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Angela Grace Williams
Columbus State University

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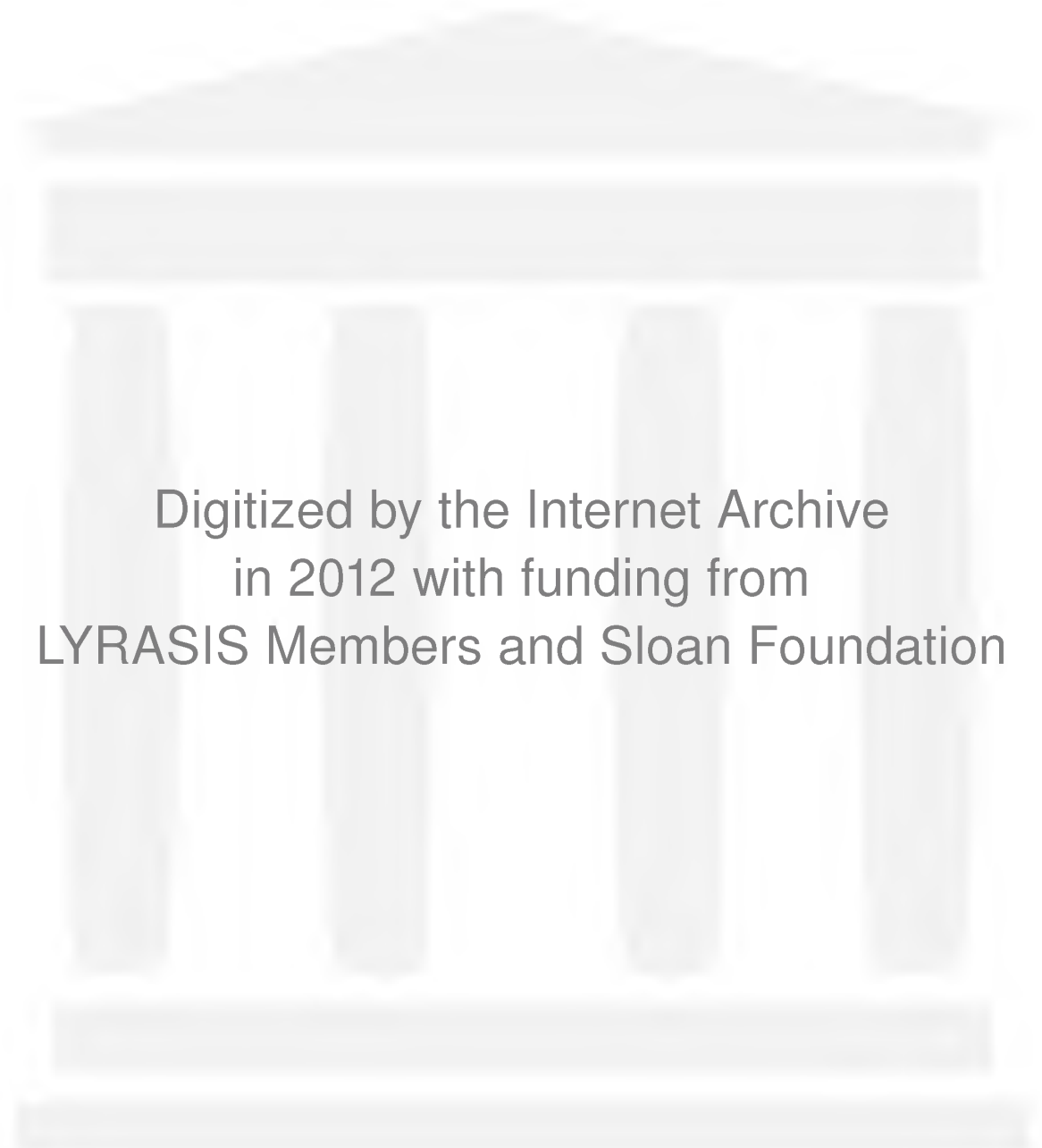

The Strategy is at the Station: The Importance of Connecting Literacy Stations to Reading Strategies in Developing Independent Readers

by

Angela Grace Williams

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Thesis Advisor Deirdre C Green Date 5/1/08

Committee Member Joseph E. Mills Date 5/1/08

Committee Member [signature] Date 5/1/08

CSU Honors Program Director Anna M. Kelly Date 05/01/08

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Abstract

Guided reading groups and independent literacy stations are implemented in many elementary school classrooms... The present study looks at whether student literacy achievement is positively affected when guided reading strategies are connected to and used in independent literacy stations. Participants in this study included four first grade classrooms from an elementary school in the southeastern United States. Observational data were collected for eight weeks during the time in which guided reading and literacy stations were implemented. Literacy achievement was measured with the Developmental Reading Assessment (DRA). Results of a paired-samples t-test showed that one classroom had a statistically significant increase in student DRA level and comprehension. In this study, the researcher examines ways in which that class differed from the others in their use of strategies and stations.

