Journal of Elementary Education
Vol.25, No. 1 pp. 1-17

Schema-based Approach to Increasing Sentences Written by At-risk Elementary Students

Laura Baylot Casey*

Abstract

This study involved a multi-component intervention referred to as a schema-based strategy, which was designed to increase the number of sentences written over a five-week period by elementary students. The schematic strategy consisted of a diagram that illustrated an individualôs plan of action to complete a common activity for elementary-aged students. Each activity illustrated in the schema was broken down into the smallest steps needed to complete the task. In the study, the children were taught how to plan using the schema, utilize the planning for writing their story, and then how to sequentially write sentences containing a subject and verb. Based on the results of the study, the strategy proved to be effective at increasing the number of sentences written by at-risk elementary students over the course of a short time period.

Keywords: Writing, schema, task analysis

*The University of Memphis, USA, Email: lpcasey@memphis.edu

Introduction

Writing can be a difficult process for any student as he or she is faced with an empty page and often not sure how to begin to express themselves. The notion that writing is a daunting task may be even more acute for the at-risk student. In this paper, the term at-risk is defined as a student who may not be receiving high levels of praise or support at home, may be struggling in school, and may have previously been retained (United States Census Bureau, 2011). For these students writing may be not only be an academic task but also an outlet for self-expression. Essentially, writing is a vital skill because it is through writing that we share thoughts with each other, reflect on life, plan for the future, and communicate our knowledge. According to Roe, Stoodt, and Burns (2001), ñé through writing, students come to terms with their own thoughts, solve problems, and discover ideas; in other words, writing helps one clarify their thoughtsò (p. 204). This skill becomes invaluable for all students but particularly for children at-risk for academic failure who struggle with relaying content in written text. For example, Christensen, Thurlow, Ysseldyke, and McVicar (1989) stated that writing is the necessary means for students to demonstrate knowledge in all content areas and overall, it has been well documented that mastery of writing is a critical skill needed to succeed in school. With matriculation and eventually graduation being tied to oneôs ability to convey messages through writing, the time to intervene with struggling writers is early elementary school. For at risk students, delaying intervention may be detrimental. Research in the area of written expression has consistently documented that interventions based on instructional programs where the writing process is directly taught, modeled, and graduated guidance is used are more beneficial for at-risk students as compared to programs with minimal instruction and minimal guidance or programs with an over-emphasis on the mechanical aspects (Baker et al., 2009).

Current Status of Writing in Education

A major goal of general education is to help students become literate (i.e., capable of reading and writing). This goal exists because effective literacy skills often determine graduation rates, selection for scholarships and other awards, and lead to prime employment opportunities. According to Howell, Fox, and Morehead (1993), one indication of the importance of writing within academia is the selection of writing as an outcome measure of student performance. For example, a studentôs success in school often depends on the ability to transfer acquired knowledge into prose. With the emphasis placed on writing as a form of outcome data, a writing deficit can be ñdevastating and isolatingò (Howell et al., 1993, p. 32); especially for

children who feel as if they are unable to express him or herself for unable to document acquired knowledge in a manner that accurately reflects his or her understanding of content. Second, an interest in studentsô writing is evidenced by the recent attention from the National Assessment of Educational Progress (NAEP) data documenting that 88% of the nationôs students are writing at the basic level. Third, writing now plays an increased role in academics related to high stakes testing. Based on these pivotal issues and increased attention on writing, there is an imminent need across the nation for improvement in teaching, assessing, and measuring written expression across the grades. These academic needs coupled with the known benefits of being able to tell oneôs story and articulate thoughts through prose makes writing an influential skill; a skill that paves the way for other skills and once mastered opens the door for other opportunities. Decades of research point to the opportunities that present for fluent writers including: (a) means of recording information that has been communicated, (b) expression of inner thoughts, and (c) a technique for thinking through problems (Gagne, 1985).

