. Favorable	ESE vs. Genl Ed**
	Item (paraphrased) *							
19	Inclusion is beneficial to all students	72.7%	p<.001	64.7%	p<.05	87.5%	p<.001	p<.05
20	I am confident and capable re Inclusion	79.9%	p<.001	72.9%	p<.01	91.7%	p<.001	p<.05
21	More faculty collaboration w/Inclusion	61.7%	p<.01	57.6%	p<.05	66.7%	p<.05	ns
22	My attitudes re helping SWDs have improved	76.6%	p<.001	70.6%	p<.05	85.4%	p<.001	p<.05
23	Genl Ed teachers - more accepting	57.8%	p<.05	61.2%	p<.05	58.3%	p<.05	ns
24	ESE teachers - more accepting	70.1%	p<.001	65.9%	p<.05	77.1%	p<.01	ns

* Item numbers are provided for convenience in discussion of results.

** ns = Not statistically significant

Table 3. Response Patterns for SWD versus General Ed Student Items

							ESE vs. Genl Ed **
	Item (paraphrased) *	All Staff	Signif. Favorable	Genl Ed Teachers	Signif. Favorable	ESE Teachers	Signif. Favorable
1	Positive achievement impact for SWDs	76.0%	p<.001	69.4%	p<.01	87.5%	p<.001
2	SWD re Selves	97.4%	p<.001	95.3%	p<.001	100.0%	p<.001
3	SWD re Ability to Learn	76.6%	p<.001	74.1%	p<.01	81.3%	p<.001
4	SWD re Willing to learn and participate	74.0%	p<.001	69.4%	p<.01	81.3%	p<.001
5	SWD re Trying and persisting	72.7%	p<.001	69.4%	p<.01	77.1%	p<.01
6	SWD re Rules, behaving, discipline	70.8%	p<.001	63.5%	p<.05	79.2%	p<.001
7	SWD re Peers and belonging	77.9%	p<.001	69.4%	p<.01	87.5%	p<.001
8	SWD re Social behavior and interacting	77.3%	p<.001	70.6%	p<.01	85.4%	p<.001
9	SWD re School	75.3%	p<.001	68.2%	p<.01	87.5%	p<.001
10	Positive achievement impact for Genl Ed	63.6%	p<.01	58.8%	p<.05	79.2%	p<.001
11	Genl Ed re Selves	68.2%	p<.01	68.2%	p<.01	64.6%	p<.05
12	Genl Ed re Ability to Learn	67.5%	p<.01	65.9%	p<.05	66.7%	p<.05
13	Genl Ed re Willing to learn and participate	66.9%	p<.01	67.1%	p<.05	66.7%	p<.05
14	Genl Ed re Trying and persisting	68.2%	p<.01	67.1%	p<.05	70.8%	p<.01
15	Genl Ed re Rules, behaving, discipline	65.6%	p<.01	64.7%	p<.05	64.6%	p<.05
16	Genl Ed re Peers and belonging	68.8%	p<.01	67.1%	p<.05	68.8%	p<.01
17	Genl Ed re Social behavior and interacting	70.8%	p<.001	68.2%	p<.01	68.8%	p<.01
18	Genl Ed re School	65.6%	p<.01	62.4%	p<.05	68.8%	p<.01

* Item numbers are provided for convenience in discussion of results.

** ns = Not statistically significant

Table 4. Survey Items: Attitudinal Ratings Correlated with Levels of Implementation of Inclusion

Item	p-value*
Inclusion has a positive impact on achievement and scores for students WITH disabilities.	(p=.003)
Inclusion has a positive impact on achievement and scores for students WITHOUT disabilities.	(p=.001)
Inclusion improves attitudes of Students WITH disabilities who are included:	
Attitudes toward themselves as individuals	(p=.005)
Attitudes toward their ability to learn	(p<.001)
Attitudes toward their willingness to learn and participate in learning	(p=.001)
Attitudes toward their levels of trying and persistence	(p=.001)
Attitudes toward following rules, behaving appropriately, needing discipline	(p=.022)
Attitudes toward their peers and belonging	(p=.012)
Attitudes toward social behavior and interacting with peers	(p=.020)
Attitudes toward school	(p=.006)
Inclusion improves attitudes of students WITHOUT disabilities:	
Attitudes toward themselves as individuals	(Not significant)
Attitudes toward their ability to learn	(p=.018)
Attitudes toward their willingness to learn and participate in learning	(p=.016)
Attitudes toward their levels of trying and persistence	(p=.005)
Attitudes toward following rules, behaving appropriately, needing discipline	(p=.043)
Attitudes toward their peers and belonging	(p=.007)
Attitudes toward social behavior and interacting with peers	(p=.008)
Attitudes toward school	(p=.004)
Having included students with disabilities in general education classrooms is beneficial to the class as a whole.	(p=.002)
I feel confident and capable addressing the needs of students with disabilities who are included, when appropriate supports are in place (e.g. co-teacher, para-professional, etc.).	(p=.001)
There is more collaboration among faculty members because of the use of inclusion models and practices.	(p<.001)
My ATTITUDES toward serving students with disabilities who are included in general education classrooms have improved as my knowledge of inclusive models and practices has increased.	(p=.021)
General education teachers in our school are more accepting of students with disabilities being included in general education classes than they were in prior years.	(p=.004)

ESE teachers in our school are more accepting of students with disabilities being included in general education (p=.008) classes than they were in prior years.

* Note: p-values shown indicate the level of statistical significance.

Table 5. Mean Attitudinal Ratings by Level of Implementation of Inclusion

Level of Implementation	Mean	N	StDev
1	2.19	73	1.52
2	2.32	127	1.63
3	2.36	111	1.58
4	3.17*	133	1.54

* Significantly higher rating, $p < .001$

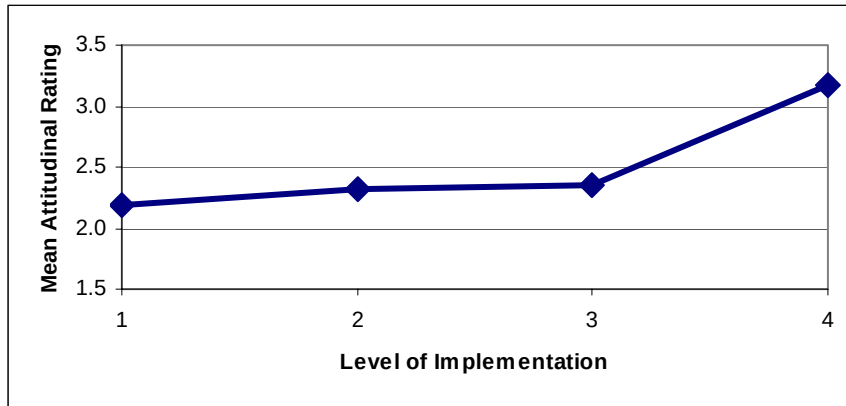


Figure 1. Mean attitudinal rating by level of Implementation of Inclusion.

Appendix A
Survey Items
Inclusion Climate Survey

Inclusion has a positive impact on achievement and scores for students WITH disabilities.

Inclusion has a positive impact on achievement and scores for students WITHOUT disabilities.

Inclusion improves attitudes of students WITH disabilities who are included:

Attitudes toward themselves as individuals

Attitudes toward their ability to learn

Attitudes toward their willingness to learn and participate in learning

Attitudes toward their levels of trying and persistence

Attitudes toward following rules, behaving appropriately, needing discipline

Attitudes toward their peers and belonging

Attitudes toward social behavior and interacting with peers

Attitudes toward school

Inclusion improves attitudes of students WITHOUT disabilities:

Attitudes toward themselves as individuals

Attitudes toward their ability to learn

Attitudes toward their willingness to learn and participate in learning

Attitudes toward their levels of trying and persistence

Attitudes toward following rules, behaving appropriately, needing discipline

Attitudes toward their peers and belonging

Attitudes toward social behavior and interacting with peers

Attitudes toward school

Having included students with disabilities in general education classrooms is beneficial to the class as a whole.

I feel confident and capable addressing the needs of students with disabilities who are included, when appropriate supports are in place (e.g. co-teacher, para-professional, etc.).

There is more collaboration among faculty members because of the use of inclusion models and practices.

My ATTITUDES toward serving students with disabilities who are included in general education classrooms have improved as my knowledge of inclusive models and practices has increased.

General education teachers in our school are more accepting of students with disabilities being included in general education classes than they were in prior years.

ESE teachers in our school are more accepting of students with disabilities being included in general education classes than they were in prior years.

Appendix B
 Rubric for Scoring Level of Implementation for Inclusion

Dimension of Implementation	1	2	3	4
Teacher training	Exposure	Some with depth	Many with depth of training	Majority with deep training
Cadre of Trained Teachers	Few trained	Some trained	Many or most trained	Most trained
Leadership Commitment	Little at best	Beginning	Committed and beginning	Fully committed and mature leadership
Program Maturity	No program in place	Initial implementation	Somewhat stable with 1-2 years of implementation	Stable and mature with 2+ years of implementation

A Glimpse into the Lives of Mothers and their Children in a Homeless Shelter: What has Changed Over the Decades?

Sadia Warsi, Ph. D.

Abstract

The main purpose of this study was to explore the impact of shelter living on the daily lives of families at the shelter. Results of this study parallel findings from past studies that suggest that issues of public parenting, availability of childcare options, shelter rules and regulations, loss of social networks and the desire to have a home were some of the issues raised by families living in shelters.

A Glimpse into the Lives of Mothers and their Children in a Homeless Shelter: What has Changed Over the Decades?

Although there are rough estimates regarding the number of homeless people in America, no one knows the exact figures (Katz, 1989; Burt & Cohen, 1989a). Katz correctly pointed out that counting the homeless is difficult for several reasons, including their constant mobility. Some people are homeless for only a very short time so that “the number of homeless in the course of a year far exceeds the number without a shelter on any given night” (Katz, p. 187). However, Wright (1998) noted that currently there are approximately 4 million female-headed households in the United States who are living below the poverty line. If we count both the mothers and their children, this population totals around 12 million persons who are living in poverty homes headed by women.

The main purpose of my study was to explore the impact of shelter living on the daily lives of families at the shelter. Implications for research and education of children in shelters will also be explored.

Research Methodology

The study utilized qualitative research methods to gain understandings of literacy experiences of children at a residential shelter. Qualitative research is an umbrella which covers several forms of “inquiry that help us understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible” (Merriam, 1998, p. 5). The key philosophical assumption of qualitative research asserts that individuals construct their view of reality as they interact with their social environment (Merriam, 1998).

The Setting

Research was conducted at a residential shelter for women and children in a large city in the Midwest. Joseph's (fictional name) residential shelter houses thirty families. The neighborhood was considered “bad” and “dangerous” by those living in it, as well as those living outside it. From 1950 to 1960, two-thirds of the white population left the community. The overall population began to decline and during this racial transition the community experienced economic decline. Financial institutions pulled out of the community, and even businesses that had been established for decades in the community, left the community.

Currently the community's unemployment rate is higher than the city-wide average. The median income of a family in this community is among the lowest in the city, and a third of the population lives in poverty. The community is also ranked high in gang murders, rapes, drug and alcohol addiction, and teen pregnancies.

The shelter was ten years old at the time of the study. It was established because the sponsoring agency which serviced prisons around the country, realized that women had no place to go when they left prison, and they had nowhere to take their children. The shelter was one of the very few places that accepted the women directly from prison. Initially, there were only single women, but soon there were more women with children arriving.

The shelter building was a former Catholic parish converted to the senior center, and there were eight classrooms in the old building. The residents lived in the new wing, which used to be the junior high. There were four dorms, two on each floor with ten beds in each room. The dorms were labeled.

Daily Routines

The shelter offered a total of seven programs to the residents. These included counseling, job training, computer training, health training, community meeting, parenting classes, and the playgroup for children. The Head Start program was housed at the shelter, but was run by an external agency. In addition to these meetings, the residents were also encouraged to schedule time during the day for attending the computer room and making appointments with the social worker.

The meeting times varied. Usually, Mondays were for parenting/playgroup sessions, Tuesdays for job counseling, Wednesdays for the community meeting, Thursdays for health classes and appointments with the counselor, and Fridays for attending the computer room (residents could select other times during the week).

Counseling services were offered individually or in group settings like the community meeting. The shelter director, along with the rest of the staff, encouraged the residents to discuss their problems with them either privately or in the community meeting. The director felt that the community meeting was the cornerstone of the shelter program. She stressed that through the community meeting, the residents and the staff had the opportunity to resolve issues pertinent to the residents.

A full-time job counselor offered job training to all residents. The goal of this program was to evaluate the residents' job readiness skills. The job counselor initiated her work with residents by having them complete a questionnaire and through an initial interview to determine needs and set goals. She then encouraged the residents to make weekly appointments with her to meet their goals towards getting a job. The job counselor helped the residents with their resumes and cover letters. A weekly jobs guide and the newspaper job section were also available to the residents to conduct their job search. Since the residents did not have phone numbers where they could be reached, the job counselor also set up voice mailboxes for the potential employers to call. These mailboxes were maintained for some residents even after they left the shelter.

A crucial component of the job-counseling program was to assist residents in saving seventy percent of their job paycheck or their Public Aid money. The job counselor ensured that each resident learned to save and budget her money. The residents could not stay at the shelter if they did not agree to save over seventy percent of their income by placing it with the shelter.

A full-time computer training coordinator was also available at the shelter. The computer center at the shelter was designed to provide the residents with GED training, and basic computer and keyboarding skills. There were fifteen computers available during the course of the study. There were a variety of children's books, educational software, and GED testing guides. If the residents chose to use the computer lab, they worked on whatever they deemed important. Using the computer lab was not mandatory and very few residents utilized it.

Some of the mothers checked out the children's books from the computer library, or they brought their children in the room while they were studying for the GED. Some of the children used the computers with educational software. They played with interactive children's books on the computer or watched their mothers work on the computer. The older children were also allowed to use the computer room for an hour on weekdays, and the younger children were allowed to use it while their mothers were working in the lab. Finally the women could also use it between nine and five on weekdays.

The parenting class was a mandatory program for the residents and the shelter contracted with different agencies around the city to provide social workers to conduct weekly parenting classes for the mothers. The goal of this class was to provide alternatives to parents in disciplining their children since the assumption behind this goal was that the dynamics of shelter living added stress to the lives of mothers and their children, and that the children's behavior altered for the worse. Changes in behavior sometimes led to physical disciplining from the parent.

The parenting class was scheduled weekly for a period of one hour. During this hour, the parenting instructor talked to the women about alternatives to discipline and provided them with strategies. The instructor primarily used a book on parenting techniques. She photocopied chapters and distributed them to the parents. The parents took these materials to their dorms, read them, and brought them to the class where they were given a multiple-choice test. They were tested on each chapter and once they obtained satisfactory grades they are awarded a "Parenting Certificate." The Department of Children and Family Services (DCFS) and other agencies used this certificate to validate that a parent had successfully completed a parenting class.

Sometimes the parenting instructor conducted group sessions with the parents and their children. The goal of these sessions was to observe the quality of interaction between the mother and her children. The parents were asked to color or complete puzzles with their children while the instructor observed the interactions and coached the mothers on ways to assist her child instead of completing the activities for them.

Children had an opportunity to play in the playroom for an hour each week under the supervision of the playgroup facilitator while their parents attended the parenting session. According to the play facilitator, the goal of the playgroup was to teach the children appropriate socialization skills in response to what she considered to be a display of "very aggressive behavior."