The Strategy is at the Station: The Importance of Connecting Literacy Stations to Reading Strategies in Developing Independent Readers

Undergraduates in the field of early childhood education spend a great deal of time in the elementary school classroom. Although these classrooms are different in numerous ways, one commonality can be found among many of them - the implementation of guided reading groups and independent literacy stations. Currently, these instructional components are implemented in many elementary schools and at many grade levels and are certainly one of the major literacy components that can benefit children in every classroom. However, literacy stations and guided reading groups are not always set up or carried out in the same way. One varying aspect is the connection that exists between the different literacy stations and guided reading groups. Some stations may be directly related to skills learned in guided reading while others may be more disconnected. Another aspect that may vary from classroom to classroom is the extent to which students *use* the skills that they learn in guided reading and apply them to the independent literacy stations. The purpose of this thesis is to determine whether student literacy achievement is more positively affected when the strategies worked on in guided reading are connected to and used in independent literacy stations. The discovery of this information will help classroom teachers be more effective in implementing guided reading and literacy stations in their own classrooms.

Approximately one in five children experience significant difficulties in learning to read, and research has concluded that children who get off to a poor start in reading rarely catch up (Iaquinta, 2006). In fact, "… a child who is a poor reader in the first grade is 88% more likely to remain a poor reader in the fourth grade; therefore, the early years are the focus for the prevention of reading difficulties" (Iaquinta, 2006, p. 413). Through the No Child Left Behind Act (NCLB) of 2001, President George W. Bush expressed his commitment to ensuring that

every child could read by the end of third grade. To accomplish this goal, a strong emphasis is placed on scientifically based reading instruction in the early grades (*The No Child Left Behind Act of 2001*, 2002).

Guided reading is a scientifically based approach to reading instruction and is one major component of a balanced literacy program. According to Guastello and Lenz (2005), there are three basic principles of a balanced literacy program. The first principle states that the classroom teacher should develop students' skill knowledge (decoding skills, comprehension skills, and so forth) and affective knowledge (a love of reading). The second principle states that the classroom teacher needs to know when to incorporate new elements into the program based on the needs of the students. Finally, the third principle states that a plethora of reading and viewing materials should be available to students to help them develop writing, listening, and presentation skills. Iaquinta (2006), in her article *Guided Reading: A Research-Based Response to the Challenge of Early Reading Instruction*, states:

> Guided reading practices as part of a balanced literacy program conform to the recommendations on literacy as suggested in position statements by the International Reading Association, the National Association for the Education of Young Children, and the National Council of Teachers of English. (p. 418)

Additional components of a balanced literacy program include read alouds, which enable students to encounter and contemplate material they cannot yet read on their own; shared reading, which allows students to interact with the teacher and text to learn critical concepts and get the feel of reading; and literature circles, which allow students to think deeply about text and work together to construct meaning. However, it is through guided reading that students actually learn *how* to read and are supported as they do so (Fountas & Pinnell, 1996).

Fountas and Pinnell (1996) describe guided reading as, "... a context in which a teacher supports each reader's development of effective strategies for processing novel texts at increasingly challenging levels of difficulty" (p. 2). Guided reading is a research-based instructional approach that involves a teacher working with a small group of about four to five students who are similar in reading behaviors and the text level that they are able to read with support. Guastello and Lenz (2005), in their article *Student Accountability: Guided Reading Kidstations*, state:

> It provides students with opportunities to (a) develop as individual readers while supported by their teachers and peers; (b) develop literacy strategies so they can read increasingly difficult text; (c) develop abilities to be independent readers; (d) enjoy successful experiences reading for meaning; and (e) develop the before-, during-, and after-reading behaviors that facilitate comprehension. (p. 144)

Guided reading provides teachers with the opportunity to listen to each individual student read aloud. This is essential in order to keep up with each child's current reading level and to determine how one can effectively help each child progress.

Guided reading has several purposes. One purpose is to meet the diverse needs of all students in the classroom, enabling them to grow and develop from whatever level they are at currently. (The teacher does this by scaffolding students in order to help them progress.) Another purpose is to enable students to read increasingly difficult text with understanding and fluency. After all, comprehension is the essence of reading. Still another purpose of guided reading is to help students develop problem solving strategies for determining unfamiliar words, complex sentence structure, or any other ideas not previously encountered (Iaquinta, 2006). While all of these purposes have great importance, perhaps the primary thing to remember is this: "The

purpose of guided reading is to enable children to use and develop strategies, while the ultimate goal of guided reading is to help children learn how to use independent reading strategies successfully" (Fountas & Pinnell, 1996, p. 2).

A primary benefit of guided reading is that it enables teachers to observe reading behaviors in individual children. Guided reading also presents students with a challenge that is "just right" for them. Particularly in the early grades, it is virtually impossible for a teacher to select a text that is "just right" for an entire class of twenty or more students. A text may be too challenging for some or too easy and boring for others. Breaking students into guided reading groups based on similar developmental levels, makes the process much easier (Iaquinta, 2006). Another great benefit of guided reading is that it not only allows students to be supported by their teacher, but it also allows them to be supported by the other students in their guided reading group.