Defining Written Expression

Essentially, writing is the ability to combine a noun and a verb in such a way that a complete thought is expressed. Thus, if a student is struggling with written expression, these rudimentary steps of combining nouns and verbs must be directly taught and frequently revisited while the mechanics (grammar, punctuation, and spelling) are set-aside for a later date. Although it is true that proper punctuation can impact comprehension and potentially alter the meaning of a sentence if used incorrectly, without a firm understanding of stringing together nouns and verbs there is potentially nothing to even be misconstrued. Therefore, initial focus must first be placed on the foundational components as the student is gaining confidence and poise in his or her writing abilities. Several decades ago, Graham (1982) found that an over-reliance on certain aspects of writing could potentially interfere with the writing process. As an individual student focuses on the mechanics of writing, he or she may expend all mental effort on that one aspect; thus, leaving very little cognitive energy and focus for generating unique thoughts. If this is the case, the quality of writing will suffer. For example, in writing, elements such as subject and verb order and learning how to write to tell a story should precede the technical aspects of written expression.

Teaching Written Expression

Graham and Perinôs (2007) research found that interventions based on a strategy-approach are often a more beneficial means to teaching writing. In fact, it was suggested that utilization of instructional approach based on a strategic plan may

yield greater gains for low-achieving writers more so than other writers. Self-regulated Strategy Development (SRSD) was one strategy highlighted in this 2007 meta-analysis, it is also endorsed by Council for Exceptional Children, CEC, as a strategy for struggling writers, and has been found beneficial for utilization with students diagnosed with emotional-behavioral disorders(De La Paz & Graham, 2002; Harris & Graham, 1996; Harris, & Graham, 1992; Mastropieri, Scruggs, Mills, Irby Cerar, Cuenca-Sanchez, Allen- Bronaugh, Thompson, Guckert, & Regan, 2009). In this strategic approach to teaching writing, specific steps are sequentially followed using a direct instructional (di) approach similar to the I do, we do, you do (Carnine, Silbert, Kameênui, &Tarver, 2010) teaching strategy. The SRSD approach begins with explicitly teaching the background knowledge needed then describes the strategyôs purpose and benefits encouraging mnemonics as needed to aid with memorization of the components. Following the direct instruction and rationale, the teacher models the strategy then shifts to guided work with the student. Guided word consists of using prompts, as needed, until full independence is achieved. Thus, based on the previous research citing that a strategy approach is potentially preferred with at-risk students, the current researcher developed a strategy that would build on the extant research, uniquely combine daily activities that are of interest to the students, be easily implemented in the classroom, and that would not focus on the mechanical aspects of written composition. The strategy was referred to as a schema-based approach.

Schema-based Approach

The schema-based approach was based on previous research in writing including: (a) Graham and Perinôs (2007) emphasis on strategy instruction with explicit teaching, (b) semantic webbing, (c) Silbermanôs (1996) ñhere and now approachò, (d) utilization of task analysis and (e) Haleôs (2002) secrets of good prose. Strategy instruction is described above and utilizes direct instruction and modeling until independence is achieved. Whereas, semantic webbing is defined as using diagrams that depict specific topics to assist the writer in developing relationships among the topics in order to provide a meaningful structure. A key component of semantic webbing is the visual illustration of subtopics connected with associated subordinate ideas (Polloway & Patton, 1993). Semantic webbing was the primary research behind using a schema- based teaching strategy (e.g., a pictorial map). Silberman (1996) advocates for the use of a ñhere and nowò approach to teaching writing and states that writing should allow students to reflect on personal experiences while promoting independent reflection. In order to obtain a sample of the studentôs best work, Silberman recommends having the student write a present

tense action account of an experience (as if it were happening in the here and now). This research was the foundation for keeping writing topics during each lesson in the present tense, depicting an activity that each child had encountered, and selecting an activity that was familiar to the students. This was the step in the writing process where a task analysis was utilized. Task analysis was defined as ñbreaking a complex skill into smaller, teachable units, the product of which is a series of sequentially ordered steps or tasksò (Cooper, Heron, & Heward, 2007 p. 437). During the instructional component the researchers broke down every day activities into smaller, step-wise activities to assist with the writing. Specifically each writing topic was broken down sequentially so that a definite beginning and end was clear. This sequencing was utilized as a teaching strategy during the instructional phase as it also set the stage for telling a story in a logical, meaningful order. Finally, Hale (2002) lists the secrets of good prose, which include using specific and concrete nouns and adjectives, using action packed verbs, avoiding adverbs, and keeping sentences lean. Therefore, the study sought to explicitly teach writing by using simple sentences composed of action verbs in connection with easily visualized scenarios representing an activity in the present tense. This instructional strategy allowed the researchers to teach the students how to connect the beginning action with all of the steps needed to get to the end by breaking down the activity into the smaller steps. The schematic served the purpose of a visual web outlining their thoughts in the pre-writing/planning phrase and assisting with the actual story writing.