The shelter also provided the parents with a health and nutrition class once a week. The individual who did the initial intake for the incoming residents conducted this class. Health guides on nutrition were distributed to the women.

The Head Start program was housed within the shelter and served children from the shelter and other children from the neighborhood. There were four classrooms with around eleven children in each classroom. The half-day program also had two sessions; one from 9:00 a.m. to 12:00 p.m. and the other from 12:00 p.m. to 3:00 p.m.

Participants

Eight families (women and children) were participants in my study. They were selected on the basis of their willingness to be in the study and whether they had young children. These families stayed at the shelter between one to twenty-four weeks. Some of the women arrived at the shelter after they were referred to the shelter by the city's department of human services. Others were referred by social service agencies and churches in the area. These women sought shelter due to loss of employment, eviction notices, domestic violence, events such as fire, floods. Some were in drug recovery, and some were recently released from prison. There were also young women who had been emancipated from the department of child and family services without any place to go.

The initial intake involved a telephone conversation with the women. During this conversation the director or a designee of the shelter explained the shelter expectations of them. Some referrals were rejected when the prospective participants were active substance abuser and had not been "clean" for twenty eight days, or if they are unable to climb the stairs, or if they had a male child that is too old (nine is the new cut off age).

Most of the women at the shelter were African-American. However, different ethnic backgrounds were represented during the course of the study. A recent conversation with a new director of the shelter revealed that "what is becoming more common and more sad is when there are three generations of a family here in the shelter. I currently have a woman here with her adult daughter, and her adult daughter's children. The ironic thing is that several years ago she used to be the intake worker here."

For some women in my study, this was the first shelter in which they had resided; for others it was their second or third. Families stayed in whichever shelter dorms (rooms) had space. Some dorms had a number of young children and a few older school-age children, while others had no children at all. The table below provides the demographics of the families (All names are pseudonyms. Children participating in the study are listed in capital letters, with their ages in parentheses).

Demographics of Families at the Shelter

Pseudonym	Length of stay at Joseph's	Total # of Shelters (including Joseph's)	Total # of children at the shelter	Siblings at the shelter
Alexandra ALEXIS* (3)	1 week	1	1	None
Myreesha DURBIN (3)	Myreesha 5 weeks Durbin 1 week	2	3	Alicia (one-and-a-half-year-old) Angeline (six months old)
Shelly JAMES (5) JOYCE (4)	5 weeks	1	4	Jamika (11) Kindra (9)
Daneesha ELLEN (5)	18 weeks	3	1	None
Felicity LAKEBA (5)	24 weeks	4	4	Janice (12) Bobby (9) Jackie (8)
Helen OPAL (4)	3 weeks	1	2	None

TEDDY (3)

Tasha	Tasha	1	1	None
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GRACE (5)	16 weeks, Grace 3 weeks			
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Venus	16 weeks	2	1	None
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BRAD (3)

Data Collection Procedures

Data collection procedures for my study included direct observations, structured and open-ended interviews, and collection of literacy-related documents at the shelter and the Head Start program connected to the shelter building. The duration of data collection was six months because although the shelter traditionally limited families' stay to four months, in some circumstances this was extended for a longer period.

In all forms of qualitative research, the bulk of the data is collected through observations and interviews (Denzin & Lincoln, 1994; Lincoln & Guba, 1985; Merriam, 1998; Seidman, 1998). The main purpose of the conversation is to understand the participant's perspective (Patton, 1990). Interviews supplement field notes because it is not possible to observe all things directly. The researcher cannot observe thoughts and feelings. Nor can he or she observe events that have already occurred or that may be in the participant's future plans. Most importantly, the researcher cannot observe "how people have organized the world and the meanings they attach to what goes on in the world" (Patton, 1990, p. 196).

Because the duration of their stay was uncertain, I started interviewing as soon as I met a family who had young children. In this study, it was not possible to collect equal amounts of data due to families' transience from the shelter. During the course of six months, I observed the young children, older school-age children, parents, teachers, shelter and classroom dynamics, as well as young children's interaction with all these different individuals in different settings.

During the first few days, I observed a variety of activities so as to gain an understanding of the daily shelter routines of the children and other residents. I noted there was a special schedule of activities as well as a relatively predictable set of activities on the part of the mothers and their children.

Formal, open-ended interviews were conducted on family background and experiences with homelessness.

The goal of the interviews regarding family background and experiences with homelessness was to get a picture of the family background, schooling, employment experiences, support services, shelter living, and future goals.

Data Analysis

Data analysis began on the first day of the study and continued throughout. During the period of my data collection, I read and reread the gathered data to locate concepts that would provide direction for further data collection. In addition, I compiled reflective notes based on field notes. As this data collection and analysis continued, I searched for connections between concepts using the *constant comparative method* (Glasser & Strauss 1967) of data analysis. Using this method, I was able to 'move through multiple levels of data, seeking recurring themes that [could] be explored in greater depth' (Taylor & Dorsey-Gaines, 1988, p. 228). This process involved identifying the units (initial words or phrases) that emerged from the field notes, comparing the units to each other, and placing them into themes.

Results

Nature of Shelter Living: Merging the Past and the Present

Influential research on shelter living over the last two decades had paved the way for current and future research on families in homeless shelters. Past studies suggest that issues of *public parenting, availability of childcare options, shelter rules and regulations, loss of social networks* and the *desire to have a home* were some of the issues raised by families living in shelters. Almost two decades later, mothers and children raised these concerns again.

Public Parenting

The available research on mother/child interaction at homeless shelters elucidates the hardships faced by the mothers and their children (Bassuk; Rubin; Lauriat, 1986b; Wright, 1990). Since most of the residential shelters are overcrowded, mothers are forced to mother their children in public. "Every aspect and nuance of the mother/child relationship occurs and is affected by its public and often scrutinized nature" (Boxill, 1990b, p. 58). Most homeless shelters have limited space. Families are placed in small quarters with strangers, with no extra space for private family time. There is seldom any place to go and sit down for a private conversation (Battle, 1990; Boxill, 1990a; Bassuk & Gallanger; Ferrill, 1991; Kozol, 1988). This lack of privacy prevents mothers from disciplining their children in ways that maintain respect for the family. These sentiments were common among families in my study. Shelly expressed her dilemmas of parenting her children at the shelter:

Well you know what I've noticed about my kids since we've been in the shelter, their whole attitude has changed you know they everything has changed they don't listen to me like they did when I had my own place. I like have to tell them stuff now over and over you know what I'm saying so they are good...They say 'if you hit me I'll call 911.' They be saying that to me. I don't hit the kids basically I try to talk to them.

Shelly's concerns highlight that the mother's role "unravels" in this communal setting (Boxill, 1990b, p. 59). "The traditional role of the mother as provider, family leader, organizer and standard-setter" (p. 60) is diminished in a shelter. Shelter administrators determine where the family eats, bathes, and rests. Shelter rules also create barriers. There are set schedules for mealtimes and bedtimes. Curfews "remind people that their time is not their own, that they are being treated the way they treat their own children" (Seltser and Miller, 1993, p. 52). The mothers are evaluated on their parenting ability and required to attend parenting classes. The mother's ability to "re-establish order in her family and to reassert control over her life [is] often limited" (p. 61). Myeesha reiterated these concerns by stating:

It's depressing. It is sort of like jail. I don't like the fact that they tell you when you can put your kids to bed, when you can eat, when you can shower, what you can eat. I don't like that. So I cry a lot. When we were not at the shelter my kids got to be more free. They got to run and play and not get on my nerves for every little noise because we got to be in the same room all day long. So it's kind of hard but we cope.

Availability of Child Care Options

Past research also revealed the dilemma about child-care. Mothers often had little to say about the varied people interacting with and caring for their children (Seltser & Miller, 1993). This was very much the case at Joseph's shelter. It was not uncommon for children to be disciplined by non-family members. Due to the lack of babysitting services, mothers at the shelter paid other adult residents to watch their children during the day so that they could go to work. These adults either babysat the children at the shelter or they took the children out for the day.

One evening I observed Ms. Drake (Dorian and Luanna's mother) interact with Ellen (five-year-old) at the shelter. Since Ellen's mother was working from five in the morning to two in the afternoon, Ms. Drake took Ellen with her while she and her daughters visited friends and family. Ms. Drake had been babysitting Ellen for almost two weeks. Ellen was sitting on a chair next to Ms. Drake because she was on punishment. Ellen had exited the shelter from the back door instead of the main door. Children were only allowed to use the main door so that the back door remained locked. Ms. Drake was reprimanding Ellen.

Ms. Drake: *Ellen has to learn how to be a good girl. Don't you?*

[Ellen did not answer].

Ms. Drake: *Is there two Ellens or one Ellen? What type of person is the first Ellen? How many Ellens are inside of you? One Ellen or two Ellens?*

Ellen: *One.*

Ms. Drake: *Okay, tell me about the first Ellen. Is she nice? Do she obey her mother? What else does she do?*

[Ellen was quiet.]

Ms. Drake: *Tell me about Ellen. Ellen nice?*

Ellen: *Yeah.*

Ms. Drake: *Let me see.*

[She started pinching Ellen on the arm.]

Ms. Drake: *Tell me the truth. Are you the good girl?*

Ellen: *Yeah.*

Ms. Drake: *Why you is on punishment?*

Ellen: *'Cause I ran out the back door.*

Ms. Drake: *That's right.*

Ms. Drake: *Do you enjoy your day with me? Do you have fun?*

Ellen: *Yeah.*

Ms. Drake turned to me and said:

She's not bad with me. She's not out this chair yet. When her mama comes, you're gonna see a whole different change. That's why I told her don't be like that. She's a whole new different person. That's why I asked how many personalities she has.

Ms. Drake later explained that she was a better disciplinarian than Ellen's mother and Ellen behaved more appropriately in front of Ms. Drake than she did in front of her own mother.

I watched Ellen turn from a vivacious and vibrant child into a quiet and scared little girl while she was in Ms. Drake's company. She eagerly waited Daneesha's arrival and rushed to greet her upon her arrival. Ms. Drake never complained about Ellen's behavior to Daneesha.

Shelter Rules and Regulations

The families also have limited opportunities to educate their children in their own family and religious values, because of the restrictions placed on them by the shelter facilities. For example, some shelters require the families to attend religious services, where their dignity is attacked. "They berate you. They try to reduce you to as meaningless a mass as possible, mentally and physically, to which you're not able to do better. Then they can manipulate you" (Seltser and Miller, 1993, p. 52).

All the mothers I interviewed during the study expressed their frustration with the shelter rules, regulations, and goals (Bassuk, 1986). Myreesha's comments were representative of the feelings of the mothers at the shelter.

But since I've been here, they haven't helped me in anything. They don't talk about the low-income apartment. And they don't help you with anything. They are supposed to be more supportive. All they help you do is save your seventy percent [of income], but other than that they don't do anything to you. We have community meeting and other groups and stuff. I have to reschedule my appointments around group meeting and stuff. I am supposed to be establishing an income for my family. They don't change anything if we complain, so why should I be in a group.

It was as though the new set of rules and restrictions placed on the families when they moved into the shelter was overwhelming, and they did not understand the purpose of these rules.

I asked the shelter director about the rules and regulations and about the rule to save seventy percent of income in order to stay at the shelter. She told me that since the shelter was in a dangerous neighborhood, curfews were essential. As for saving the seventy percent of their public aid or income, the reason was to help the families learn to save money. The director explained why structure was an important component of shelter life. She believed that the families had chaotic and unstable lives prior to coming to the shelter, and they needed a lot of structure.

We are rather emergency-oriented. We have some chronic people coming in, but it's pretty much an emergency style operation, and many people have very chaotic lives. Structure is one of the things that I think helps them be able to hold onto something and begin to make some [sense] ... If things are so chaotic, that's what they have come from. The kids eat when they get hungry, they sleep when they get tired, and there is no planning. And I think giving structure can be helpful and not a hindrance. It does feel like prison to those who come from prison, or for people who haven't had any structure, it's confining ... But I also know that it is very helpful. Many times people have left here saying, "I am going to feed my kids three times a day, I am going to

have a bedtime for my children." They see the benefits of having some structure. So if the people we work with had internal structure, we wouldn't need to impose it from the outside.

However the women did not feel that they needed the structure, and they did feel confined at the shelter.

Loss of Social Networks

The location of the shelter also infringes on the family's ability to maintain its social and cultural values (Molnar, 1990). Employment opportunities are often not available near the shelter facilities, which are often located in poorer neighborhoods. These locations also have inadequate access to transportation facilities, making job hunting and apartment hunting arduous. The homeless families feel removed and isolated from their shelter neighborhoods and communities. Since many of the shelters are in poverty-stricken neighborhoods, the parents feel insecure in letting their children play with neighborhood kids. As a result, the children have limited opportunities to mingle with age-appropriate peers, and social development is thus stunted (Rafferty & Rollins 1989).

Boxill's and Beaty's research (1990) revealed that unstructured time for children at the shelter forced "random play among children of widely divergent ages" (p. 55). Also, it is crucial to understand why these older children gave so much attention to the younger children. Vissing (1996) refers to this adult role taken on by the older children as "overcompensation" (p. 81). In her study of homeless children in a rural setting, she discovered that older children nurtured "others whom they perceived as being at risk" (p. 18). This nurturing developed because the children's own parents were busy taking care of their basic survival needs and were emotionally overwhelmed by their condition. Similarly the older children in my study were isolated from their friends and relatives and were placed in situations where they had little control over what happened in their environment.

The sense of loneliness and isolation were expressed by the families in my study. Daneesha articulated her feelings:

You really don't have no friends and when you get your own just try to look out for you and your family and that's all don't try to look out for nobody else no matter how it hurts you to want to help somebody else look after you and your family.

Desire to Have a Home

Although the parents are thankful to have a place to stay, they compromise by losing their independence and their ability to raise their children (Bassuk, 1986a; Bassuk, 1990; Boxill, 1990a; Kozol, 1988; Lindsey, 1996; Nunez, 1994). "Shelter life begins to represent disappointments and threats to their dignity" (Seltser, 1993). "Homes embody the history, memories, and experiences that shape who we are" (Vissing, 1996, p. 79), and loss of a home can have a devastating impact on a child. Children grieve the loss of their homes. "I miss my house and yard. There we had a dog, but we had to get rid of him when we moved. I had this special this tree I played under. I had my own room, and a window that overlooked the street. I miss my neighbors and friends too. I want to go home" (Vissing, 1996, p. 79).

In my study mothers repeatedly talked about the need to find housing for their families. Imposters took advantage of one of the mothers in her efforts to find housing for her family. She did not know who to trust in helping her find an apartment. While sobbing she told me:

I am taking a day at a time. We're surviving. You know what I'm saying? I'm not saying that we are doing great but knowing I've got my health and kids got their health. I'm saying you go from there so it's good you know it will be better when we get our own place. In rushing to get an apartment and that man took advantage of me. I gave him \$200 deposit. I was going to give him the rest I said when I move in. I also put \$25 down for a credit check and they haven't called me yet they have called me back for that. That's the only thing that gets to me because I want me and my kids to get our own apartment and I'm like rushing and rushing. I keep telling them we can't move in over night!

This mother felt guilt not finding a place for the family. She continued sobbing when she told me:

That night when I went to look at that apartment and I took my kids and my mother-in-law, I left the kids in the car and they were so happy. I feel like I just let them down. Bad people take advantage of you. They take your money. Maybe they wouldn't if I had been thinking but I had so much on my mind.