There are a few steps that should be taken to ensure a successful guided reading program. The first step is to determine the independent reading level of each student. The second step is to level the books in the classroom library. The third step is to arrange students in flexible groups of about four students per group by ability or skill development. Finally, the fourth step is to select a book for each group to read independently with 90-95% accuracy (Guastello & Lenz, 2005). Teachers should ask themselves the following questions regarding the books their students read: "'Is the text consistently so easy that children have no opportunity to build their problem-solving strategies?' and 'Is the text so difficult to process that children have no real opportunity to read?'" (Fountas & Pinnell, 1996, p. 5). The text used during guided reading sessions should be one that students can read with the strategies they currently possess, but that provides an opportunity for a small amount of new learning (Fountas & Pinnell, 1996).

Guided reading involves small groups of students who are at similar stages of reading development and who process text at about the same level. "The smaller groups provide a greater opportunity for teachers to use instruction that scaffolds the learning and engages the learner" (Ford & Opitz, 2002, p. 710). Each guided reading group has different strengths and needs, and the teaching that takes place during guided reading is usually focused on what each particular group of students needs to learn in order to move forward. Given the different rates at which students learn and progress, it is important to remember that guided reading groups are temporary. Guided reading groups should be dynamic and flexible to accommodate the different learning paths of readers (Iaquinta, 2006). Ongoing observation and assessment of students is necessary to track their progression and insure that each student is in the guided reading group in which he or she belongs. Another important aspect related to grouping is the rotation set-up of the guided reading groups which must be addressed and determined by the teacher. Task-management boards can be used to help facilitate this (Guastello & Lenz, 2005). Task-management boards are typically large diagrams that include the names of the children in each group and the names and pictures of the various stations set up in the classroom. Task-management boards should provide flexible ways of rotating tasks and children's names, thus providing variety and assurance that all children experience a range of literacy activities (Fountas & Pinnell, 1996).

The role of the teacher is extremely important in the implementation of guided reading. According to Fountas and Pinnell (1996), guided reading, as a component of a balanced literacy program, begins with good first teaching. During guided reading sessions, the teacher must monitor and scaffold students by appropriately prompting and guiding them when necessary in order to help them develop as independent readers. It is up to the teacher to decide and determine

" ... where to go next, when to intervene and when not to, when to draw children's attention to which features of text, and how to model and explain strategies in ways that children can make their own" (Iaquinta, 2006, p. 417). Teachers must teach students to use multiple strategies and resources in a skilled way as they read. The idea is to help students develop a collection of strategies for word identification, comprehension, and so forth that they can later use when reading independently (Iaquinta, 2006).

The guided reading lesson may vary from classroom to classroom. The most important thing, however, is that it is designed to meet the needs of the students. Generally, the guided reading lesson contains certain elements such as "... introducing the text, reading the text, discussing and revisiting the text, teaching for processing strategies, extending the meaning of the text, and word work" (Iaquinta, 2006, p. 417). During the introduction of the text, the teacher typically provides a brief overview, elicits students' prior knowledge, and establishes a purpose for the lesson. For the next step, some teachers have students skim through the text to identify unknown words. The teacher then explains the unfamiliar vocabulary to students through context and picture clues. On the other hand, some teachers wait until the end of the guided reading session to work with and discuss vocabulary. During the portion in which the text is read, each individual student takes a turn reading aloud as the other students follow along silently. "The teacher assists children's reading in ways that help to develop independent reading strategies" (Fountas & Pinnell, 1996, p. 2). According to Guastello and Lenz (2005), "Teachers observe and assess the students reading behaviors to determine whether students are using appropriate strategies to identify words, acquire meaning, and engage in problem solving" (p. 144). The teacher may also make notes of the student's strengths and weaknesses as he or she reads. This information helps the teacher know where the student is at and where he or she needs to go next.

Sometimes a student may read the same passage more than once in order to build fluency and practice new vocabulary. During the discussion phase of the lesson, the teacher may ask individual students questions about what was read in order to build and develop comprehension. Also, the teacher may select one or two teaching points to present to the group following the reading (Fountas & Pinnell, 1996).

Experiences during guided reading help students draw upon graphophonic, syntactic, and semantic cues (Guastello & Lenz, 2005). Graphophonic, or visual cues, refer to knowledge of the relationship between oral language and graphic symbols. Syntactic, or structural cues, refer to the notion that the English language follows set rules and guidelines. Finally, semantic, or meaning cues, refer to the notion that reading has to make sense (Fountas & Pinnell, 1996).

The question that may now arise in some teachers' minds is, "While I am conducting guided reading groups, what do I do with the rest of the class?" The answer to this question lies in independent literacy stations. Ford and Opitz (2002) describe independent literacy stations as "… small areas within the classroom where students work alone or together to explore literacy activities independently while the teacher provides small group guided reading instruction" (p. 711). Literacy stations enable students to be independently engaged in meaningful learning experiences while the teacher is working with a guided reading group. Guastello and Lenz (2005) describe it in the following way. "The guided reading/literacy station approach provides the time for the teacher to work intensively, without interruption, while the remainder of the class works on worthwhile reinforcement activities" (p. 153). Various literacy stations should incorporate elements of reading, writing, listening, speaking, and student accountability in order to provide meaningful reinforcement of the International Reading Association (IRA) and National Council of Teachers of English (NCTE) Standards for the English Language Arts

(Guastello & Lenz, 2005). Some elements of literacy on which stations may focus include word recognition, vocabulary development, comprehension, response to literature, and fluency (Guastello & Lenz, 2005).