Purpose of Current Study

The purpose of the current study was to determine whether a schema-based teaching strategy that utilized a task analysis to break down common school-age activities would be an effective method to increase elementary studentsô ability to write complete sentences. The primary research question was: Is a schema-based approach depicting daily activities an effective way to increase the ability of students, who are deemed at-risk, to write complete sentences over a short period of time?

Method

Participants and Setting

Participants were elementary-aged children ranging from second through fourth grade enrolled in a five-week summer academic clinic. The clinic was located in the Southeastern United States and operated from 8 a.m. until noon each day. During the clinic, students participated in 30-45 minute academic rotations that included the subject areas of reading, math, and writing. In addition to the academic

rotation, the children received a snack time of 15 minutes and approximately a 40-minute free time with both indoor and outdoor activities scheduled at the end of each day. Participants were placed into two groups and remained in the groups throughout the academic rotations based on random assignment. The grouping was designed to increase the probability that each cohort was heterogeneous in terms of ability. The groups remained intact throughout the entire day and across the five-week summer clinic. The first group labeled as ñGroup 1ò on the graph and termed ñGroup 1ò throughout the text consisted of eight children. Within this group were four boys (two African-Americans, one Caucasian, and one Japanese-American) and four girls (three African-Americans and one Caucasian). The second group, termed as ñGroup 2,ò consisted of seven children. This included two boys (one African-American and one Caucasian) and five girls (three African-Americans and two Caucasians). Children in both groups ranged in grade level from second through fourth grade. Consent to participate in the study was gained by the individualôs caretaker prior to participation in the academic clinic. Each childôs parent or guardian signed a consent form that outlined the nature of the academic clinic, explained the subject area rotations, and specified the data would be disseminated for teaching and research purposes without linking any identifying information to the data collected. Children also signed an assent form at the onset of the clinic that was read to them. The study received approval from the universityôs Institutional Review Board (IRB) prior to beginning data collection.

Materials

Materials included two pieces of paper and a pencil. One piece of paper was for the planning phase and had the schematic action scenario drawn at the top with ample room for the student to fill in around the drawing. The other sheet of paper was lined for the student to use to write the story.

Dependent Variable

The primary, essential component of good prose was determined to be the ability to write a sentence containing a subject and a predicate. Accordingly, the dependent variable in this study was defined as the total number of sentences written during a set time frame. A sentence was operationally defined as a group of words that contained a subject and a predicate. This included simple, complex, and compound sentences. In other words, incomplete clauses did not count. Mechanics such as capitalization and punctuation were not analyzed nor was the student penalized for inaccuracies in terms of spelling, punctuation, or capitalization.

Research Design

A multiple baseline A/B/C design across groups was used for this study. In a multiple baseline, each individual, group, or unit of interest (e.g., subject, small group, school system; Harvey, May, & Kennedy, 2004; Lohrmann & Talerico, 2004) receives the same planned treatment applied sequentially at different points in time using a staggered approach. The multiple baseline design does not rely on the withdrawal or reversal (Kazdin, 1982) because it would be undesirable to reverse a newly learned academic skill.