Overall, the shelter context in this study revealed that families' struggled to establish control over their lives while they lived at the shelter. They desired freedom to re-establish a sense of security. Although they were thankful for a place to live, they were overwhelmed by their status as homeless families living at a shelter. Over two decades later, Jonathan Kozol's words seem confirmed:

Shelter, if it's warm and safe, may keep a family from dying. Only a home allows a family to flourish and to breathe. When breath comes hard, when privacy is scarce, when chaos and crisis are on every side, it is difficult to live at peace, even with someone whom we love (Kozol, 1982, p. 50).

Future Directions and Implications

Although a four-month residential shelter is designed as an emergency operation, what shelter directors, policy-makers and researchers need to realize is that for many homeless families, four months is as much stability as they will get if they do not get opportunities to break the cycle of homelessness (Rivlin, & Wolfe, 1985; Rivlin, 1986). Because the shelter is responsible for funding programs such as parenting, playgroups, and computer training, it is imperative these programs be restructured to meet the needs of all the children. Homeless families use the shelter as a last resort when all other resources are exhausted. The resources already in place can be enhanced to alleviate the stress of homeless families, including focusing on the needs of all the children (Rosenman & Stein, 1990). Leisure opportunities should be given to these children to encourage them to find solace in this stressful environment.

Until shelters are established in neighborhoods that are safe and have opportunities available for families to build social networks, programs need to be established that give families opportunities to interact with the outside world (Quint, 1994). While keeping in mind that shelter living is not the desirable outcome for families (especially children), we must attempt to

further explore and research ways in which to maximize the opportunities for children at the shelter.

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**Using Conceptual Models of Teaching to Incorporate a Dog into a Self-Contained Classroom for Students with Severe Emotional or Behavioral Disorders:
A Research-Based Intervention**

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Abstract

Described in this article is an empirical study that examined the effects of a dog in a self-contained classroom for students with severe emotional or behavioral disorders. The authors illustrate how the design of the study was based upon the integration of three conceptual models (ecological systems approach, social-cognitive approach, and cognitive-behavioral approach) and indicate that these approaches contributed to the positive results achieved. Across an eight-week period of time, observational and interview data revealed that the dog's placement in the classroom improved students' attitudes toward school, contributed to their emotional stability and ability to manage their own behaviors, and facilitated students' learning of lessons in responsibility, respect, and empathy that enhanced their interactions with adults and peers.

**Using Conceptual Models of Teaching to Incorporate a Dog into a Self-Contained Classroom for Students with Severe Emotional or Behavioral Disorders:
A Research-Based Intervention**

Due to the current outcome-based education movement, educators are being held accountable for implementing research-based interventions that are empirically valid. Since this school reform process emphasizes the making of adequate yearly progress for entire school populations, which includes individuals with exceptionalities, educators must select conceptual models of teaching that: (a) have a theoretical foundation, (b) are associated with achievement of meaningful outcomes, (c) are scientifically valid, and (d) are socially valid (Simpson, 1999). As a result, "the education of children and youth with emotional or behavior disorders is now governed by a consistent philosophy or conceptual model that is linked to instructional methodology. Although slavish devotion to a single conceptual model is not desirable...our field would be advanced by a more integrated, less haphazard conceptual approach" (Kauffman, 2005, p. 79). In support of this, recent scientific literature recommends that various conceptual models of teaching be viewed as complementary rather than competing.

Described in this article is how a dog became a full-time member of a self-contained classroom for students with severe emotional or behavioral disorders through the incorporation of three conceptual approaches with theoretical foundations. In response to the need for utilizing researched-based interventions, empirical evidence is provided on the effects the dog's presence had on students' emotional well-being and character development.

Overview of Study

Setting and Participants

The setting for this research study was an elementary school in urban North Dakota that served approximately 400 students, largely from low socioeconomic areas of the city. Participants included the teacher (also the researcher), two para-educators, six students, and a two-year-old toy poodle named J.D. (owned by one of the para-educators) (Anderson & Olson, 2006).

The teacher/researcher conducting the study had seven years of teaching experience in the area of severe emotional and behavioral disorders and had worked with the students in this study intensively for time periods ranging from three months to three years. It should also be noted that she had established strong relationships with the parents of these children.

The ages of the six students in this study ranged from 6-11 years, and each had been a member of this self-contained classroom from three months to three years. Each student carried from one to three diagnoses, including Asperger's Syndrome, Attention Deficit Disorder with Hyperactivity, Bipolar Disorder, Central Auditory Processing Disorder, Intermittent Explosive Disorder, Depression, and Reactive Attachment Disorder. All of these students had been placed in this self-contained classroom because they had been unsuccessful in the general education classroom within this school or from neighboring schools. Although there was opportunity for each of the six students to spend time in one or more general education classes, the teacher/researcher or a para-educator accompanied them (Anderson & Olson, 2006).

The toy poodle in this study was not a certified therapy dog and had not received training for animal-assisted activities to interact with children or adults. J.D.'s opportunity for exposure to young children was also limited because the owner's children were much older (Anderson & Olson, 2006).

Method

Before the study began, the local university's Institutional Review Board approved the planned procedures for protecting the human subjects and the dog. Listed below is a summary of those procedures (Anderson & Olson, 2006):

1. Parents were interviewed to insure that no child had an allergy to dogs.
2. The dog was professionally groomed and current on his vaccinations.
3. A locked kennel was available in the classroom to protect the dog should students threaten the dog's safety or, alternatively, if the dog should become aggressive with the students.
4. The dog's owner explained his likes and dislikes, and the teacher led a discussion regarding J.D.'s needs and boundaries. Rules for interacting with the dog were established and posted (e.g., not sitting next to or touching the dog when he was eating, not approaching the dog when he was sleeping, not removing toys from his mouth except during a game of fetch).
5. Because bonding with the dog was considered important, evidence of such bonding was carefully monitored (e.g., positive verbalizations from the student about his/her relationship with the dog, the dog's willingness to interact with individual children). The researcher was prepared to increase a child's one-on-one time with the dog to address his/her inadequate bonding with the toy poodle.

Because this study explored uncharted social circumstances and set out to describe complex social realities, it would be considered a qualitative case study design (Mallon, 1994). The researcher followed suggestions by Creswell (1998) for collecting in-depth data from multiple sources as described below (Anderson & Olson, 2006):

1. Qualitative and quantitative baseline data was collected for the eight week period before the study began that related to episodes of emotional crisis displayed by each of the six students. Each time students engaged in severe verbal or physical acts of aggression, the teacher/researcher or one of the para-educators recorded it on a Problem-Solving Sheet. Also recorded on this sheet were the student's description of the problem, how the problem had been solved, and how the problem might be approached differently the next time it occurred. Another data collection tool used was an ABC Analysis Form; the teacher/researcher and para-educators used this form to record times students needed to be isolated in the quiet room for severe verbal or physical aggression. Specifically, antecedents (A) were events that preceded students' words, actions or behaviors (B) in the students' observed in these circumstances; consequences (C) were events that followed the behaviors. Because antecedents are often the cause of behaviors and consequences generally maintain or reinforce behaviors, these recordings become essential in planning intervention. Throughout the eight weeks of the study both the Problem-Solving Sheets and the ABC Analysis Forms were used to collect data. Added to the Problem-Solving Sheet was a section for recording whether or not students used the dog to assist in problem solving, and if they used him, a description of that interaction.
2. The teacher/researcher conducted observations five days per week for eight weeks from 8 a.m. to 3 p.m., less three days related to teacher's or dog's absence. Included in the observational notes were the following types of interactions with the toy poodle: one-on-one 30 minute daily sessions, students' unstructured play with him at recess, students' reading books to him during reading class, students' comments about and interactions with the dog during social skills instruction, and all spontaneous interactions with J.D. throughout the day. Altogether, group interactions with the toy poodle were recorded on 37 days and individual interactions with were recorded on 32 days.
3. The classroom teacher/researcher started each day with 30 minutes of social skills instruction that helped them learn skills of interaction with adults and peers. Later in this article, a description is provided regarding how interactions with J.D. were incorporated into this daily instruction.
4. Individual students were interviewed for 30 minutes each on six consecutive Fridays during their one-on-one interaction time with the dog. From the observational notes, Problem-Solving Sheets, and ABC Analysis Forms, a total of 67 questions were developed and asked, a few at each interview session. Students were asked for descriptions of their interactions with the dog, their positive and negative feelings about his presence, their understanding of his behaviors, and if/how he helped them in the

classroom. Additional interviews took place whenever students entered emotional crisis and used the dog as a de-escalation tool.

5. Interview questions for parents were developed after the students' interview responses had been collected. The teacher/researcher asked 28 questions of the parents in hour-long sessions the fourth week of the study in a conference room within the school building. During these sessions, parents were asked to verify commentary made by their children about the dog, to compare their own perceptions regarding how their children responded to the toy poodle, and to share their thoughts about the study procedures and results.
6. Follow-up interviews with students and parents were conducted by the teacher/researcher three weeks after the study period ended. Of particular interest were the effects of the dog's presence the last four weeks of the study as well as any post-study effects noted in the home environment. All interviews with students and parents were audio taped and transcribed, with the teacher/researcher writing reflective notes following each interview. Interview protocols are available from the authors upon request.

Analysis

The data collected from Problem-Solving Sheets and ABC Analysis Forms the eight weeks prior to the dog's entry into the classroom was compared with that collected throughout the eight weeks of the study. Participant observations as well as student and parent interviews were added to this comparison to achieve triangulation of the data. A coding procedure described by Stainback and Stainback (1988) was used to segment the data with running records. Subsequently, codes were organized into categories, and categories revealed themes or patterns. Ultimately, assertions were drawn from themes that were related. These assertions are shared under *Results of Study* later in this article.

Application of Conceptual Models

Ecological Approach

The ecological systems theory argues that a variety of social systems influence the development of children (e.g., pets, parents, teachers, peers). In articulating the ecological systems perspective, Melson (1998) reported that Urie Bronfenbrenner first emphasized that the development of children is profoundly affected by what he called the "microsystems" of their environments. Those are the face-to-face settings in which children develop, most typically homes, schools, and peer groups. Second, Bronfenbrenner referred to the "mesosystems," which pertain to the interrelationships among various microsystems that exert influence on their development. To apply this mesosystem construct to the study of children and animals, one might examine how interactions with animals in one setting are related to such interactions in another setting, or more broadly, how children's attachments to their pets at home affect their functioning in school or in their peer interactions. Third, Bronfenbrenner stated that environmental influences may affect children indirectly through their effects on parents, peers, and teachers. These are called the "exosystems." Finally, Bronfenbrenner suggested that overarching environmental influences such as cultural values, called the "macrosystems,"

permeate all aspects of the environment. To support the embodiment of an animal into children's microsystems, Kauffman (2005) suggested that "if naturally occurring strategies...can be validated as effective and applied consistently, then supportive, habilitative social systems might be built and strengthened with less reliance on artificial interventions that tend to be more costly, intrusive, temporary, and unreliable" (p. 77).

Classroom Application

Following the ecological approach that emphasizes working with various aspects of children's environments (Kauffman & Landrum, 2006), the classroom teacher/researcher augmented the school environment (i.e., microsystem) through the incorporation of a dog, as a full-time member, into a self-contained classroom for students with emotional or behavioral disorders. It was the aspiration of the teacher to strengthen the students' educational social system in order to provide them with increased emotional stability. According to Triebenbacher (1998), the innate and instinctive characteristics of canines, the dog's classroom membership had the potential to make the following contributions to students: (a) providing opportunities for unconditional love and affection that is noncontingent; (b) functioning as friends, confidants, playmates, and companions; (c) serving as living transitional objects; (d) assisting in the achievement of trust, autonomy, responsibility, competence, and empathy toward others, and (e) enhancing self-esteem by the presence of attachments to animals.

These six students manifested emotional and behavioral challenges in the general education setting that were impediments to their cognitive, psychosocial, and moral development. To be responsive to these multi-dimensional needs of the students, the classroom teacher produced and maintained an environment that incorporated the dog into classroom routines and procedures for the production of a support system that was natural, therefore more replicable for generalization into students' interrelated microsystems (e.g., home, community). Ultimately, it was the classroom teacher's goal to have the dog's placement be a positive alteration to the students' social system to support the acquisition and utilization of prosocial behaviors. With this result, success would ensue and the need for future hospitalizations or residential placements would be decreased (Anderson, 2004).

Each day, all six students were allotted a short duration of time for them to interact one-on-one with J.D. Usually, students would walk him, engage him in a game, or simply stroke his curly fur while talking to him. The intent of these individual sessions was for students and J.D. to form a reciprocal relationship that was responsive to each others physical and emotional needs. These interpersonal affairs and situated learning opportunities were observed by the classroom teacher to monitor the appropriateness of interactions, to cognitively coach students on the selection and implementation of friendship making skills that would nourish the student-dog relationship, and to collect data (Anderson, 2004).

To provide denotations of a typical school day, the dog (J.D.) arrived each day at 8:00 A.M. and departed at 3:30 P.M. At the onset, students would scurry from their morning transportation to shorten the distance between them and their classroom companion, J.D., who was always found lying by the classroom door awaiting the students' arrival. Once the physical and verbal greetings diminished, a 30 minute social skills lesson was employed, and on most occasions, J.D. was incorporated into the lesson's development and implementation. While students were

engaged in academic instruction throughout the day, J.D. usually positioned himself on the floor next to the students, or on occasion, on top of their desks as if he was overseeing their work. Although it was classroom policy for students not to hold J.D. while engaged in academic tasks, students were permitted to hold J.D. while reading independently. In addition to the daily one-on-one sessions, students were granted the opportunity to collectively interact with J.D. during free time (e.g., recess, scheduled breaks). At the close of each day, students seemed compelled to hug, kiss, pet, or high-five their four-legged companion before they would depart from the classroom. With the exit of the students, J.D. would once again position himself by the door, as if hoping for a fast return of his classmates (Anderson, 2004).

Social-Cognitive Approach

Albert Bandura's "social-cognitive theory is an attempt to explain human behavior from a natural science perspective by integrating what is known about the effects of the environment...and what is known about the role of cognition..." (Kauffman, 2005, p. 81). Formerly known as the social learning theory, Bandura's conceptualization of the social cognitive theory to explain human behavior is triadic, referred to as triadic reciprocity-meaning the three elements influence one another (Snowman & Biehler, 2006). According to Snowman & Biehler, the first element, *personal factors*, relates to cognitive and affective characteristics of individuals, particularly self-efficacy. Second, the *environmental factors* element emphasizes the effects of social interactions, while the third element, *behavioral patterns*, simply pertains to individuals' display of behaviors, with a focus on the application of self-regulation.

Using the social-cognitive approach, the incorporation of dogs into the educational setting can provide students with cognitive, affective, and behavioral growth through the manner in which they alter the social environment to serve as supports and models for development academically, emotionally, and morally. Chandler (2001) concluded that there are many benefits of integrating animals into classrooms since animals can enhance students' learning in the following ways: (a) gaining knowledge about animals, (b) learning humane animal care, (c) training animals, (d) practicing discipline, (e) incorporating an attitude of kindness and compassion, (f) learning about nurturance, (g) practicing loyalty and responsibility, and (h) experiencing human-animal bonding.