It is essential that the independent literacy stations be just as effective and meaningful as the guided reading groups themselves (Ford & Opitz, 2002). After all, students end up spending much more time per week at independent literacy stations than they do at guided reading. Ford and Opitz (2002) state the following. "Clearly, the power of instruction that takes place away from the teacher must rival the power of instruction that takes place with the teacher" (p. 710). The researchers go on to state that literacy stations should "... provide a level of instruction away from the teacher that is as powerful as the instruction with the teacher" (Ford & Opitz, 2002, p. 711). Therefore, each station should provide authentic literacy experiences for the learner (Guastello & Lenz, 2005). "It will not be productive for children to be doing busy work like fill-in-the-blank worksheets. Research does not support such activities and too much learning time is lost when the management plan relies on them" (Fountas & Pinnell, 1996, p. 2).

One great aspect of literacy stations is that they promote autonomy, by allowing students to work independently. When engaging in independent literacy stations, students must understand directions (an example of the desired product may be provided to further understanding), know where and how to obtain materials, know what to do with each assignment when finished, and have some sense of success with the activity. Therefore, the teacher must devote time to establishing these procedures. Teachers may wonder if students can work collaboratively as a group at "independent" literacy stations. The answer to this question is yes. However, it is suggested that the teacher only allows one group at a time to work collaboratively in order to make management easier and that group work is allowed only after students have

demonstrated that they can be responsible and complete work independently (Guastello & Lenz, 2005). One thing to remember is that just because these are referred to as "independent" literacy stations, does not mean that the students who engage in them never receive any teacher feedback or support. Often, teachers will give their guided reading groups a brief activity after their session is complete and spend the remainder of the time moving amongst literacy stations to monitor students and answer questions (Guastello & Lenz, 2005).

An important aspect of literacy stations is that an element of accountability must be included. One idea presented by Guastello and Lenz (2005) suggests that at the end of each day or week (depending on the rotation set-up) the students have the opportunity to demonstrate what they have learned. The teacher may either select one student from each group or all the students from one group to demonstrate to the class what they have created or completed in stations that day or week. The teacher may tell the students which activities he or she would like them to present (this prevents students from always selecting the "easiest" activity every time), or students may choose which activity to present for themselves. Engaging students in this manner is also a great way to incorporate the language arts standards of listening, speaking, and viewing.

Activities within literacy stations should be based upon the needs of the students which are revealed through guided reading sessions. "As the teacher interacts with the students in the group, the teacher notes the types of skills and strategies each student needs to develop. Thus, the activities for stations are created" (Guastello & Lenz, 2005, p. 152). A challenge that teachers face is to create independent stations that reinforce the skills taught in the guided reading lesson and to manage the grouping of students at each station (Guastello & Lenz, 2005). Stations should be flexible in that they can change over time to reflect the strategies being taught in guided reading. For example, words and concepts that students had difficulty with in guided reading

could be incorporated into stations dealing with word recognition, vocabulary development, or comprehension. "Implementing stations to reinforce skills taught during guided reading sessions offers students the opportunity to apply word recognition, vocabulary development, and comprehension skills as well as to respond to literature in a creative context" (Guastello & Lenz, 2005, p. 153).

For effective time and classroom management during the period in which guided reading and literacy stations occur, ground rules and a framework must be established (Guastello & Lenz, 2005). Students must know exactly what is expected of them. The implementation of guided reading and literacy stations should "... provide a predictable daily schedule and routine that guides both the teacher and the students, empowering them with expectations, procedures, and standards" (Guastello & Lenz, 2005, p. 153).

Several factors must be taken into consideration to ensure the successful implementation of literacy stations. Teachers must consider the independence level of the students, the types of activities in which students will be engaged, the state or district curricular expectations and standards, what is known about engagement in instructional settings, and how to establish a framework of instruction away from the teacher (Ford & Opitz, 2002). When it comes to the independence level of students, teachers may want to ask themselves, "How well can the students function independently?" and "What do they need to learn to function better as independent learners?" (Ford & Opitz, 2002, p. 712). It may be simple things that students need to learn such as how to use a tape recorder and care for materials or more complex things such as how to work with others in a group. Class discussions and role playing could be incorporated to help facilitate these aspects of independence (Ford & Opitz, 2002). When considering the types of independent activities in which students will be engaged, one should look at how students

perform in guided reading and create various learning centers based on their needs. For example, some students may need to develop fluency, while others may need to further their comprehension. An additional aspect to remember when considering types of station activities is that all activities should require students to interact with print in some way (Ford & Opitz, 2002). Since standards-based classrooms are on the rise, it is even more important than ever to consider curricular expectations and standards when creating literacy stations. One may consider aligning the activities at each station with various state standards and even posting those standards within each station.