Multiple baseline designs have recently been noted as being very beneficial in school settings as a classroom teacher can easily implement single-case research designs especially for literacy (reading and writing) research (Barger-Anderson, Domaracki, Kearney-Vakulick, &Kubina, 2004). This study employed a multiple baseline design across groups of students to ensure that the technique was truly effective as a small group teaching strategy that could be easily replicated in the classroom by the teacher. Using groups within single subject research is not novel as Hall, Cristler, Cranston, and Tucker (1970) suggested ñmultiple baseline designs apply equally well to the behavior of the group if the behaviors of the group are summed or averaged and the group is treated as a single organismò (p.253). This study also utilized a two-tier multiple baseline design. While three to five tiers is most common, a two-tier design is complete and can provide strong support for the effectiveness of the independent variable (Lindberg, Iwata, Roscoe, Worsdell, & Hanley, 2003; McCord, Iwata, Galensky, Ellingson, & Thomson, 2001; Newstrom, McLaughlin, & Sweeney, 1999; Test, Spooner, Keul, &Grossi, 1990).

Procedure

During baseline, children were instructed to plan for two minutes and then write for three minutes on an assigned topic. The three minutes for writing was based on current best practices for Curriculum Based Measurement (CBM) for written expression protocol (Shinn, 2004). The planning time of two minutes is more time than typically seen in the literature (range of 30 seconds to 1-minute) but was selected due to the novelty of the schematic teaching approach (McMaster, Du, & Pétursdóttir, 2009; Shinn, 2004). Thus, the researcher felt that the additional time, more than typically seen in the literature, was needed and as a result the time frames were utilized across all phases of the study. The phases were the instructional phase followed by a generalization phase to better replicate the classroom setting as opposed to a summer clinic environment.

Baseline

In baseline, the student was instructed to plan in the way they deemed most appropriate within a two-minute time frame. Topics utilized during baseline were held consistent for each writing opportunity across groups so that each child wrote on the same topic regardless of the group in which he or she was placed. The topic selected was action- related, in that it was designed to tell a progression from one idea, action, or place to another. During this phase, the children did not receive any writing instruction. Following the planning period, the children were given three minutes to write their story based on the topic provided.

Phase I: Schema-based Intervention

Specifically during the intervention phase, the children received explicit instruction on the many steps involved in the multi-component strategy. The steps began with explaining the rationale of the schema strategy, discussion on the components of a sentence, suggestions on how to use the schema to plan their writing, and modeling of a sequential story describing the action-related schematic. The lesson on the rationale was centered on semantic mapping, how the schematic was a type of story map, and emphasized that stories need to flow from beginning to end. The class was then taught that the primary components of a sentence were a subject and a predicate. Based on the literature, punctuation, mechanics, and spelling were not taught nor were they emphasized during the teaching segment of the intervention. Further instructions, in addition to the sentences needing a subject and a verb, included information related to planning or brainstorming.

In terms of brainstorming, the students were taught the importance of planning, encouraged to use the allotted two-minute planning time, and instructed to place the action words next to the appropriate spot on the schematic provided to them on their planning page. This portion of the planning was to assist with proper sequencing of events once the writing portion began. To teach the schema-based strategy, a kickball scenario was selected and is described below. The schematic, in this example, was a picture of a kickball field with only the bases drawn and a kicker standing at home plate. Using this concept of an empty field broke the game down to the very beginning phase before the kicker and/or the team has even stepped onto the playing field. This breaking down of the game sequentially was the task analysis portion of this multi-component intervention. After the class was instructed how to appropriately use the two-minute planning time and how the schematic was there to assist them and serve as a writing prompt; the instructions for the timed writing portion were explained. Figure 1 below illustrates what a completed schematic of a

kickball field might look like. However, please note that the sample sentences would not appear on the planning page. Sentences are only included below in figure 1to better depict how the schematic assists with the actual story writing.