Classroom Application

To employ the personal factors element (i.e., cognitive and affective characteristics) of the social-cognitive approach, the classroom teacher provided students with direct social skills instruction for 30 minutes each day in order for them to identify, practice, and apply the skills and strategies necessary for internalization and self-directed use of prosocial behaviors. When J.D. joined the self-contained classroom, he assumed the role of teaching assistant since the classroom teacher designed and implemented lessons to pursue mastery of the following learner objectives: (a) how to be respectful of J.D. (humane treatment), (b) how to be responsible at meeting J.D.'s needs, (c) how to appropriately interact with peers during group play time, and (d) how to use J.D. as a catalyst to network socially. The methods of instruction used to teach these lessons were discussions (with the use of books on how dogs help people), teacher-modeling, and role-playing. Role-playing was a valuable component, since it provided students with the opportunity to practice their newly acquired skill and to make real-life situations more plausible for generalization (Anderson, 2004).

To exemplify the application of the environmental factors element beyond the most salient phenomenon of the inclusion of a dog into the students' social system, the classroom teacher increased students' social interactions to enhance their learning both formally and informally. Formally, the teacher engaged students in more cooperative learning, particularly during social skills instruction, to immerse them in psychomotor activities for repetitive exposure on how to treat J.D. humanely and how to use him as a catalyst for socialization. Supplementary to group learning were the daily one-on-one interactions with J.D. To intensify the social learning during these times, the classroom teacher discussed with students J.D.'s communication patterns in order for them to become more vigilant at decoding nonverbal communication that would transpire into more astute communication with peers and adults (Anderson, 2004).

Informally, the classroom teacher provided scaffolding for students' learning within the context of the social environment through cognitive mediation. Through this process, students' observational learning acquired from the natural evolution of interactions with peers and J.D. was supplemented to ensure accurate social interpretation. Typically, students are motivated to emulate behaviors they have interpreted to generate positive responses from others in the social environment. Keeping this in mind, the classroom teacher needed to assist students in understanding models of behavior that were socially desirable for self-experimentation. In the social context of the self-contained setting, the following were the models of behavior reinforced for emulation: (a) students' demonstrations of respectful, responsible, and empathetic behaviors toward J.D. that captured his attention and/or elicited acts of affection (e.g., licks), (b) students' appropriate engagements in free time activities with J.D. that were inclusive of peers, and (c) J.D.'s ongoing interactions with students following their display of negative behaviors (Anderson, 2004).

In concert with the aforementioned social learning applications, students were also afforded opportunities to use J.D. as a medium for interactions within the broader school community to assist in the establishment of social networks. Students received instruction on how to initiate and sustain conversation with others during interactive situations by using J.D. as the topic for discussion. Thereafter, students were authorized to practice their communication skills with the school community by having J.D. accompany them on the playground and in the school hallways. As large numbers of students and teachers became intrigued with J.D., students from the self-contained classroom were invited to present in other classrooms about dog's presence in the school (Anderson, 2004).

Cognitive-Behavioral Approach

The focus of cognitive learning theories is the "mental processes that expand our knowledge base and allow us to understand and respond to the world differently" (Snowman & Biehler, 2006, p. 358). Whereas theories on behavioral learning "hold that we learn to respond or not to respond to certain stimuli because our responses are followed by desirable or aversive consequences" (Snowman & Biehler, 2006, p. 213). The principles of the behavior theory are based on the stimulus-response-reinforcement paradigm in which human behavior is thought to be controlled by the external environment (Joyce, Weil, & Showers, 1992). Conjointly, the cognitive-behavior approach synthesizes the foundational elements of both the cognitive and behavior theories and is "based on the reciprocal relationship between one's thoughts and behaviors.

For students who are receiving special education to address their emotional disorders, animals have been used as sources of motivation and behavior management (Zasloff, Hart, & DeArmond, 1999). Animals can assist in behavior management for these children by teaching them behaviors that have not been acquired through the teachings of adults (George, 1999) and by providing them with opportunities for being in control and assuming responsibility (Lee et al., 1996).

Classroom Application

To expand on the direct social skills instruction described in the *Social-Cognitive Approach* section, the classroom teacher's ultimate goal was for students to cognitively construct the knowledge and skills vital for successful implementation of self-regulatory behaviors. For students, the acquisition of self-regulation was to be manifested through internal behavior monitoring and control rather than from an external force (e.g., teachers, parents), which is the premise of the cognitive-behavioral approach. The advantages of using this approach include: (a) it is proactive in preventing behavior problems, (b) it promotes independence for behavior management, and (c) it may enhance generalization and increase sustainability (Zirpoli, 2005). With the incorporation of J.D. into the self-contained classroom, the teacher's goal of strengthening the environment for emotional stability was bolstered through directly teaching students coping/problem-solving strategies that were related to the dog. The focus of instruction during social skills was to teach students how to use J.D. as a preventative tool for emotional crisis and also to use him as a de-escalation tool when they did enter emotional crisis. Emotional crisis was defined as physical and/or verbal aggression that was threatening to others. Through discussion, teacher-modeling, and role play, students were engaged in simulated provocations students or teacher identified as causations for emotional distress, affording them the opportunity for meaningful application of using J.D. as a tool for behavior management. These artificial constructions engendered experiences in the natural environment that applied cognitive-behavioral intervention. Students learned and practiced strategies for interacting verbally and physically with J.D. on how to hold, play, talk, walk, or simply observe how the dog calmed them psychologically and physiologically (Anderson, 2004).

Students were encouraged to use their learned strategies for interacting with J.D. at the onset of an emotional arousal to prevent emotional crisis. In support of students during their quest for self-awareness and employment of strategies, the classroom teacher used cognitive mediation to help students recognize their triggers and gauge their reactions to environmental situations. Reinforcing the use of J.D. as a tool for behavior management was provided through verbal praise and subsequent discussion with the teacher about the dog's impact on their behaviors. A standard problem-solving sheet was used to facilitate discussion about problem awareness and viable solutions, as well as to record responses for data collection. The teacher informed students that the intentional display of inappropriate behaviors in order to interact with J.D. would result in the postponement of access to him for the remainder of the school day (Anderson, 2004).

In the event of an emotional crisis, students were allowed access to J.D. as a tool for de-escalation after the teacher evaluated their emotional state to protect the dog's and students' safety. Highly aggressive students who threatened the safety of themselves or others were

placed into a seclusionary time-out. Additionally, it was standard procedure to contain the dog in his locked kennel when a student displayed acts of aggression. When the environment was judged as safe, J.D. was released from his kennel and students were allowed to use their learned coping/problem-solving strategies which could either include or exclude the dog. With teacher consent and observation, students were permitted to hold, play with, talk to, walk, or simply observe J.D. in their attempt to regain emotional and behavioral control. The role of the classroom teacher in the de-escalation process was to provide students' with reinforcement for their employment of strategies, to assess students' cognitive deficits and/or distortions, and to engage them in cognitive problem-solving. With J.D.'s mere presence, he provided the following to the de-escalation process: (a) a visual and tactile focus for students, (b) a provocation for laughter to enable students to release emotion, and (c) a medium for engaging students in problem-solving discussion (Anderson, 2004).

In addition to his role in the prevention and de-escalation of emotional crisis, J.D. was used to reinforce prosocial and learner behaviors. For students, the contingencies for interacting with J.D. during free time included: (a) using respectful verbal and physical communication with J.D. and peers, (b) completing academic assignments with quality, (c) sharing J.D. with others, and (d) responding to J.D.'s likes and dislikes. Serving as a negative reinforcement for students was the *No Interaction Rule*. This rule meant that if any student threatened or carried out physical harm to J.D. with any degree of intensity, they would be forbidden to interact with the dog for the remainder of the school year. Parental support for this rule was obtained and explained to students in the presence of their parents prior to the study. Like humans, animals trust those who provide them with emotional and physical security. The trusting behaviors students needed to display in order to nourish a relationship with J.D. served as additional reinforcement for their appropriate interactions with J.D. (Anderson, 2004).

Results

From the data gathered for this study, codes, categories, and themes led to the following assertions (Anderson & Olson, 2006):

1. *Students' attitudes toward school improved.* Embedded throughout the data were statements made by students and their parents expressing how excited they were to come to school each day to see J.D., as well as how "happy" they all felt when they observed J.D.'s continuous display of excitement upon their morning arrivals. Every student reported how J.D. made them laugh and how he was "a lot of fun" to have in the classroom. As stated in their interviews, the students were all very "happy" when J.D. came to their classroom, and they felt that school would be better if J.D. could return the following year.
2. *Students found companionship with J.D.* Based on the data, each of the six students felt J.D. was a good "friend" to them. They concluded that J.D. liked them as much as they did him, and three of the students even stated that J.D. made a better friend than humans. Students felt J.D. could recognize and understand their feelings, and they all gave recognition to J.D. as a living being with "feelings." According to students and their parents, these interactions created bonds between the students and J.D. that were seemingly built on a foundation of "acceptance" and "love" for each other.

3. *Students' interactions in the home setting increased.* Four of the six parents reported an increase in their children's verbal interactions in the home setting. The common theme for these verbalizations was J.D. Parents noted how their children would arrive home from school and recall the day's events while using J.D. as their frame of reference. Beyond conversing with immediate family members, parents recounted the occasions when their children would share their experiences with J.D. to extended family, friends, case workers, and doctors/therapists. For three of these parents, they also denoted an increase in the initiation and reception of physical acts of affection in the form of hugging, holding hands, accepting physical touch, and sitting in close proximity. One parent revealed that incorporating a dog into the home setting was being considered.
4. *J.D. extended students' learning by fostering growth in respect, responsibility and empathy.* Observational and interview data for all six students supports the following:
 - a. Students' demonstrated responsibility by ensuring that J.D. was either hooked to his indoor or outdoor leash at all times to protect his safety.
 - b. Students were responsible at providing J.D. with fresh food and water each day.
 - c. Students were responsible at appropriately disciplining and praising J.D.'s behaviors. One student in particular, who had a history of abusing dogs, admitted that she "was learning my lesson by how to treat dogs, not to hurt them."
 - d. Students were respectful of J.D. when they accidentally hurt him (e.g., bumping him, stepping on him) by telling him they were sorry.
 - e. Students felt it was wrong to spank J.D. if he did something inappropriate.
 - f. Students felt it was acceptable for him to urinate and defecate in their presence.
 - g. Students acknowledged that J.D. had feelings similar to their own.
5. *Students' social interactions became more frequent and appropriate.* An analysis of the data revealed students desired to play with J.D. by following the cooperative reward structure for engagement, which was playing collectively with him. As a result, all six students felt J.D. helped them get along better with each other because they learned to be friends through sharing. Also documented in the study was an increase in socialization with teachers and students from the broader school community.
6. *Parents felt the inclusion of J.D. into their children's classroom community was of educational value.* To substantiate this assertion, parents stated their children's learning became more broad-based as a result of the lessons on social relationships, humane care for animals, and self-expression. According to interviews, all six parents wanted J.D. to be a permanent member of the self-contained classroom.
7. *Students used J.D. to remain in control of their emotions and behaviors in order to prevent them from entering into emotional crisis.* Based on their interviews, all six students said that J.D. made them "feel good," helped them with their "problems," and helped them avoid making bad choices. Students also reported that when they were able

to play with J.D., watch his movements, or have physical contact with him (e.g., petting, holding), they entered a calmer state of mind and body, especially when they were in a self or teacher-directed time-out. Found in Table 1 are comparative data related to the number of emotional crises entered by students 8 weeks prior to the study (when J.D. was not a member of the classroom) and during the 8 weeks of the dog's presence in the classroom.

Table 1. Comparative Data

	Pre Dog Emotional Crises	With Dog Emotional Crises
Jake	3	0
Ben	5	1
Emma	7	2
Abby	2	0
Matt	16	7
Molly	3	1

8. *Students demonstrated self-regulation by managing their behaviors toward J.D. through appropriate verbal and physical interactions; no acts of aggression were directed toward the dog.* During interviews, two students revealed that they controlled their behaviors because they wanted J.D. to be their friend and to not be afraid of them. Three of the students reported the use of J.D. as a calming tool in settings outside the self-contained classroom (i.e., general education classroom and home). These students explained how J.D. helped them make better choices when they were not in his company by simply thinking about playing with him.
9. *Students used J.D. as a de-escalation tool to calm their minds and bodies when they did enter into emotional crisis.* According to the four students who entered into crisis, the dog helped them cope with their anger and frustration. All four stated that petting and playing with J.D. helped them regain control of their minds and bodies to be able to exit the seclusionary time-out and once again be included in their classroom community. Additionally, three of the students reported how being able to laugh at J.D.'s "silly" dog behaviors made them "feel better," which helped them be more responsive to problem-solving discussions generated by the teacher. Physical aggression toward inanimate objects was recorded for three of the students. However, comparing data collected prior to J.D.'s inclusion in the classroom, their acts of aggression were lower in intensity and were no longer directed toward peers and teachers

Conclusions

Consistent with the literature on the therapeutic value of pets for children, results of this study revealed that the dog's presence in a classroom of children with severe emotional or behavioral disorders had positive emotional effects on all of them. Strong bonds between the children and the toy poodle appeared to have a stabilizing effect on their emotions, and their relationships with the dog helped them manage their behaviors. Integration of the dog into this self-contained classroom also provided the students lessons in respect, responsibility, and empathy. These

lessons were generalized to their relationships with classroom peers as well. The authors believe that the results in this empirical study were enhanced, because the research design was guided by an integration of the three conceptual models described in this article.

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Improving the Spelling Performance of Students Who Are Deaf and Exhibit Characteristics Consistent with Learning Disabilities

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Abstract

Research has identified many strategies that are effective in helping students to improve spelling performance. Among the strategies that are cited in a review of the literature are the multi-sensory approach and See/Cover/Write/Compare approach. Using a single-subject behavioral dynamics experimental design with replication across subjects, this study demonstrated the effectiveness of a multi-sensory, See/Cover/Write/Compare intervention procedure to improve written spelling performance in students who were Deaf with characteristics consistent with Learning Disabilities (DCLD). Three students received daily tutoring sessions incorporating a multi-sensory, See/Cover/Write/Compare intervention procedure. Dependent measures addressed the spelling performance of each participant, interobserver reliability, procedural integrity, and consumer satisfaction. Each participant was evaluated in the areas of formative spelling performance, summative spelling performance, and spelling retention. Results from the data demonstrated improvement in spelling for all three participants across all spelling lists.

Improving the Spelling Performance of Students Who Are Deaf and Exhibit Characteristics Consistent with Learning Disabilities

According to the Education for All Handicapped Children Act (PL 94-142) and the subsequent reauthorizations of this law, an individual's learning disability is partially determined by a discrepancy between an individual's potential and academic achievement in the areas of oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, and mathematical abilities (Mercer, 1997; Stewart & Kluwin, 2001). This criterion for the determination of a learning disability is more difficult to apply to individuals who are deaf since hearing loss predisposes the individual to difficulties in the acquisition of language and the academic progress of students (Stewart & Kluwin, 2001). However, students who are deaf should follow typical patterns of growth and achievement (Pollack, 1997). In addition, deafness is usually not accompanied by indicators of the processing problems that are characteristics of learning disabilities such as visual-perceptual problems, attention deficits, perceptual-motor difficulties, severe inability to learn vocabulary and English structures, consistent retention and memory problems, or consistent distractive behaviors or emotive factors (Berent, Samar, Parasn timer, 2000; Elliot, Powers, & Funderberg, 1988; Pollack, 1997; Samar, 1999; Samar, Berent, Parasn timer, 1998; Stewart, 2001).