Considering what is known about engagement in instructional settings when implementing literacy stations entails many factors. One important aspect is that teachers provide developmentally appropriate activities that offer a challenge but are within the reach of the learner. Students should perceive the possibility of success and perceive that the outcome of their work will be valued; that it is not simply "busy work" which is precisely why activities within independent literacy stations should be authentic and meaningful (Ford & Opitz, 2002). Since classrooms are so diverse, one may wonder how to implement stations in which *every* student perceives the possibility of success. The solution is to provide a variety of literacy experiences and activities which are built around multiple goals and outcomes. "Giving students a variety of activities is essential when one considers the diversity that exists within any one classroom" (Ford & Opitz, 2002, p. 713). Additionally, Ford and Opitz (2002) state, "Planning centers that operate with instructional density around multiple goals and outcomes is one way to guarantee this success" (p. 713). One example of differentiated instruction provided by Ford and Opitz (2002) involves a word family activity with the word *bug*. Each group of students worked with the same word but in a needs-based and developmentally appropriate way. For example, one

group of students made various words containing the phonogram *–ug* by using initial consonant substitution. Another group started with the root word *bug* and created a structurally based word family by adding on various endings to the root word, creating, for example, the words *bugged*, *buggy*, and so forth. Still another group created a semantic map with the word *bug* at its center and mapped out meaning-based connections to the word.

Finally, one must determine how to establish a framework of instruction away from the teacher. This framework of instruction should facilitate independent use by students. Ford & Opitz (2002) state the following. "Any activity that has the potential to interrupt small group instruction because of the complexity of sustaining its operation may be more of a deterrent than a learning tool" (p. 713). This framework of instruction should also operate with minimal transition time and management concerns and encourage equitable use of activities among learners (meaning all students should have equalized success). Additionally, the framework should include a built-in accountability system. "Simple accountability measures will motivate some students to stay productively engaged while serving as a window on the level of engagement for each student" (Ford & Opitz, 2002, p. 713). One simple accountability system suggested by Ford and Opitz (2002) are center cards. Each student is provided with a card that has each center listed as well as a small picture to go with it. Students simply color in or mark off each station or center as they complete it. A framework of instruction away from the teacher should also allow for efficient use of teacher preparation time. Teachers must remember that stations do not have to be very elaborate. Busy teachers need to develop stations that can be easily established and altered when necessary (Ford & Opitz, 2002). Finally, the framework of instruction should be built around classroom routines, as they provide a sense of predictability

for both the teacher and students as well as minimized confusion and chaos (Ford & Opitz, 2002).

Ford and Opitz (2002) suggest nine stations that meet the previously mentioned criteria: a listening station, Readers Theatre, reading/writing the room, a pocket chart station, poems/story packs, big books, responding to literature through art, a writing station, and a reading station. Both the listening station and Readers Theatre could be used as a warm-up, review, or extension from guided reading instruction (Ford & Opitz, 2002). For Readers Theatre, certain parts could be assigned to students of differing abilities. The performance element of Readers Theatre serves as the student accountability component. Reading/writing the room involves providing students with pointers and clipboards and allowing them to read and write words they see around the classroom. It could even be done in a scavenger hunt format. One example could include the teacher telling the students to find words that start with *sh* or words that are contractions. A pocket chart could be used for sequencing a poem or short story line by line or even word by word. Students could also be further challenged to create their own poems by changing the order of the words. Poems/story packs involve words, phrases, or sentences from familiar stories that have been stored in large envelopes. Students could engage in reconstructing the poem or story or involve themselves with word sorting activities. The big books station should only include those big books that students have previously encountered in shared reading experiences. Students may enjoy using pointers as they read various big books. It is important for a teacher to remember that a responding through art station does not have to include lots of planned and precut materials. Ford and Opitz (2002) give the example of an art response associated with Shel Silverstein's (1974) poem "Spaghetti." The station in this example simply contained construction paper and various bags of pasta. Out of these materials, students designed creative projects which

included labeled pictures, talking bubbles, and descriptive sentences (Ford & Opitz, 2002). A writing station is so important because it allows students to generate their own text. Students could participate in creative writing, a reading response, and so forth. Also, students could share their writing to serve as the element of accountability. Finally, the reading station is perhaps of greatest importance. According to Ford and Opitz (2002), "We cannot emphasize enough that the best activity for students to become involved in away from the teacher is reading" (p. 716). Independent reading can serve as yet another way to warm-up, review, or extend texts from guided reading instruction (Ford & Opitz, 2002).

Both guided reading and independent literacy stations must be authentic, developmentally appropriate, and designed to meet the needs of students. For example, tasks should be real and meaningful to the students who engage in them; should be age appropriate, but also appropriate for the students' developmental levels, which may or may not differ from their age; and should address specific skills and concepts that students need to develop. The success of each component relies upon the success of the other, meaning that students must be actively engaged in literacy stations in order for the teacher to focus on the students in his or her guided reading group, while students must participate in effective guided reading instruction in order to successfully and independently work in literacy stations. Guastello and Lenz (2005) describe it in the following way, "The success of guided reading as an effective instructional practice is contingent upon the implementation of a classroom structure conducive to working with the guided reading group while other students are independently and actively engaged in meaningful literacy experiences" (p. 145).