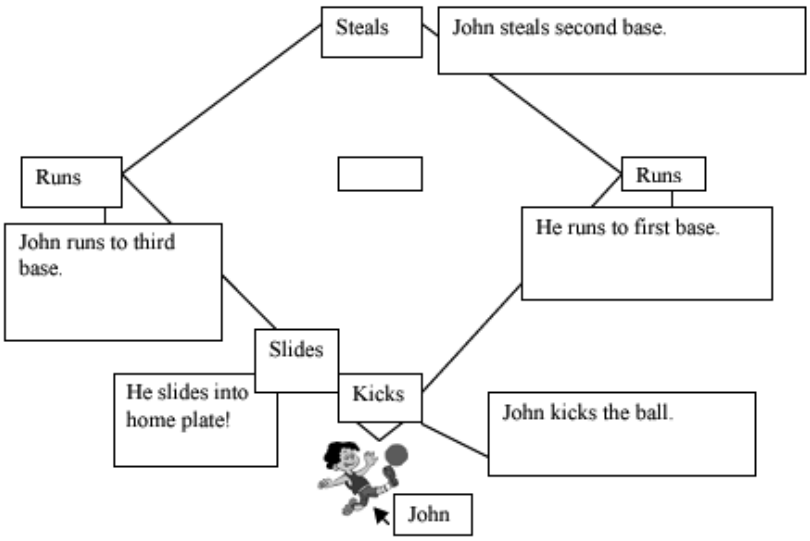

Figure 1: Example of a Schema Completed

**Sentences are only provided for illustrative purposes to show the connection between action words and complete sentences. During the study, sentences were only written during the timed writing not on the planning sheet.*

Timed Writing. The writing portion consisted of three-minutes to write on a lined piece of notebook paper that contained a key word, which related to schematic scenario. For example, with a kickball field schema drawn on the planning page the key word would be ñkickballò. If the schematic were brushing oneôs teeth, then the key would be ñteethò. The lined page with the key word was referred to as the ñimportantò page because this was the sheet where the children would write the actual story and the one that was to be scored by the researcher. Because each schematic drawing had a minimum of five places to go or things to accomplish before the stories were successfully completed (i.e., running around the bases, going grocery shopping, making a sandwich), each student also learned how to sequence events from start to

finish and use multiple sentences to get from point to point. The students were aware that their writings were going to be scored and the planning sheet with the schematic was simply to gather their thoughts and ideas and would not be scored.

Phase II: Maintenance/Generalization

The maintenance phase was the elimination of the drawn scenario/schematic in the planning page. The child was still given a planning page and had still had two minutes to plan but the planning page only had a key word written on top. The utilization of only a key word was similar to the ñimportantò page but without lines. By dropping the schematic and changing to just a key word the students were exposed to a more practical, school-like assignment where written prompts, or story starters, in the form of phrases or sentences are more often utilized (CBM; Shinn, 2004) as opposed to a drawing or a schematic. The utilization of a key word was also intended to decrease the possibility of creating dependence on the schematic. Following the two-minute planning, students completed the timed writing as described above.

Data Collection

Writing samples were collected at the end of each session from each individual student. The samples were then scored by counting the number of sentences that fit the pre-determined criteria as described above. Data were collected in the same manner during baseline and intervention. The scoring consisted of assigning one point for each complete sentence written. A compound sentence equaled two points since it is essentially two complete sentences combined. Following the scoring of each individual studentôs writing within the group, the mean score for the group was recorded and graphed. This ensured that all decisions were based on the groupôs performance and all phase changes were data driven.

Data Analysis

The data were analyzed daily and evaluated by visually examining the level, variability, and trend of the data points as they were graphed. The researcher visually inspected the graph for upward or downward trends, variability among data within phases, and stability across phases.

Inter-observer Agreement

Inter-observer agreement (IOA) was calculated by recording the agreements between the researcher and another individual by dividing agreements plus

disagreements and multiplying by 100. IOA for this study was 95% for the intervals observed with a range of (92-100%).

Results

The mean number of complete sentences written by each group was recorded and calculated daily to ensure the phase changes were data driven (see data collection section for a detailed outline of scoring). The results for each group are presented below in terms of the mean score and range of scores within each phase. Group oneôs results are described in the sentences below. Baseline results were a mean score of 1.6 sentences written with a range of (1 ï 2 sentences written per session) with a descending trend. Phase I yielded a mean score of 3.5 with a range of (3 ï 4 sentences written per session) and resulted in variable data that was ascending. Phase II, the generalization phase, resulted in a mean score of 4.3 with a range of (3-5 sentences written). Baseline, for group two, resulted in a mean score of 2.1 with a range of (1ï 4 sentences written). Baseline data were initially ascending before the descend at session five which resulted in a low level, steady state of responding prior to the intervention. The intervention phase, Phase I, yielded a mean of 4.1 with a range of (3-6 sentences). This phase had a steady ascending trend throughout. Phase II resulted in a mean score of 5.6.