In a study conducted by Elliot et al. (1988), teachers were asked to rank behavioral and academic characteristics of their students who were DCLD. The most common responses by teachers were: deficiencies in memory, deficiencies in visual perception, deficiencies in attention, inconsistent performance, poor organization skills, achievement/potential discrepancy, atypical language for deaf or hard of hearing students, behavior problems, and unusual learning styles.

In another study conducted by Berent et al. (2000), teachers of students who were deaf were asked to identify the precursors that distinguished the students who exhibited characteristics consistent with learning disabilities from the students identified as deaf but not exhibiting such characteristics. These precursors of students identified as DCLD included problems with spelling, following directions, discourse, spatial/temporal relations, vocabulary, comprehension of questions, prepositions, sentence organization, and comprehension of pronouns.

Research demonstrates that difficulties in spelling can distinguish students who possess learning disabilities with normal hearing from their non-disabled peers (Bruck, 1988; Darch et al., 2000; Fulk & Stormont-Spurgin, 1995). In addition, research demonstrates that spelling is typically a strength of students who are deaf (Allman, 2002; Mayer & Moskos, 1998). Therefore, difficulties in spelling can distinguish students who are deaf and exhibit characteristics consistent with learning disabilities from students who are deaf but do not exhibit characteristics of learning disabilities (Berent et al., 2000).

According to a review of the literature, a variety of studies were conducted to determine and demonstrate methods that are effective in helping students with learning disabilities improve spelling performance. This study addressed the effectiveness of the multi-sensory approach in combination with the See/Cover/Write/Compare approach with students who are deaf but also exhibit characteristics consistent with learning disabilities. Studies demonstrate that both approaches are effective in helping students with learning disabilities improve spelling performance (Mercer, 1997; Murphy, 1997).

In two single-subject studies, the See/Cover/Write/Compare approach was found helpful at improving spelling performance of individuals. Sweeney et al. (1992) found that using a see-cover-write approach was an effective method to improve the reading and spelling skills of an adult male. In another single-subject study involving an adult female, the copy-cover-compare method using a flow list proved effective in improving spelling performance of this individual (Noland et al., 1994).

A multi-sensory approach helps students improve spelling skills by presenting information through the use of all modalities: auditory, kinesthetic, visual, and tactile. Fernald (1988) developed a multi-sensory approach that incorporated visual, auditory, kinesthetic, and tactile modalities. This method is known as the VAKT (visual-auditory-kinesthetic-tactile) method. Graham and Freeman (1986) investigated the effectiveness of using a multi-sensory approach to help students improve spelling performance. Graham and Freeman included three steps in their multi-sensory strategy. In the first step, the students said the word, wrote the word, and checked the word. In the second step, the students traced the word, said the word, wrote the word from memory, and checked the word. In the final step, the process was repeated. The results of this study indicated that the students improved their ability to recall the correct spelling of words.

Fulk and Stormont-Spurgin (1995) reviewed 38 research studies that addressed spelling instruction for students with learning disabilities. Their review considered the students, methods, and findings of each study. Two of the studies incorporated multi-sensory spelling instruction. The first study investigated the effects of the “Multi-sensory Approach for Reading, Spelling, and Handwriting (MTARSH) Program” on improvement in the spelling skills of 282 students in grades 1- 6 with learning disabilities and 144 students who did not exhibit learning disabilities (Vickery, Reynolds, & Cochran, 1987). This program utilizes multi-sensory techniques that were developed by Fernald (1943) and Gillingham and Stillman (1956). The results of this study

indicated significant gains of students in two of the six grades. The second study involved a multi-sensory program that incorporated reduced lists, error correction, and metacognitive training with 14 male adolescents (Brown, 1988). When the subjects were given the Test of Written Spelling (TWS), no significant differences were found on the posttest results for the predictable or unpredictable words from word lists or paragraphs. However, when the scores across word lists and paragraphs were pooled, significant differences were found on the posttests of unpredictable words.

Research incorporating a single-subject design was used in several studies regarding effective instructional approaches for spelling (Fulk & Stormont-Spurgin, 1995). Single-subject research is a research method in which one subject or a small number of subjects are the focus of a study (Bullis & Anderson, 1986). The relationship between the independent and dependent variables is examined by collecting data on the students through frequent measurement and visual representations of the students' performance are represented on a graph. Research incorporating a group design examines the relationship between independent and dependent variables by collecting statistical analysis of the data. According to Bullis and Anderson (1986), single-subject research is a very effective method to use when studying the population of deaf and hard of hearing individuals. The effectiveness of single-subject research is especially important because the population of deaf and hard of hearing individuals is only one percent of the general population and within this small population, there is a great deal of diversity in learning styles, academic abilities, and communication modes (Luetke-Stahlman, 1986).

In addition to collecting data for research purposes, collecting data on student performance is a valuable method of assessing student progress and the effectiveness of instruction (Halle et al., 1984; Johnston & Pennypacker, 1994). Assessing student progress assists the instructor in matching instructional methods to learner characteristics. Data that demonstrates that a student is not maintaining or improving in developing an academic skill guides the instructor in making changes in strategies or materials, thus ensuring ongoing student progress and success.

Precision Teaching is also a data-based approach that is used to determine the effectiveness of an instructional approach, and like single-subject research designs, requires direct and repeated measurement, a visual representation of the student's performance in the form of a chart (i.e., Standard Celeration chart), and analysis of data to make instructional decisions (Binder, 1993; Binder, 1996; Binder, Haugton, & Van Eyk, 1990; Binder & Watkins, 1990; Downs & Morin, 1990; Howell & Lorson-Howell, 1990; Lindsley, 1990; Lindsley, 1991; Lindsley, 1992a; Lindsley, 1992b; Lindsley, 2001a; Lindsley, 2001b; McGreevy, 1983; Mercer, 1997; Pennypacker, Koenig, & Lindsley, 1972; Sweeney, Sweeney, & Malanga, 2001; Teigen, Malanga, & Sweeney, 2001). Repeated measurement informs a teacher if the student is improving, maintaining, or regressing throughout the instructional process. The data is charted, analyzed, and interpreted on a Standard Celeration Chart (Sweeney, 1992; West, Young & Spooner, 1990). The Standard Celeration Chart shows the frequency of correct and incorrect student's responses as well as the relative speed of the responses across time. The data demonstrates the effects of the intervention and assists the teacher in making decisions about instructional strategies. In addition, the charting of student performance motivates students to improve their correct responses and reduce their errors (Sweeney, Ring, Malanga, & Lambert, 2003). In doing so, students are competing with themselves in an effort to improve their current performance in comparison to their previous performance in a given area.

The purpose of this study was to investigate the effectiveness of using a multi-sensory, See/Cover/Write/Compare intervention procedure to help students who are deaf and exhibit characteristics consistent with learning disabilities (DCLD) improve their spelling performance. This study was a systematic replication which built upon parts of previous research with students who possess normal hearing and learning disabilities (Brown, 1988; Graham & Freeman, 1986; Jennings, 1997; Noland, McLaughlin, & Sweeney, 1994; Sweeney, Omness, Janusz, & Cooper, 1992; Vickery, Reynolds, & Cochran, 1987) and incorporated curriculum based assessment approaches similar to approaches advocated by Lindsley (1980); McGreevey (1983); and Sweeney, Omness, Janusz, and Cooper (1992). A review of the literature found that while there are numerous studies that demonstrate the effectiveness of incorporating multi-sensory approaches and a See/Cover/Write/Compare approach for individuals who possess normal hearing and learning disabilities (Brown, 1988; Graham & Freeman, 1986; Jennings, 1997; Noland, et al., 1994; Sweeney et al., 1992; Vickery et al., 1987); however, the review of the literature did not indicate that there are studies utilizing these approaches with students who are deaf or students who are DCLD. This study incorporated these approaches with another population of students, students who are deaf, and students who are DCLD thus building and expanding the knowledge base of empirically-based spelling interventions for students who are deaf or who are DCLD.

Method

Participants and Setting

Three male students were selected from a small residential facility for deaf students in the upper Midwest. The primary investigator of this study met with the teachers at this residential facility to describe the research project and ask for their assistance in recommending students for this project that demonstrated difficulty in learning and retention of spelling vocabulary and demonstrated characteristics that were consistent with learning disabilities. These characteristics of learning disabilities were confirmed by teacher observations, their performance on standardized assessments, and personal and academic history.

Dependent Measures

Dependent measures for the study addressed the spelling performance of each participant, interobserver reliability procedures, and procedural integrity and consumer satisfaction measures. Spelling performance included three areas: daily formative performance in spelling, weekly summative performance in spelling, and follow-up retention spelling probes. The primary variable that was measured across all these spelling measures in this research study was spelling accuracy of written words. The lists of spelling words were determined by the participants' classroom teacher as well as the language arts curriculum that is used at this facility which incorporated the textbook series entitled, "Vocabulary Workshop" (Sadlier, 2002).

Spelling Performance

Daily Formative Performance. Prior to the initial instruction of the new list of spelling words, the participants were given a pretest. The pretest was a one-minute timing in which the participants were instructed to watch the tutor sign the word, and then write the word. The participants received daily individual tutoring sessions incorporating a multi-sensory, See/Cover/Write/Compare intervention procedure. At the end of each tutoring session, a one-minute timing was conducted to assess the daily spelling performance. If a participant hesitated on spelling any of the words, the tutor waited three seconds and then instructed the participant to

move on to the next word on the list. At the end of the one-minute timing, the tutor and participant corrected the participant's responses by comparing the participant's responses to a previously developed key for a given spelling word list.

The measure of written spelling accuracy for each participant was based on the number of letters written in correct or incorrect sequence per minute. Correct responses were defined as the number of correctly written letters, in the correct sequence, during one-minute timing. Incorrect responses were defined as omissions, reversals of one or more sequences of letters, and inclusion of unnecessary letters. The participants were expected to reach an instructional aim of 80 to 100 letters in the correct sequence per minute (Liberty, 1972; Liberty, 1975; McGreevey, 1983; Sweeney, 2004; White & Liberty, 1976). The total number of correct and incorrect responses per minute was counted and charted daily. The one-minute timings were calculated by converting the total number of letters in correct sequence and incorrect responses into a count per minute. This calculation was done by multiplying the total number of correct or incorrect responses by 60 seconds and dividing this sum by the total number of seconds that the student spent completing the spelling probe resulting in a rate measure of the correct and incorrect responses. Data were graphed for each participant using a Standard Celeration Chart and response records were kept on the Microsoft Excel spreadsheet program.

Summative Performance. The participants continued with a list of spelling words until they were able to reach and maintain the pre-established instructional aim for three consecutive days. The one-minute timing at the end of the session on the third day served as the posttest for that list of spelling words. The tutor graphed the highest number of letters in correct sequence and lowest number of incorrect responses per minute along side the corresponding pretest data for a given spelling list using a bar graph comparison format (Cooper et. al, 1987).

Follow-up Retention Probe. Follow-up evaluations for retention of newly spelled words were conducted two, five, and nine weeks after the conclusion of the intervention. The list of words that was used during the study was randomly selected for follow-up probes. For each follow-up evaluation, a one-minute timing was conducted at the beginning of the session to assess the retention of spelling words that were learned during the 8-week intervention period. The initial one-minute timing (pretest) was followed by a tutoring session which was followed by another one-minute timing to compare the difference in performance between the initial one-minute timing and final one-minute timing.

Interobserver Agreement

Data were collected in the form of permanent products. These products included paper, pencil, and videotape of the tutoring sessions. The participants' classroom teacher and the researcher independently recorded the results of the participants' performance on summative and formative spelling quizzes comparing the participants' responses to a previously developed key for a given spelling word list. Interobserver agreement was calculated in this manner for the following variables related to spelling performance: (1) daily formative spelling performance, (2) summative performance, and (3) follow-up spelling retention probes.

Prior to the study, the researcher met with the classroom teachers to explain the purpose of the investigation and to train the classroom teachers in measuring the participants' spelling performance. The classroom teachers were instructed to use the same procedure when evaluating

formative and summative quizzes and on the follow-up retention probes. During initial training for the interobserver agreement, the classroom teacher (i.e., independent observer) demonstrated proficiency at scoring and establishing interobserver agreement with the primary researcher at a 96% or above level of agreement in 4 out of 4 initial training trials.

Daily Formative and Summative Performance. Interobserver agreement measures were randomly selected from approximately 40% of all of the combined Daily Formative and Summative sessions across all spelling lists. The independent observer then selected these days to independently score and then to compare to the primary researcher's scoring of these sessions. This comparison of the independent observers' scores with the primary researcher's original scores for the respective sessions established a session-by-session measure of interobserver agreement related to daily formative spelling performance. Reliability was calculated for correct and incorrect responses. First, reliability was calculated for the letters in correct sequence by adding the total number of letters in correct sequence on daily one-minute timings and determining a percentage equivalent for interobserver reliability. Using the total number of correct responses recorded by the primary researcher and the total number of correct responses recorded by the classroom teacher, percentage of agreement was calculated by dividing the smaller of the two scores by the larger of the two scores and multiplying by 100, thereby producing a measure of interobserver agreement (i.e., reliability). This method was repeated with incorrect responses to determine a percentage of agreement for interobserver reliability for incorrect responses.

The researcher and classroom teacher maintained a minimum of 92% agreement on each session-by-session observation comparison (Cooper et al., 1987; Johnston & Pennypacker, 1994). If the reliability score for two consecutive or any three out of five of the independent observer's observation scores when compared to the researcher's original scores were less than 70%, the researcher planned to retrain the classroom teachers on the observation and measurement procedures. The classroom teachers would need to demonstrate proficiency at a minimum of 90% accuracy in 3 out of 4 trials if retraining on interobserver agreement would have been necessary.

Follow-up Retention Probes. Follow-up evaluations for retention of newly spelled words were also conducted two, five, and nine weeks after the conclusion of the intervention. The lists of words that were used during the study were randomly selected for follow-up probes. Interobserver agreement measures were randomly selected from approximately 33% of all of the follow-up retention probe sessions across all spelling lists. Reliability for the follow-up evaluations was calculated using the same procedure that was used for calculating the formative and summative performances. Results of the interobserver reliability measures demonstrated an overall range of reliability scores of 99 to 100% for correct responses and an overall range of reliability scores of 98 to 100% for incorrect responses

Procedural Integrity

Integrity of the experimental procedures was assessed by having the classroom teachers of the participants observe 20% of the sessions across all experimental conditions (Cooper et al., 1987; Johnston & Pennypacker, 1994). Because the classroom teachers were unavailable during the

sessions, the sessions were videotaped and reviewed by the classroom teachers at their convenience.

During the tutoring sessions, the independent observer watched the tutor implementing the following procedure in which the students were instructed to:

1. Look at the word.
2. Watch the tutor sign the word.
3. Sign the word.
4. Look at the word and use the index finger to write the word on the table.
5. Close the eyes.
6. Visualize the word.
7. Fingerspell the word.
8. Look at the word.
9. Cover the word.
10. Write the word.
11. If the student made an error, he wrote the word two more times.

This process was repeated with each spelling word from the list.

A checklist containing this procedure was used to verify implementation of the procedures. The checklist helped to ensure consistent implementation of the procedures for the duration of the study. The observer was asked to place a mark beside each step of the procedure that was demonstrated during each tutoring session. Procedural integrity was calculated by dividing the total number of items marked on the checklist by the total number of spaces on the checklist and multiplying the result by 100 to determine a percentage.