Guided reading and literacy stations can be implemented in a variety of ways. One aspect that varies from classroom to classroom is the rotation set-up. Some teachers have students rotate

several times per day. They may allot fifteen to twenty minutes for each group, with several guided reading groups in one day (Guastello & Lenz, 2005). Other teachers may have their students rotate each day of the week, so that by the end of the week, each group has been to every literacy station and one session of guided reading (Guastello & Lenz, 2005). Another aspect that varies from classroom to classroom that was previously mentioned is the connection that exists between the various literacy stations and guided reading. Preliminary planning should be done at the beginning of the school year to determine how one will manage guided reading groups and literacy stations and the connection one wants to implement between the two (Guastello & Lenz, 2005). The successful implementation of guided reading and independent literacy stations is contingent upon careful planning and time. One must allot time to explain how stations and the various activities within them will work. It will take time for the process to run smoothly and for students to get accustomed to the routines.

Method

The faculty and staff at an elementary school in the southeastern United States participated in preliminary planning by collaboratively creating a list of authentic reading station ideas that address various standards. These stations include a listening center, computer station, fluency station, recording station, magazine station, weekly reader station or newspaper discussion group, author study, partner reading, big book center, response to a book for the million word campaign, sight word and spelling word games, Internet (Starfall.com), and Leap Pad™ games. While these are suggested ideas, ultimately, it is up to the teacher to decide which literacy stations he or she would like to implement in his or her classroom.

In order to determine whether student literacy achievement is more positively affected when the strategies worked on in guided reading are connected to and used in independent

literacy stations, the researcher observed four first grade classrooms at the selected school for approximately fifteen to twenty minutes a day, once a week, during the time in which guided reading and literacy stations were implemented. The eight-week observation period began the week of October 15, 2007 and ended the week of December 17, 2007. No observations were conducted during the week of November 19, 2007 due to Thanksgiving break or the week of December 3, 2007 due to testing.

An observation form was created and used with each observation. The observation form included spaces for the date and a code for each teacher (A, B, C, or D) in order to ensure anonymity. Space for listing the current strategy or strategies being worked on in guided reading was included as well. The preceding information was obtained ahead of time by asking each teacher which strategy or strategies she was working on with each group during a specified week. Often, a teacher does not work on the same strategy with every group for the entire week but tailors it to the needs of the students in each group. One group of students was randomly selected as the focus group from each classroom, each day observations occurred. Within each classroom, a different group of students was selected for observation each time, and within each day, a different station was selected for observation for each class. This method provided a variety of valuable data. Students were observed as they engaged in the independent literacy station to which they had been assigned. The observation form was used first to indicate the literacy component that was the group's focus: phonics, vocabulary, fluency, or comprehension. The station at which the group was working was indicated by circling one of the choices listed on the observation form. The strategy on which the group did or would work on that week in guided reading also was indicated on the form. Careful observation of the group of students was conducted, and any indications that they were applying the strategy or strategies learned in

guided reading to the station at which they had been placed were recorded. Different instances in which the target strategy or strategies were being used were recorded using tally marks. Notes were used to indicate *how* the target strategy or strategies were being used as well.

Literacy achievement was evaluated by results of the Developmental Reading Assessment (DRA). The Developmental Reading Assessment, which is designed to be carried out during one-on-one conferences, is a set of test materials designed by a Reading Recovery teacher that help teachers pinpoint student abilities and needs at kindergarten through third grade reading levels (McCormick, 2007). "The DRA includes stories for reading, observation guides, pads for recording oral reading behaviors, and other tools to encourage frequent monitoring of reading levels, strengths, and weaknesses for planning instruction" (McCormick, 2007, p. 111). Teachers at the selected school administer the DRA at the end of each nine-week grading period. The eight-week period of data collection took place during the 2nd nine-week period. Students' DRA scores from the end of the 1st nine weeks were compared to those obtained at the end of the 2nd nine-week grading period. Scores were compared between groups. The researcher attempted to determine if the level of student growth correlated with the frequency in which students applied the strategies learned in guided reading to independent literacy stations. The information from this study will be useful to classroom teachers by allowing them to see the effect that the connection between guided reading and literacy stations can have on student growth and performance. Additionally, the information from this study will be beneficial to the school where the research was conducted by providing them with valuable data on the effectiveness of their guided reading groups and independent literacy stations. Finally, too many students struggle with learning to read, and reading failure can produce long-term consequences for children's developing self confidence and motivation to learn (Armbruster, Lehr, & Osborn, 2003).

Information from this study will benefit students by helping them receive the most effective and efficient literacy instruction possible.

Results

Throughout the eight week study, a total of 13 different stations were observed across the four classes. The stations are as follows: computer/Internet, listening, classroom library, independent reading bags, big books, browsing books, author study, partner reading, sight words, phonics puzzles, phonics letter tiles, phonics beginning blends, and phonics words families. (See Appendix Table A1).

In all, a total of five stations were observed in classroom A (computer/Internet, listening, classroom library, independent reading bags, and browsing books). Seven stations were observed in classroom B (listening, independent reading bags, big books, author study, partner reading, phonics puzzles, and phonics letter tiles). Five stations were observed in classroom C (computer/Internet, listening, classroom library, phonics beginning blends, and phonics word families). Also, five stations were observed in classroom D (listening, classroom library, reading bags, big books, and sight words). The listening station was the only station observed in all four classrooms. However, the station that was observed the greatest number of times among the four classes was independent reading in bags, which the researcher observed a total of seven times over the eight week study.