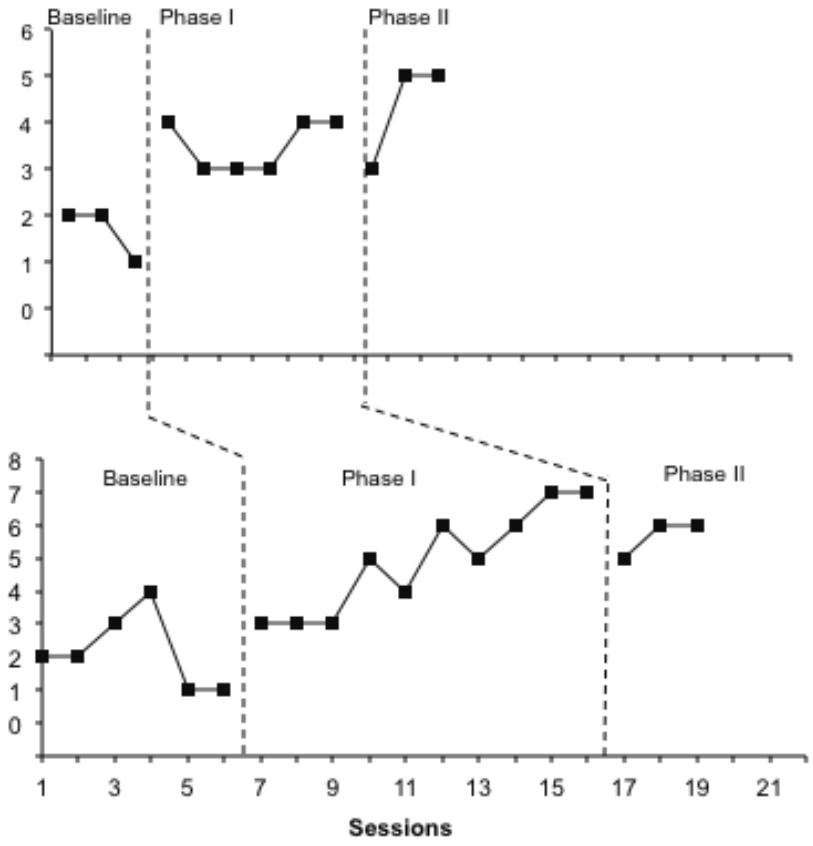

Figure 2: Multiple-baseline graph across all phases

Discussion

Overall, the use of a schema-based strategy with direct instruction on the strategy and an imbedded task analysis was successful at increasing the number of sentences each group wrote during the study. The results indicated that the process of teaching students to use action-related schematics and then breaking down the activity into the smaller steps was a successful small group teaching strategy for at-risk students. The fact that the data improved from baseline and maintained and/or improved through the generalization phase possibly indicates that the teaching strategy was effective and did not create student dependency on the schematic drawing. In other words, since the drawing was removed in the generalization phase and sentence growth was maintained, the increases may be linked to the acquisition

of skill and not dependency on the prompt. Exposing students to a writing intervention of this nature will be beneficial when students are expected to generalize practice techniques learned within the classroom and then use the learned techniques on formal and/or standardized writing tests. Once learners understand this visual, schematic, task-analysis approach to writing and utilize the planning phase efficiently, it will be easier for them to break down novel ideas, generate unique stories, and/ or write a story from recall.

Limitations

One limitation of this study is that it was conducted during an academic clinic over the summer that was on a volunteer basis and not mandated by the school district. Because of the volunteer nature of the academic clinic, the sample size was small. Second, the study was conducted during a five-week-long summer break emphasizing three academic subjects a day during a four-hour time frame. The length of the clinic and the multiple subject areas taught may have set the stage for fatigue for the students. On the other hand, the day was shorter than a typical day, novel, and as a result may have created false gains. Third, it was a multi-component intervention and it is difficult to discern what components are truly needed or is it only effective as a package. Forth, the students slowly got to know the researcher on a very personal basis as the researcher interacted with them during snack, recess, and other transition times throughout the day and students may have been motivated to please the researcher. While these factors were limitations from a research perspective, they may have positive, practical implications in school settings as similar situations (e.g., multiple academic subjects being taught in one day, fatigue setting in after a long morning of work, and getting know the teacher over time) occur throughout the school day and across the school year.