The observer (classroom teacher) was expected to observe the tutor (primary researcher) in 100% compliance with the stated procedure. If the observer noted discrepancies in the procedure that was used by the tutor, the observer would inform the tutor of the discrepancies that were noted; and the tutor then review the procedure and implement the procedure as stated prior to the next tutoring session. Results of the procedural integrity measures indicated that the primary researcher implemented the procedures correctly in 100% of the sessions reviewed.

Social Validity

Social Validity was measured by the responses provided by the participants and classroom teachers on a questionnaire regarding the Multi-sensory, See/Cover/Write/Compare Spelling Intervention procedure. The researcher gave the students and classroom teachers the questionnaires to complete on the final tutoring session. The purpose of the social validity measure was to determine the students' and teachers' perception regarding the effectiveness of the intervention that was implemented.

The investigator developed a social validity scale which addressed the social significance of the goals of the treatment, the appropriateness of the procedure, and the importance of the effects. The survey included a social validity scale using a Likert-type scale with 4 potential responses for each question on the student survey. Each potential response on the student survey corresponded to a numerical value (i.e., Yes = 4, Sometimes = 3, Almost not = 2, and No = 1). The survey for the teachers included 2 potential responses for each question. Each potential response on the teacher survey corresponded to a numerical value (i.e., Agree = 2, Disagree =

1).The results were summarized by mean responses for each question. Individual responses were examined as well as a compilation of all of the students' responses. The investigator provided a written description of the results of the students' responses for each question as well as a description of the compilation of all of the students' responses.

Results

Spelling performances were summarized by including tables and Standard Celeration Charts of individual student data. The data indicated improvement in spelling performance with the use of a multi-sensory, See/Cover/Write/Compare intervention procedure for all three students participating in this research study. Follow-up evaluations for retention of spelling words were conducted two, five, and nine weeks after the conclusion of the intervention. Results from Charts 1-3 (Figures 1, 2, 3) show accelerating data paths for the number of letters spelled in correct sequence in one minute and decelerating trend in incorrect responses and thus, indicate improvement in spelling performance with the use of a multi-sensory, See/Cover/Write/Compare intervention procedure for all three students participating in this research study.

Figure 1
 Standard Celeration Chart for Kyle-accelerating paths for correct responses and decelerating paths for incorrect responses demonstrate improvement in spelling
 Correct responses X incorrect responses

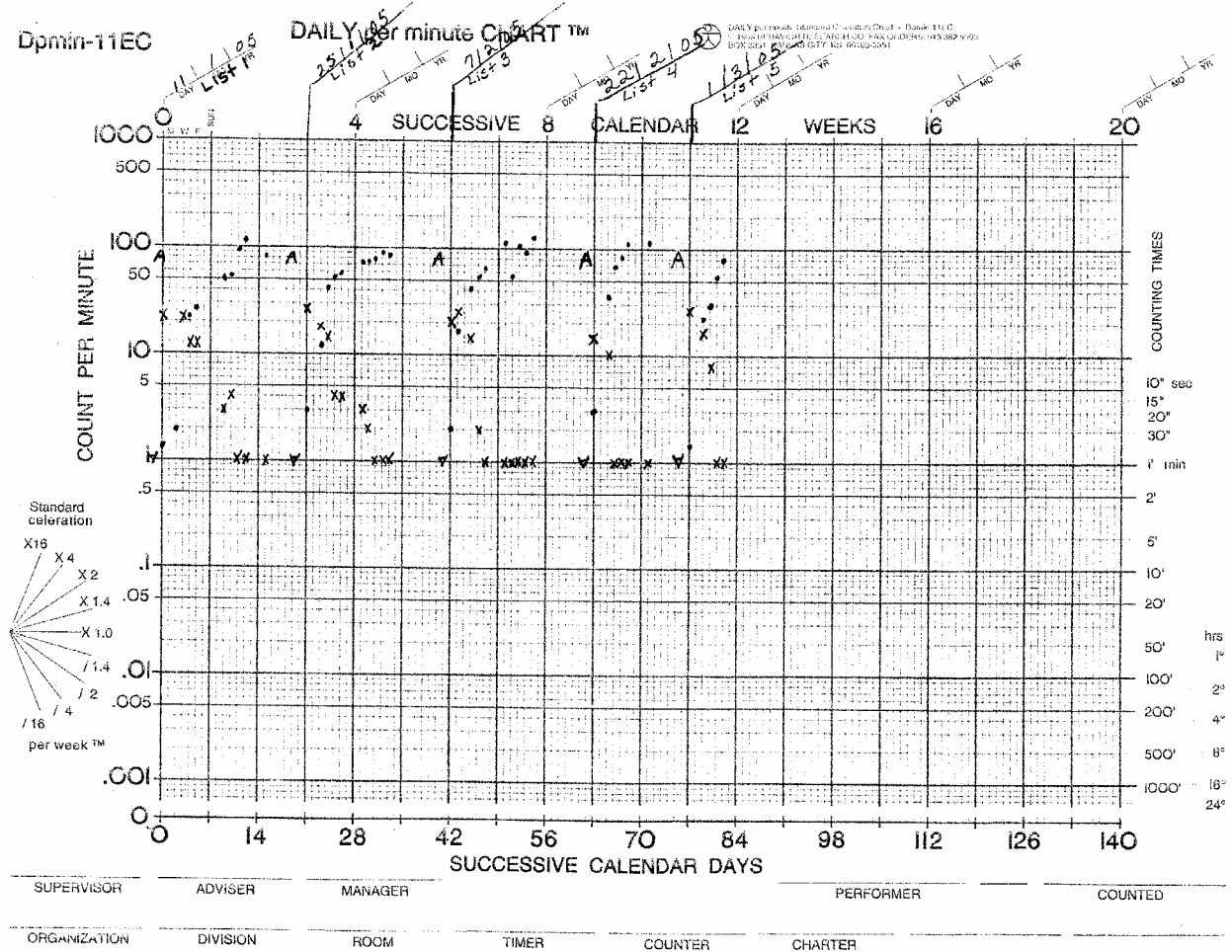


Figure 2

Standard Celeration Chart for Abner-accelerating paths for correct responses and decelerating paths for incorrect responses demonstrate improvement in spelling

Correct responses X incorrect responses

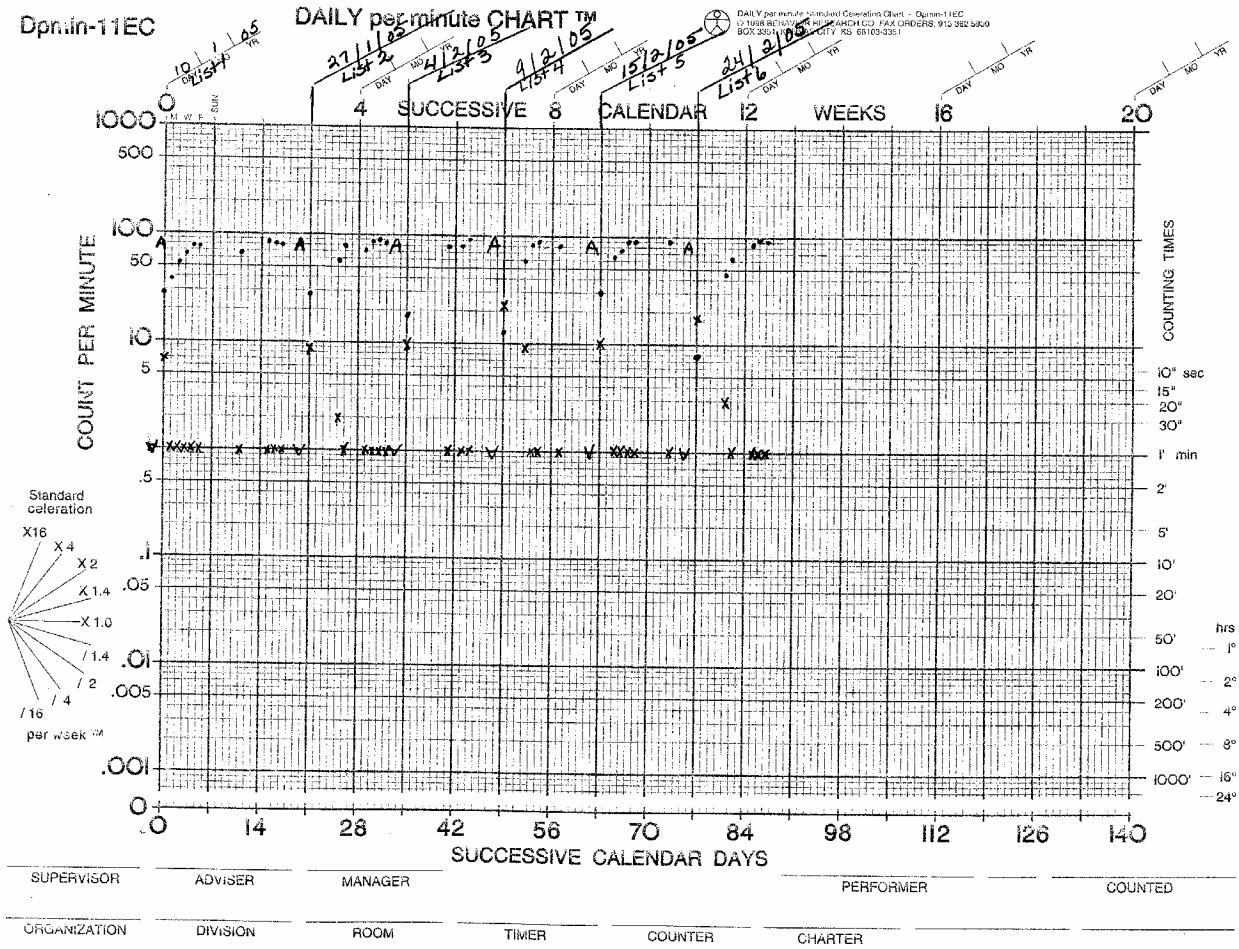
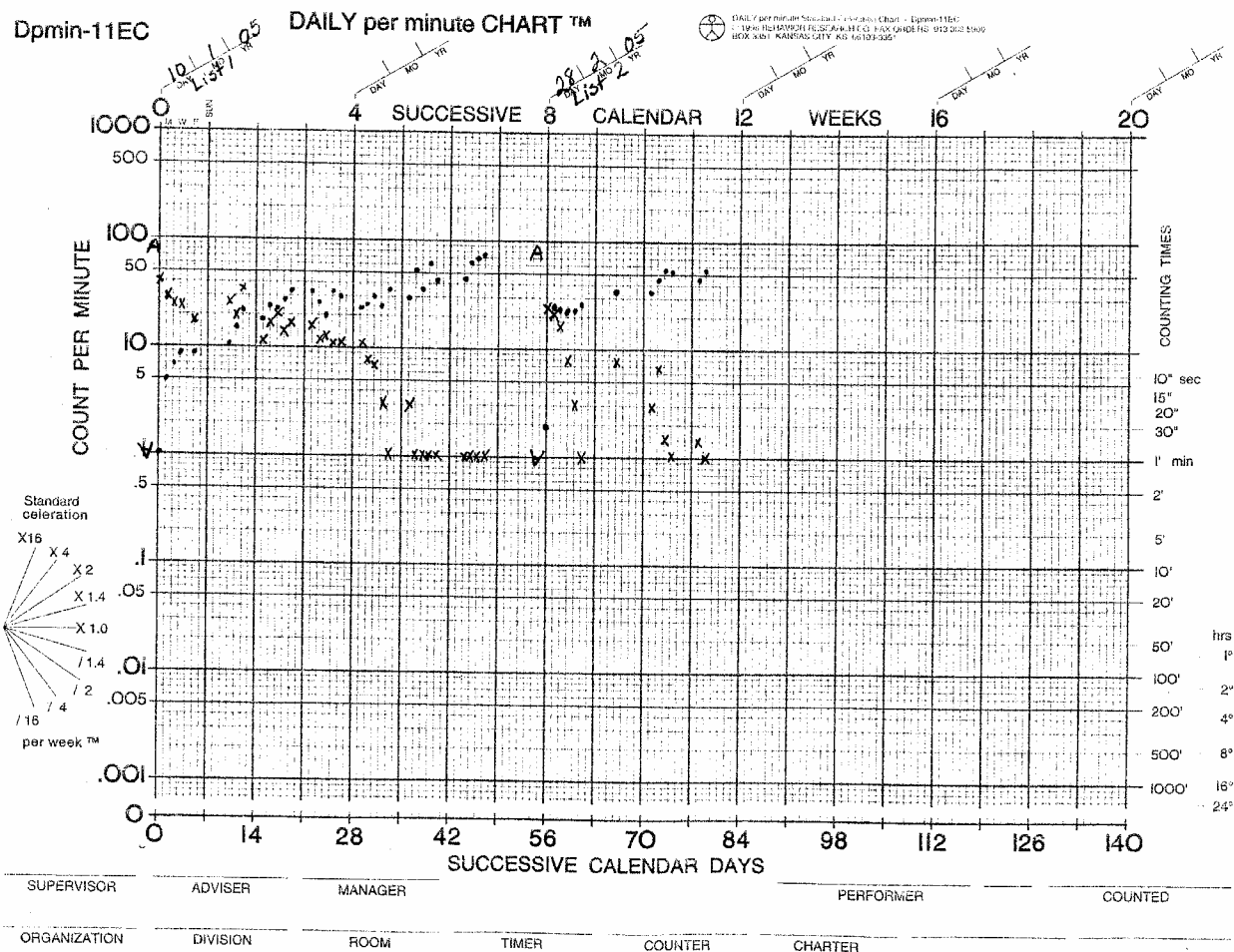


Figure 3

Standard Celeration Chart for Jerry-accelerating paths for correct responses and decelerating paths for incorrect responses demonstrate improvement in spelling

Correct responses X incorrect responses



The data in Table 1 indicate improvement in pre-and posttest results on spelling performance with the use of a multi-sensory, See/Cover/Write/Compare intervention procedure for all three students participating in this research study. The overall median difference for letters in correct sequence between pretest and posttest scores for all three participants was 75 letters written correctly across the word lists. The overall median difference for incorrect responses for all three participants was 19 across the word lists. The overall range of differences for letters in correct sequence between pretest and posttest scores for all three participants was 52 to 123 across the word lists. The overall range of differences for incorrect responses between pretest and posttest scores for all three participants was 16 to 65 across the word lists.

Table 1
Pre- and Posttest Comparison for One-minute Timings

Student	Kyle		Abner		Jerry	
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect
List 1						
Pretest	1	23	29	7	0	40
Posttest	82	0	81	0	65	0
Difference	81	23	52	7	65	40
List 2						
Pretest	3	27	29	9	2	24
Posttest	85	0	84	0	56	0
Difference	82	27	55	9	54	24
List 3						
Pretest	2	20	18	10	NA	NA
Posttest	125	0	93	0	NA	NA
Difference	123	20	75	10	NA	NA
List 4						
Pretest	3	16	12	22	NA	NA
Posttest	106	0	81	0	NA	NA
Difference	103	16	69	22	NA	NA
List 5						
Pretest	1	27	30	10	NA	NA
Posttest	80	0	90	0	NA	NA
Difference	79	27	60	10	NA	NA
List 6						
Pretest	NA	NA	8	18	NA	NA
Posttest	NA	NA	91	0	NA	NA
Difference	NA	NA	83	18	NA	NA
Median dif	82	23	60	10	60	32
Range dif	79-123	16-27	52-83	7-22	54-65	24-40

Follow-up evaluations for retention of spelling words were conducted two, five and nine weeks after the conclusion of the intervention. The lists of words that were used during the study were randomly selected for each follow-up evaluation. The spelling retention follow-up probes were administered in a similar fashion to the initial instructional session on a new word list. First a pre-test over the words in a given word list was provided, followed by specific spelling instruction using the multi-sensory, See/Cover/Write/Compare instructional procedure, and concluding with a posttest follow-up probe. The data in Tables 2 - 4 demonstrate the differences

in scores between the baseline and pretest follow-up retention probe and posttest and posttest follow-up retention probe. The results of these follow-up retention probes appear mixed.