Fountas and Pinnell (1996) describe reading strategies as "… operations that allow the learner to use, apply, transform, relate, interpret, reproduce, and re-form information for communication" (p. 149). As previously stated, at the beginning of each week of observations, each teacher reported which strategy or strategies she was working on with each group for that week. A total of 18 strategies were reported among the four classroom teachers. They were as

follows: use the picture, get your mouth ready, look at the part you know, reread, sound the word out, does it sound right, look for chunks, story elements, retelling, sequence of events, connections, parts of a book, read-skip-read, does it look right, does it make sense, try that again, main idea, and making predictions.

However, a total of 13 strategies were actually observed as students engaged in literacy stations (See Appendix Table A1). Fountas and Pinnell (2006) stated the following regarding the observation of strategies, "As teachers it is difficult for us to think about those complex in-the-head strategies. We cannot observe them but must hypothesize that they are being used" (p. 149). Fountas and Pinnell (2006) go on to state: "We can observe behavior, though, and children's reading behavior gives us a 'window on the reading process.' We must rely on behavioral evidence and that evidence must be collected over time" (p. 149).

The 13 strategies observed throughout the eight-week study are as follows: use the picture (observed 51 times among all four classes – more than any other strategy), get your mouth ready (observed 40 times among all four classes), look at the part you know (observed eight times in one class), reread (observed 19 times among three classes), sound the word out (observed 14 times in one class), does it sound right (observed five times between two classes), look for chunks (observed nine times between two classes), story elements (observed three times in one class), retelling (observed nine times between two classes), read-skip-read (observed four times in one class), does it look right (observed two times in one class), does it make sense (observed seven times between two classes), and try that again (observed one time in one class). It should be noted that the strategies "get your mouth ready" and "sound the word out" appeared to be quite similar and it was, at times, difficult to differentiate between the two. However, the strategy was marked as "get your mouth ready" if the students were observed using strictly the

beginning sounds to help them decipher a word. On the other hand, the strategy was marked as "sound the word out" if students were observed sounding out each portion of the word in order to decipher it.

In classroom A, a total of five strategies were observed (use the picture, get your mouth ready, reread, sound the word out, and does it sound right). In classroom B, a total of six strategies were observed (use the picture, get your mouth ready, look at the part you know, reread, does it sound right, and retelling). In classroom C, a total of six strategies were observed (use the picture, get your mouth ready, reread, look for chunks, retelling, and does it make sense). In classroom D, a total of eight strategies were observed (use the picture, get your mouth ready, look for chunks, story elements, read-skip-read, does it look right, does it make sense, and try that again). The only strategies that were observed in all four classes were use the picture and get your mouth ready.

Students were observed implementing various reading strategies as they engaged in the different literacy stations. The following data were collected among the four classrooms. One strategy (get your mouth ready) was observed at the computer/Internet station. Three strategies (get your mouth ready, story elements, and retelling) were observed at the listening station. Seven strategies (use the picture, get your mouth ready, reread, sound the word out, look for chunks, read-skip-read, and does it make sense) were observed at the classroom library station. Eight strategies (use the picture, get your mouth ready, look at the part you know, reread, sound the word out, does it sound right, look for chunks, and read-skip-read) were observed while students engaged in independent reading in bags. Seven strategies (use the picture, get your mouth ready, look at the part you know, reread, look for chunks, does it make sense, and try that again) were observed at the big books station. Four strategies (use the picture, get your mouth

ready, reread, and sound the word out) were observed at the browsing books station. Two strategies (get your mouth ready and does it sound right) were observed while students engaged in an author study. Two strategies (look at the part you know and reread) were observed during partner reading. Two strategies (get your mouth ready and does it look right) were observed at the sight words station. One strategy (get your mouth ready) was observed at the phonics puzzles station. One strategy (sound the word out) was observed at the phonics letter tiles station. One strategy (look for chunks) was observed at the phonics beginning blends station. One strategy (look for chunks) was also observed at the phonics word families station. The station in which students implemented the greatest number of strategies was independent reading in bags, followed by the classroom library and big books stations.

It is important to categorize the stations as primarily promoting comprehension strategies or primarily promoting word related strategies. It is important to consider fluency strategies, as well. One fluency strategy (rereading) was observed and implemented in classroom library, independent reading in bags, big books, browsing books, and partner reading. Word related strategies *only* were implemented at the following stations: computer/Internet, author study, sight words, phonics puzzles, phonics letter tiles, phonics beginning blends, and phonics word families. Comprehension strategies were primarily used at the listening station only, while word related strategies were primarily used at the classroom library, independent reading in bags, and big books stations. The browsing books station and partner reading had an equal number of comprehension and word related strategies implemented. Consideration must be given to the fact that more word related strategies were taught in general as opposed to comprehension strategies. Perhaps, this is the reason word related strategies were implemented in many more stations than were comprehension strategies.

Based on the data collected from this study, the stations in which students implemented reading strategies the least were partner reading (strategies implemented three times), sight words (strategies implemented four times), phonics puzzles (strategies implemented five times), author study (strategies implemented six times), and computer/Internet (strategies implemented eight times).