Future Research

Future research could further this study by utilizing different grade levels, increasing the sample size, implementing the intervention within an actual classroom setting, and by allowing the intervention to be implemented directly by classroom teachers as opposed to a researcher. In addition, being able to obtain information on the following would potentially strengthen the study: (a) each studentôs prior opportunities to write as well as opportunities to write outside of the clinic, (b) individual preference of writing tasks versus other academic subjects, and (c) conducting the study during the school year instead of the summer. Finally, conducting pre- and post-tests exploring student satisfaction with writing activities

before and after being taught the schema-based strategy would allow the opportunity to conduct social validity/social acceptability data. In today's classroom, student and teacher acceptance of an intervention drive the utilization of the strategy and thus high levels of support from the students would further support the use of the strategy

Practical Implications

Often teachers have a difficult time knowing how to intervene if there is a suspected writing deficiency. They also struggle collecting data to determine if the intervention selected is successful. This study illustrates one effective strategy to do both of the above mentioned (e.g., intervene and collect data) in a small group intervention. This intervention is ideal for teaching writing to at-risk students for two primary reasons: (a) it is based on previous literature which documents that direct teaching and the use of a specific strategy is preferred for teaching writing and (b) it was a student- centered, small group approach to learning which has been documented to be successful in previous studies with children and at-risk youth (Snow, 2003). Also, as the nation is moving toward a tiered approach to education using a response to intervention (RtI) model, the strategy described in this study could be implemented as a tier 2 intervention before moving into a more individualized approach at tier 3. The practical implications are limitless as written expression is becoming a measure of one's accumulated knowledge over classroom materials, grade level materials, exit exams from high school, and entry exams to college (e.g., ACT and SAT). Furthermore, writing is a desired and needed skill at the work place and is referred to as a threshold skill for salaried jobs and promotions by the National Commission on Writing (2004). In summary, with the current emphasis on writing in academics, the push for data-driven decision making, and teacher accountability tied to student performance, having an evidence-based writing intervention for at-risk students is unmatched in terms of worth and value to the classroom teacher and ultimately, the student.

References

Baker, S.K., Chrad, D. J., Geller, L. R., Apichatabutra, C., &Dabler, C. (2009). Teachingwriting to at-risk students: The quality of evidence for self-regulated strategy development. *Council For Exceptional Children, 75* (3), 303-318.

Barger-Anderson, R., Domaracki, J. W., Kearney-Vakulick, N., &Kubina, R. M. (2004). Multiple baseline designs: The use of a single-case experimental design in literacyresearch. *ReadingImprovement, 41,* 217–225.

Bjorklund, D. (2000). *Children's thinking: Developmental function and individual differences.*(3rd ed.).Belmont, CA: Wadsworth/Thomas Learning.

Carnine, D., Silbert, J., Kame'enui, E., & Tarver, S. (2010). *Direct Instruction Reading* (5th ed.). Columbus, Ohio: C.E. Merrill Pub.

Christenson, S. L., Thurlow, M. L., Ysseldyke, J. E., &McVicar, R. (1989). Written languageinstruction for students with mild handicaps: Is there enough quantity to ensure quality? *Learning Disability Quarterly, 12,* 219 ï 229.

Cooper, J. O., Heron, T. E., &Heward,W. L. (2007). *Applied Behavior Analysis.* (2nd ed.).Upper Saddle, NJ: Pearson Education.

De La Paz, S. (1999). Self-regulated strategy instruction in regular education settings: Improvingoutcomes for students with and without learning disabilities. *Learning Disabilities Research andPractice, 14,*92ï 106.

De La Paz, S., & Graham, S. (2002). Explicitly teaching strategies, skills, and knowledge:Writinginstruction in middle school classrooms. *Journal of Educational Psychology, 94,* 291ï 304.

Gagne, R. M. (1985).*The conditions of learning and theory of instruction.(*4th ed.). NewYork:NY, Holt, Rinehart and Winston.