Table 2

A Comparison of 2-week Follow-Up One-minute Timings with Initial Pretest and Posttest One-minute Timings

Student	Two-week Follow-Up Retention Probe											
	Initial Pretest		Follow-Up Pretest		Difference Initial Pretest / Follow-Up Pretest		Posttest		Follow-Up Posttest		Difference Posttest / Follow-Up Posttest	
	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.
Kyle	1	27	6	27	5	0	80*	0*	79*	1	-1	1
Abner	18	10	63	6	45	-4	93*	0*	85*	0*	-8	0
Jerry	2	24	32	12	30	-12	56	0*	42	1	-14	-1

*Denotes Instructional Aim was Achieved

Table 3

A Comparison of 5-week Follow-Up One-minute Timings with Initial Pretest and Posttest One-minute Timings

Five-week Follow-up Retention Probe												
Student	Initial Pretest		Follow-Up Pretest		Difference Initial Pretest / Follow-Up Pretest		Posttest		Follow-Up Posttest		Difference Posttest / Follow-Up Posttest	
	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.
Kyle	3	16	12	19	9	3	106*	0*	86*	2	-20	2
Abner	12	22	25	21	13	-1	81*	0*	90*	0*	9	0
Jerry	0	40	7	34	7	-6	65	0*	41	21	-24	-21
*Denotes Instructional Aim was Achieved												

Table 4

A Comparison of 9-week Follow-Up One-minute Timings with Initial Pretest and Posttest One-minute Timings

Nine-week Follow-up Retention Probe												
Student	Initial Pretest		Follow-Up Pretest		Difference Initial Pretest / Follow-Up Pretest		Posttest		Follow-Up Posttest		Difference Posttest / Follow-Up Posttest	
	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.	Cor.	Inc.
Kyle	2	20	5	35	3	15	125*	0*	48	0	-77	0
Abner	8	18	12	37	4	19	91*	0*	57	0	-34	0
Jerry	2	24	24	31	22	-7	56	0*	41	13	-15	13

*Denotes Instructional Aim was Achieved

The results on the follow-up retention probes are mixed with some of the results indicating that the participants were able to retain what they learned during the intervention procedure with the primary researcher. All three students performed better on the two-week follow-up retention pretest on this randomly selected spelling list than the original pretest. Two out of the three students performed better on the original posttest than the two-week follow-up posttest. One student performed almost as well on the two-week follow-up posttest as the original posttest. All three students performed better on the five-week follow-up retention pretest on this randomly selected spelling list than the original pretest. Two out of the three students performed better on the original posttest than the five-week follow-up posttest. However, one of the three students performed better on the five-week follow-up posttest than the original posttest. All three students performed better on the original pretest than the nine-week follow up pretest on this randomly selected spelling list. All three students performed better on the original posttest than the nine-week follow-up posttest. The results for these students indicate that they were able to retain the spelling vocabulary for five weeks after the intervention but they were not able to retain the spelling vocabulary for nine weeks following the intervention. These results indicate that these students may benefit from occasional review of learned spelling words. In addition, they may benefit from frequent practice. Their teachers could assign them with homework in which they must incorporate the vocabulary in sentences, paragraphs, stories, or other written assignments.

Social Validity

Student Satisfaction. All three students enjoyed participating in the program and indicated that they would like to participate in this type of a spelling program again. All of the students felt that their spelling improved and felt that they were able to incorporate the spelling words in their writing assignments.

Teacher Satisfaction. Both classroom teachers felt that a multi-sensory, See/Cover/Write/Compare intervention procedures were effective methods for spelling instruction. Table 18 summarizes the responses on the part of the two teachers related to the questions on the teacher satisfaction survey. One teacher indicated that the student appeared to be more motivated and excited about spelling. One of the teachers felt that this procedure would be beneficial to use with all students who are deaf due to the visual strategies included in this procedure. However, the other teacher felt that this approach was not necessary to use with all students who are deaf. Many students who are deaf exhibit the skills necessary to learn to spell without the use of special intervention procedures. Both teachers felt this intervention could be used with other students in addition to students who are deaf and exhibit characteristics of learning disabilities. These teachers believed that this intervention could be used with students who can hear but may possess a learning disability or students who are visual learners. Both teachers indicated that they would like to incorporate this spelling intervention procedure in their classrooms.

Discussion

Various studies indicate that a See/Cover/Write/Compare approach (Jennings, 1997; Noland, et al., 1994; Sweeney, et al., 1992) and a multi-sensory approach (Brown, 1988; Graham & Freeman, 1986; Vickery, et al., 1987) are effective strategies to use to assist individuals in improving spelling performance. Although a review of the literature does not indicate that there

are studies utilizing these approaches with students who are DCLD. This study incorporated these approaches with students who are DCLD and demonstrated the effectiveness of the multi-sensory approach in combination with the See/Cover/Write/Compare approach with students who are DCLD. The effectiveness of this study was demonstrated through the results from the Standard Celeration Charts, difference in scores between pre- and posttest scores, follow-up retention probes, teacher surveys, and student surveys. The Standard Celeration Charts for all three students showed accelerating data paths of the number of letters spelled in correct sequence and decelerating trends for incorrect responses. The significant differences in the range of scores showed improvement in spelling for all three students across all spelling lists. The difference between pre- and posttest scores demonstrated definite improvement for all three subjects across all lists. The results demonstrated that the students did retain some of the spelling that they learned because they performed better on the two-week and five-week follow-up pretests than the original pretests. The inability to demonstrate retention of the spelling vocabulary during the nine-week retention probe may indicate that further review and practice are necessary. Finally, the responses of the students and teachers on the surveys indicated that they felt the Multi-sensory; See/Cover/Write/Compare intervention procedure was an effective strategy to improve spelling performance.

Although the responses of the classroom teachers on the surveys indicated that they felt the Multi-sensory, See/Cover/Write/Compare intervention procedure was an effective strategy to improve spelling performance, the views of both teachers regarding the implementation of this procedure differed. One teacher felt this procedure would be beneficial to use with all students who were deaf because this procedure incorporates many visual strategies that would benefit all students who are deaf. The other teacher felt that this approach would be more appropriate to use only with students who are deaf and demonstrate difficulty in learning spelling vocabulary or with students who are identified as DCLD. This latter teacher said that many of her students who are deaf demonstrated the ability to learn to spell without the use of special intervention procedures.

Like teachers of students who possess normal hearing, teachers of deaf students may implement other spelling study strategies such as those mentioned in the review of the literature. However, the data from this study indicate that it is feasible to believe that this intervention could be used with all students who are deaf. This approach allows a teacher to use a variety of modalities to practice and reinforce the configurations of letters in a word, especially important for students who are deaf or hard of hearing. In addition, using a variety of modalities is beneficial for students who are deaf to compensate for the inability to hear and use phonetic cues to decipher word configurations.

This study was the only research found incorporating a multi-sensory, See/Cover/Write/Compare intervention procedure with students who are DCLD. Previous studies implemented a multi-sensory approach with students who possess normal hearing and learning disabilities (Brown, 1988; Graham & Freeman, 1986; Jennings, 1997; Vickery, et al., 1987) and a See/Cover/Write/Compare approach with students who possess normal hearing and learning disabilities (Noland, et al., 1994; Sweeney, et al., 1992). This study needs replication to generalize the findings of this research to other students who are DCLD.

In addition, this study could be replicated using students who are deaf and do not possess learning disabilities. Replicating this study to this population could determine if this intervention

procedure was equally effective with students who are deaf and who do not possess learning disabilities. A comparison could be made with the various components of this study, such as the number of sessions needed to reach the instructional aim and the ability to retain spelling vocabulary.

This study used three high school students. Future research conducted with middle school and elementary students to determine the effectiveness of this intervention procedure with younger students would expand the robust nature of this intervention and would further provide evidence of the generalizability of this intervention to other school-aged populations.

The students in this study received individual tutoring. Because they were able to receive more attention during individual sessions, their relative spelling performance was in all probability positively affected in comparison to the traditional spelling curriculum used in their classroom. Therefore, future research could be conducted using this intervention procedure with a group of students. Such research could determine the effectiveness of using this intervention procedure with a group or groups of students as well as on an individual basis. Due to time management issues or classroom management issues, teachers may prefer using this procedure with an entire class.

Finally, future research could be conducted implementing only the multi-sensory component of this intervention procedure or only the See/Cover/Write/Compare component of this intervention procedure with students who are DCLD to determine if one component is equally or more effective than the other component.

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Teaching Homeless Students or Others about Homelessness: Juvenile Literature Can Help

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Abstract

Increasing numbers of students in U.S. schools are personally affected by homelessness. Students may observe homeless individuals in their community or be homeless themselves. Teachers can use bibliotherapy to help students deal with sensitive issues related to homelessness. In this article we provide an annotated bibliography of children and young adult fiction books portraying homelessness. We also address prominent themes about homelessness as portrayed in these books.

Teaching Homeless Students or Others about Homelessness: Juvenile Literature Can Help

The number of homeless individuals in the United States is increasing. It has been estimated that at least 2.3 million people are likely to be homeless in any given year (The Urban Institute, 2000). Homelessness impacts not only single individuals, but families with children as well. In fact, the U.S. Department of Education estimates that over 800,000 children and youth in the U.S. are currently homeless (U. S. Department of Education, n.d.). Nationally approximately 40% of those who are homeless are families. Single men comprise 41% of the homeless population, while 14% are single women and 5% are unaccompanied youth (U.S. Conference of Mayors, 2004).

Given the increased numbers of homeless children and youth, the U.S. Congress created the McKinney-Vento Homeless Assistance Act (reauthorized in 2001). Under this Act, states are eligible for grant monies to support programs for homeless students. In order to qualify for the funds, states must guarantee that homeless students are:

- Enrolled in school immediately, even if they do not have the records normally required by non-homeless students.
- Allowed to stay in their school of origin, if at all possible, unless doing so is contrary to the wishes of the parents or guardians.
- Provided transportation, at the request of parents or guardians, to and from the school they attended prior to becoming homeless.
- Not educated in a separate program within a school based on homelessness alone (The McKinney-Vento Homeless Assistance Act, 2001).

School attendance for homeless children has risen from 45 percent in 1997 to 87 percent in 2001 (Council for Exceptional Children [CEC], 2003). Now that more homeless children are attending school than in the past, the impact of homelessness on their schooling experience deserves increased attention. Homelessness can have detrimental long- and short-term effects. For example, homelessness is associated with poorer physical and mental health, developmental delays, academic underachievement, and higher rates of grade retention (Rafferty, Shinn, & Weitzman, 2004). Homelessness also impacts children on a day-to-day basis. For example, homeless families do not have expendable funds to support items and activities such as snacks for class parties, field trips, or school supplies. They also may not have a quiet, proper place to study or pens or pencils to complete homework. Homeless students may be suffering from lack of sleep or hunger that interferes with their ability to pay attention (Yamaguchi, Strawser, & Higgins, 1997). Teachers need to develop sensitivity to the manner in which homelessness takes its toll on a student in school, recognize these situations as they arise, and provide necessary support to the homeless student. These efforts can make a huge difference in the life of a homeless child.

One specific resource available to help educators teach homeless students or others about homelessness is juvenile literature. In this article, we present information to help educators who use bibliotherapy with students who are homeless. We also present information about teaching about homelessness to those who are not homeless. Finally, we present prominent themes found in several juvenile books which address homelessness through fictionalized accounts.

Bibliotherapy for Students who are Homeless

Bibliotherapy is defined as the use of books to help individuals solve problems. Bibliotherapy helps students express their problems and concerns, analyze their thoughts and behaviors in relationship to others, and reduce their anxiety levels. Books, particularly fictionalized accounts of others experiencing similar life events, can provide information and potential solutions to the readers' problems (Orton, 1997).

Bibliotherapy can benefit students in many ways. It can encourage them to express their problems openly, as well as analyze their thoughts and behaviors toward their situation, themselves, and/or others. Bibliotherapy can also serve as a tool to provide information, reduce anxiety, and promote relaxation in a fun and unique way (Orton, 1997).

We are unaware of any research that has directly examined the impact of bibliotherapy on homeless students. Research has documented, however, bibliotherapy is an effective intervention for individuals experiencing difficult life circumstances, such as depression, lack of assertiveness, unhealthy attitudes, anxiety, and inappropriate behaviors (Ackerson, Scogin, McKendree-Smith, & Lyman, 1998; Marrs, 1997; Riordan & Wilson, 1989; Schrank & Engles, 1981).

To implement bibliotherapy with students, teachers should be sensitive to the students and to their family situations. They also need to be systematic in implementing bibliotherapy procedures. Table 1 lists 10 steps recommended for teachers to follow when implementing bibliotherapy. For more detailed information of these steps, see Prater, Johnstun, Dyches, and Johnstun (2005).

Teaching about Homelessness

Given the increased number of homeless children and youth and additional federal resources available to support these students, educators will likely encounter homeless students at some point in their career. Even if teachers do not serve homeless students, they can help other students develop tolerance and an understanding of those who experience life difficulties by teaching about homelessness. Most students are exposed to homeless people, whether in their communities or through the media. Children may raise questions that warrant answers, such as why certain individuals are asking for money, look or smell funny, sleep on the park bench, or carry large bags full of their belongings.

Not only is juvenile literature valuable to help homeless students through the use of bibliotherapy, literature can also be used to teach others about homelessness. In fact, educators advocate the use of literature in classrooms as a means to teach about specific subjects (Dyches & Prater, 2000; Prater, 2000) or in integrated thematic units (Rothlein & Meinbach, 1996).

Additional resources are available to help educators teach about homelessness. For example, several professional organizations and governmental agencies have developed websites designed to assist educators teach about homelessness. These websites provide lesson plans and other teaching ideas and materials. Table 2 lists websites teachers might find particularly helpful. Juvenile literature may be integrated throughout these other resources.

Prominent Homelessness Themes in Juvenile Literature

To help teachers identify quality literature that portrays homelessness, we read about 40 fictional juvenile picture and chapter books that included characters who are homeless. In doing so we identified 26 books that had the highest literary value in which homelessness largely impacted the plot (see Table 3). Inclusion on this list does not, however, ensure that the content of the book is appropriate for all students. We strongly recommend that teachers read the books prior to using them to make certain they are appropriate for a particular student or situation.

While reading the books we identified five prominent themes related to homelessness that may be useful for bibliotherapy and/or to teach about homelessness. These themes include mental illness, isolation, school issues, fears of the homeless, and situations leading to homelessness. We discuss each theme below and provide a brief synopsis of a few books representing each theme.