Graham, S. (1982). Measurement of handwriting skills: A critical review. *Diagnostique*, *8,* 32-42.

Graham, S., &Perin, D. (2007).A meta-analysis of writing instruction for adolescent students.*Journal of Educational Psychology, 99,* 445-476.

Hale, C. (2002). Seven secrets of good prose.*Writer, 115* (6), 48-50.

Hall, R. V., Cristler, C, Cranston, S. S., & Tucker, B. (1970). Teachers and parents as research ersusing multiple baseline designs. *Journal of Applied Behavior Analysis, 3,* 247-255.

Harris, K. R., & Graham, S. (1992). Helping young writers master the craft: Strategy instruction and self-regulation in the writing process. Cambridge, MA: Brookline Books.

Harris, K., & Graham, S. (1996). Making the writing process work: Strategies for composition and self-regulation (2nd ed.). Cambridge, MA: Brookline Books.

Harvey, M., May, M., & Kennedy, C. (2004). Non concurrent multiple baseline designs and the evaluation of educational systems. *Journal of Behavioral Education, 13*(4), 267-276.

Howell, K.W., Fox, S.L., & Morehead, M.K. (1993). *Curriculum based evaluation: Teaching and decision making.* Pacific Grove, CA: Brooks/Cole Publishing Company.

Kazdin, A. (1982). *Single-case research designs: Methods for clinical and applied settings.* Oxford University Press: NY.

Lindberg, J., Iwata, B., Roscoe, E., Worsdell, A., & Hanley, G. (2003).Treatment efficacy of non contingent reinforcement during brief and extended application. *Journal of Applied Behavior Analysis, 36* (1), 1-19.

Lohrmann, S. &Talerico, J. (2004). Anchor the boat: A class wise intervention to reduce problem behavior. *Journal of Positive Behavioral Interventions, 6,* 113-120.

Mastropieri, M., Scruggs, T., Mills, S., Irby Cerar, N., Cuenca-Sanchez, Y., Allen-Bronaugh, D., Thompson, C., Guckert, M., & Regan, K. (2009). Persuading students with emotional disabilities to write fluently. Behavioral Disorders, 35, 19-40.

McCord, B., Iwata, B., Galensky, T., Ellingson, S., & Thomson, R. (2001). Functional analysis and treatment of problem behavior evoked by noise. *Journal of Applied Behavior Analysis,34*(4), 447-462.

McMaster, K., Du, X., &Pétursdóttir, A. (2009). Technical features of curriculum-based measures for beginning writers. *Journal of Learning Disabilities, 42*(1), 41-60.

National Commission on Writing. (2004). *Writing: A ticket to work or a ticket out: A survey of business leaders.* Retrieved from http://www.collegeboard.com/prod_downloads/writingcom/writing-ticket-to-work.pdf

Newstrom, J., McLaughlin, T., Sweeney, W., (1999).The effects of contingency contracting to improve the mechanics of written language with a middle school student with behavior disorders. *Child & Family Behavior Therapy, Vol 21(1),* 39-48.

Polloway, E. & Patton, J. (1993). *Strategies for teaching learners with special needs.* (5th ed.). Columbus, OH: Merrill.

Roe, B. D., Stoodt, B. D., & Burns, P. C. (2001).*Secondary school literacy instruction: The content areas*. Boston: Houghton Mifflin Company.

Silberman, M. (1996). *Active Learning: 101 Strategies to teach any subject*. Boston, MA: Allyn& Bacon.

Shinn, M. R. (2004).*Curriculum-based measurement: Assessing special children*. New York: Guilford Press.

Snow, D. (2003). *Noteworthy perspectives: Classroom strategies for helping students at-risk.* Mid-continent Research for Education and Learning (McREL). Retrieved from http://www.mcrel.org/PDF/Noteworthy/5032TGNW ClassroomStrategiesinsert.pdf

U.S. Census Bureau, Population Division, Education and Social Stratification Branch. (revised 2011, October). *At-risk Conditions of U.S. School-Aged Children*. Retrieved from http://www.census.gov/population/www/documentation/ twps0052/twps0052.html