Mental Illness

Individuals with serious mental illness are overrepresented among the homeless population. In the U.S. only 4 percent of the adult population has serious mental illness, whereas 23 percent who are homeless are seriously mentally ill (U.S. Conference of Mayors, 2004). Mental illness and the lack of appropriate health care and services available to this population contribute to homelessness in this country.

Mental illness is discussed in many of the books reviewed, although none of the books were told from the point of view of the character with mental illness. Sometimes the character who tells the story is a child dealing with a mentally ill parent. In *Don't Look in Her Eyes* (McElderry, 1983) 12-year-old Jason has the responsibility of caring for himself and his baby brother, Chad, ever

since their violent and mentally ill mother left. They live in a friend's tree house until the friend's parents discover them and invite the two boys to live in their home.

Many of the books feature homeless characters who suffer from post-traumatic stress disorder. In *December Stillness* (Hahn, 1988), Kelly, a 15-year-old girl is assigned to write a paper about a contemporary issue, and she chooses homelessness. She meets and tries to befriend Mr. Weems, a homeless Vietnam veteran. The story takes a tragic twist when Mr. Weems walks out onto a busy street and is killed. Kelly is shocked by the news but grows closer to her father, who is also a Vietnam veteran. Kelly and her father take a trip together to see the Vietnam War Memorial, where they both begin to heal.

In *The King of Dragons* (Fenner, 1998) 11-year-old Ian and his father are homeless. Ian's father teaches him how to survive on the streets, a necessity Ian uses when his father disappears. Unknown to Ian, his father has been admitted into a mental hospital due to trauma related to the Vietnam War. The story ends with Ian's father healing well enough to look for Ian and finding him well and unharmed.

While the endings of some books may not seem realistic, they open the door to a discussion about what may happen in the real world. This can give homeless students an opportunity to discuss their feelings and events that are occurring in their lives. A thoughtful discussion based upon these books can also help correct any stereotypes or misunderstandings of the students who are not homeless.

Isolation

Homeless children often feel alienated and isolated from their peers. At school they often feel out of place and embarrassed because of their situation. Even after children are no longer homeless, they can still harbor some feelings of inadequacy, as well as a hidden shame for being different from their peers. Bibliotherapy can help students normalize their situation. They can learn, for example, that many others have had similar experiences, and that they are not alone.

One example of isolation is Angela in *Lonely Girl* (Baer, 1992). Angela tries to keep her homelessness a secret from the other students in her new school. When others discover her secret, she waits for the rumors in school to begin. After some time passes Angela realizes that her schoolmates have not told anyone else about her situation, and that they really do want to be her friend. She finally accepts their friendship.

In *December* (Bunting, 1997), Simon and his mother live along a busy street in a small cardboard house they made themselves. They are isolated from others on a night most often celebrated with family and loved ones – Christmas Eve. After an overnight visit from a woman who appears to also be homeless, their luck begins to change and they are able to move into an apartment in the projects.

Examples from the books in this review demonstrate various ways people who are homeless are isolated. Generally, the characters are isolated from the community emotionally and physically. Some characters are also isolated from family and friends.

School Issues

Anxiety about school is common for many students, but more pronounced in children who experience homelessness. They may miss much of the school year or change schools frequently, which makes it difficult for them to keep up with their classmates. Some students also fear falling behind in school and never getting the chance to learn. For example, one homeless mother admitted, “Since we first applied [for shelter], my kids have changed schools eight or nine times. My oldest son, 15, has an uncontrollable temper since we lost our apartment. My other son, 11, who’s been an honor roll student for six years, cries because he is missing school,” (CEC, 2003, p.1).

In the book *Outside Looking In* (Collier, 1987), Fergy, a 14-year-old boy, is ashamed of the way his family lives in a van and travels the country surviving on selling medicinal honey and stealing. Fergy is tired of being homeless and runs away with his little sister, Ooma, to see their rich grandparents. When his grandparents ask why he chose to run away, he responds that he was tired of being stupid because he wasn’t able to go to school.

A good book for encouraging students who have been homeless and have missed out on educational opportunities is the Newbery Award winning book *Holes* (Sachar, 1998). *Holes* is the story of Stanley Yelnats, who is sent to Camp Green Lake, a Juvenile Detention Center, for something that he did not do. Stanley meets Zero, another detainee, who was homeless before he was sent to the camp and had little, if any, schooling. Zero asks Stanley to teach him to read. Zero is a very dynamic character whose life changes dramatically during the story because of his desire to learn.

Books that depict homeless individuals interacting with the educational community may be helpful to teach homeless students and their classmates important lessons. Students can learn that special schools exist for homeless students, that homeless students can make friends at their neighborhood schools, and that even teachers may become homeless.

Fears Associated with Homelessness

Many students who experience homelessness have frightening experiences. They may be subjected to violence, substance abuse, and/or mental and physical illness. For example, 35% of homeless adults have substance abuse problems (Chicago Board of Education, 2003). Also, homeless students may feel threatened by the thought that they could be identified as homeless by schoolmates or authorities or that they might be separated from family members.

One example of fears associated with homelessness is portrayed in *Someplace to Go* (Testa, 1996). Davey, a young homeless boy, wishes that he had a warm and safe place to go after school. Davey has to be on his own until his older brother and mother get off work at the end of the day. The book touches on his fears about people finding out that he is homeless and his concerns for avoiding drug use.

In *Fly Away Home* (Bunting, 1993) Andrew and his father live in a large airport. They are vigilant about not getting noticed because they do not want to get caught and kicked out of the airport. Andrew has hope for a new life after he recalls watching a frightened bird finally escape the confines of the airport.

Students who have lived with constant fears sometimes have trouble trusting people and talking about the events and emotions they have experienced. If during the bibliotherapy process, students have trouble expressing themselves verbally, other activities such as drawing could be used to help them work out their feelings. Students who are not homeless may also experience fears about homelessness. They may be afraid to make friends with those who are homeless, or they may fear that they might one day be homeless. Sensitive teachers can help homeless students and their peers to reduce these fears.

Situations Leading to Homelessness

“Is [homelessness] caused by the personal failings of individuals or by the failure of our society to promote equality and justice?” (Chicago Board of Education, 2003, p. 123). A variety of situations can cause homelessness. These include lack of (a) affordable housing, (b) living wage jobs or income support, and (c) healthcare and supportive services.

A wide variety of situations leading to homelessness are portrayed in the books we reviewed. Poverty was the predominant precursor to homelessness in these books (e.g., *Almost a Hero, Come the Morning*). Additional situations leading to homelessness included mental illness (e.g., *Annie’s Monster*), war (e.g., *December Stillness, The King of Dragons*), abandonment (e.g., *Don’t Look in Her Eyes*), personal choice (e.g., *Outside Looking in*), running away (e.g., *Sammy Keyes and the Sisters of Mercy*), substance abuse (*So What Do You Do?*), and an abusive family member (e.g., *The Missing ‘Gator of Gumbo Limbo*).

Conclusion

The number of homeless children in the United States is increasing. These children are in need of special help to succeed in school and in life. While teachers may not be able to directly prevent homelessness in their students, they can support those who are in such situations. Bibliotherapy is one tool that teachers can use to help homeless students cope with their current situation. Homeless children need to understand that they are not alone, are important to society, and are valued members of the human family.

Books can also teach students about homelessness. Through the use of books teachers can help students reduce fears about homelessness, correct stereotypes or misunderstandings, learn how to befriend homeless classmates, and gain insight into how to give service to homeless individuals and families.

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Table 1
Ten Steps for Classroom Teachers to Implement Bibliotherapy

Steps for Using Bibliotherapy

- Develop rapport, trust, and confidence with the student.
- Identify other school personnel who may assist.
- Solicit support from the student's parents/guardians.
- Define a specific problem the student is experiencing.
- Create goals and activities to address the problem.
- Read books and select those most appropriate for the situation.
- Introduce the book to the student.
- Incorporate reading activities.
- Implement post-reading activities.
- Evaluate the effects of bibliotherapy on the student.

Source: Prater et al. (2005).

Table 2
Other Resources to Teach About Homelessness

Websites and Sponsoring Organization

Chicago Public Schools

<http://www.cps.k12.il.us/HomelessEducationProgram/curriculum.html>

Learning to Give

<http://www.learningtogive.org/lessons/unit103/lesson5.html>

Minnesota Coalition for the Homeless

<http://www.mnhomelesscoalition.org/lessons.html>

National Alliance to End Homelessness

<http://www.endhomelessness.org/pub/factsheets/>

National Coalition for the Homeless

<http://www.nationalhomeless.org/>

Note: All websites were accessed June 3, 2005

Table 3
Juvenile Fiction Addressing Homelessness

Book Title, Author (Illustrator), Publisher, Year, Grade Level	Plot Summary	Themes about Homelessness
Almost a Hero by John Neufeld, Atheneum Books For Young Readers, 1995, 6+	At first Ben doesn't want to work in a pre-school for homeless students, particularly during his vacation time. But soon he becomes emotionally involved when he suspects that one of the children is being abused.	School issues Situations leading to homelessness (poverty)
Annie's Monster by Barbara Corcoran, Macmillian, 1990, 6+	Annie gets a new dog and when they are out one day, they stumble across a homeless woman who Annie tries to help.	Mental illness Fears of the homeless Situations leading to homelessness (mental illness) Fears of the homelessness
A Ceiling of Stars by Ann Howard Creel, Pleasant, 1999, 4+	After her father dies and her mother abandons her, twelve-year old Vivien finds she is homeless.	Fears of the homelessness Situations leading to homelessness (poverty)
Come the Morning by Mark Jonathan Harris, Bradbury Press, 1989, 6+	When Ben and his family go looking for his father who has abandoned them, they end up homeless.	Fears of the homelessness Situations leading to homelessness (poverty)
Darnell Rock Reporting by Walter Dean Myers, Bantam Doubleday Dell, 1996, 5+	Darnell Rock is a poor student whose life starts to change when he writes a paper on homelessness and helps to start a garden for the homeless.	Mental illness Situations leading to homelessness (Vietnam war)
December by Eve Bunting (David Diaz), Harcourt Brace, 1997, K+	Simon and his mother live in a cardboard box and invite an old woman to sleep in their house on Christmas Eve.	Isolation
December Stillness by Mary Downing Hahn, Tichnor & Fields, 1988, 7+	Kelly is completing a project on homelessness for school and in the process becomes acquainted with Mr. Weems, the town's homeless man.	Mental illness Fears of the homeless Situations leading to homelessness (Vietnam war)
Don't Look in Her Eyes by Margaret K. McElderry, Atheneum, 1983, 5+	Jason has to fend for himself and his baby brother, Chad, when they are abandoned by their mentally ill mother.	Mental illness Fears of the homeless Situations leading to homelessness (abandonment)

Elsa, Star of the Shelter! by Jacqueline Wilson (Nick Sharratt), Whitman, 1994, 4+	Ten-year-old Elsa is viewed as cheerful, but loud and obnoxious by most people until she saves others' lives living in the same homeless shelter by yelling "fire" in the middle of the night.	School issues Fears of the homeless Situations leading to homelessness (poverty)
Fly Away Home by Eve Bunting (Ron Himler), Clarion, 1991, K+	A young boy and his father live at a busy airport moving terminals often so not to be noticed.	Fears of the homeless Situations leading to homelessness (poverty)
The Fastest Friend in the West by Vicki Grove, Putnam, 1990, 7+	Lori, a chubby and shy girl, makes friends with a homeless girl named Vernita who teaches her about life.	Isolation School issues Fears of the homeless Situations leading to homelessness (poverty)
Holes by Louis Sacchar, Yearling, 1998, 3+	Stanley Yelnats is sentenced to a work camp for a crime he didn't commit and meets Hector Zeroni, a formerly homeless adolescent.	Fears of the homeless Situations leading to homelessness (abandonment)
Hometown Hero by Barbara Aiello and Jeffery Shulman, (Loel Barr), Twenty-First Century, 1989, 3+	Scott Wittacker, a fifth grader, meets Bill Waters, a homeless man (who was once a hometown hero football player) and helps him turn his life around.	Isolation Situations leading to homelessness (war)
The King of Dragons by Carol Fenner, Simon & Schuster, 1998, 4+	Ian's father teaches him how to survive on his own, which Ian needs to apply when one day his father, a Vietnam war veteran, disappears.	Mental illness Isolation School issues Fears of the homeless Situations leading to homelessness (Vietnam war)
The Lady in the Box by Ann McGovern (Marni Backer), Turtle, 1997, K+	Lizzie and Ben discover a homeless woman living in their neighborhood and try to help her.	Isolation
The Leaves in October by Karen Ackerman, Atheneum, 1991, 4+	Livvy's father promises his children that by the time the leaves fall in October, they will be able to leave the homeless shelter.	Isolation School issues Fears of the homeless Situations leading to homelessness

Lonely Girl by Judy Baer, Bethany House, 1992. 7+	Lexi and her friends are curious when Angela, a new classmate, rushes off after school every day. They feel terrible when they learn that Angela and her mother are homeless.	Isolation School issues Fears of the homeless Situations leading to homelessness (poverty) Fears of the homeless
McGee and Me, Beauty in the Least by Bill Myers and Robert E. West, Tyndale House, 1993, 4+	Nick's pen pal, Ilie, and his dad are visiting the U. S. from Romania. They invite many homeless people to Nick's house for Thanksgiving.	
The Missing 'Gator of Gumbo Limbo: An Ecological Mystery by Jean Craighead George, HarperCollins, 1992, 6+	Liza K. and her mom live in the Gumbo Limbo Hammock in Florida with several other homeless people and when their home is threatened, Liza K. and friends try to get to the bottom of the mystery which includes their "protector" and alligator named Dajun.	Mental illness Isolation School issues Fears of the homeless Situations leading to homelessness (abusive husband)
Outside Looking in by James Lincoln Collier, Macmillan, 1987, 5+	Fergy is ashamed of the way his family lives in a van and travels the country selling medicinal honey and stealing, so he and his little sister run away to his wealthy grandparent's house searching for a better life.	Mental illness Isolation School issues Fears of the homeless Situations leading to homelessness (choice)
Sammy Keyes and the Sisters of Mercy by Wendelin Van Draanen, Knopf, 1999, 5+	Sammy Keyes has to do community service at a local parish and in the process, meets a homeless girl, and solves a mystery.	Isolation School issues Fears of the homeless Situations leading to homelessness (run away)
So What Do You Do? by Douglas Evans, Front Street, 1997, 5+	Twelve-year-old Charlie is shocked to discover his former third-grade teacher panhandling in the local park so he and his friend Colleen work to secretly help Mr. Adams.	Mental illness Isolation Fears of the homeless Situations leading to homelessness (substance abuse, depression)

Someplace to Go by Maria Testa (Karen Ritz), Whitman, 1996, K+

Davey needs to entertain himself after school and find his own supper until meeting with his older brother and mother at the shelter at eight o'clock.

School issues
Isolation
Fears of the homeless
Situations leading to homelessness (poverty)
Isolation

This Home We Have Made: Esta Casa Que Hemos Hecho by Anna Hammond and Joe Matunis, Crown, 1993, K+
Where's Home? by Jonathan London, Penguin, 1997, 5+

A little homeless boy wakes up in the middle of the night and follows a parade of angels and cockroaches which then help the little boy make a home for his family.
After hitching a ride to San Francisco, 14-year-old Aaron and his father endure many trials on the streets and in campgrounds while attempting to find themselves a new home.

Isolation
Situations leading to homelessness (poverty)

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