During partner reading, observed one time in classroom B, students read books from their independent reading bags to one another in an alternating format. Students were observed spending a great deal of time talking about things unrelated to what they were reading. Therefore, it was difficult to see actual reading strategies being implemented. Also, many times when a student did not know a word, his or her partner would immediately shout it out without the child having a chance to figure the word out on his or her own by using strategies. Moreover, if one student misread a word, his or her partner immediately would correct him or her. Immediate correction prevented students from effectively using most strategies. Two strategies, however, were observed at this station: look at the part you know and reread, which were observed two times and one time, respectively. When using look at the part you know, one student recognized the word *music* within the word *musician*. The same student also recognized the word *photograph* within the word *photographer*. Rereading was observed as a student first read "Some birds build nests." She then reread the sentence as "Some birds build *their* nests."

At the sight word station, observed one time in classroom D, students read several sight words printed on small cards and stored in a basket. Students spread the sight word cards out on the carpet. Then, each student picked up one word at a time, read it, and placed it back in the basket. The six students at this station played frequently so it was difficult to observe strategies

being used. In several instances, students were observed reading the sight word cards incorrectly as either other actual words or nonsense words. However, since the words were not placed in any sort of context, the students never noticed that they were reading them incorrectly. Also, if a student simply did not know a word, he or she often would skip it and go on to another. The previously described behavior made it difficult to observe strategies. The two strategies that students were using, get your mouth ready and does it look right, each were observed a total of two times. Get your mouth ready was observed as the students used the beginning sounds in the words *paper* and *come* in order to figure out the actual words. Does it look right, which refers to looking at the beginning and ending sounds and asking yourself if it looks like the word you think it is, was used in one instance when a student said to himself, "I see an *a* and an *s*" to help him figure out the word *animals*.

At the phonics puzzles station, observed one time in classroom B, the students engaged in two separate activities. For one activity, students put together various three-piece puzzles in which each piece contained one letter and a third of a picture. When the three correct pieces were put together, it formed a word and a picture representing the word (for example, *jet*). For the other activity, students had to put together various two-piece puzzles in which one piece had a picture of an object along with the corresponding word. The other piece had the beginning consonant blend that matched the object (for example, *tr-* for *tree*). The students had to match the blend to the picture/word. There were 26 of these in all. When the students were putting together various three-piece puzzles they were observed paying more attention to the picture part of the puzzle than the word printed below. Also, the students did not have to read the words back to anyone so it was unclear if they even knew them (or noticed them) at all. For example, one student put together a puzzle that, when completed, showed a picture of a mug with the word

mug printed below it. After putting the puzzle together, the student said "coffee cup." From that statement, it was evident that the student was focusing only on the picture and not the word. Sometimes, students at this station did not even lay out and connect the three pieces that went together but rather just collected the three parts they could tell went together, put them in a pile, and moved them to the side. Due to this behavior, no strategies were observed during this portion of the station. However, during the portion in which students were putting together various two-piece puzzles, they were observed using the strategy of getting your mouth ready, which they used five times. For example, one student was observed holding a piece that had a picture of a tree on it with the word *tree* printed below the picture. The student read the word and said "/*tr*/" to herself. She then looked for the consonant blend *tr*- and connected the two pieces. (It should be noted, however, that with this activity, it was unclear if the students were truly using the strategy or simply matching up the letters *tr* and *tr*.)

An author study, observed one time in classroom B, was based on the children's author Frank Asch. The classroom teacher first read a book by the author to which the students were asked to construct a response that was to include the title of the book, characters, and setting. Additionally, students had to write about and draw a picture of their favorite part of the story. Because the teacher read to the students and they did not have to actually read for themselves, it was difficult to observe strategies being used. Moreover, students constructed part of the book response together as a class (stating the main characters and setting) instead of individually. However, the strategies get your mouth ready and does it sound right were observed three times each. These strategies were not observed while students were reading, but while they were writing. For example, one student got her mouth ready with beginning sounds when trying to

spell and write the word *find*. Does it sound right was used as students checked to see if the letters they wrote down spelled the words they intended to spell.

At the computer/Internet station, observed a total of three times between classrooms A and C, students typically were engaged in a reading software program or Starfall.com. While on the reading software program, the students sat at the computer with headphones on as the computer read to them. The words to the stories were displayed on the screen and each word was automatically highlighted as it was read. (The students are encouraged to try to read the story first before clicking for the story to be read to them.) On Starfall.com, the students typically engaged in some sort of phonics activity. On another occasion, students were on the website of the subject of their current author study, Frank Asch. On this website, the students listened to and watched animated versions of Asch's stories. The computer/Internet station did not seem to relate to the strategies the classroom teachers were targeting, with the exception of get your mouth ready. While the computer/Internet station certainly had positive elements such as allowing students to hear fluent reading, it simply did not provide students with the opportunity to use their strategies because they were not having to actually read for themselves. In only one instance was a student observed trying to read a story first before clicking for the computer to read it to him. After a couple of minutes, however, this behavior ceased and the student went on to immediately click the icon for the computer to read to him. The one strategy that was observed at the computer/Internet station, get your mouth ready (observed a total of eight times), was used while the students were on Starfall.com. First, the students clicked on a letter. (They picked from any of the 26 letters.) Then, the screen displayed a word that began with the selected letter (the selected letter was in bold print). The students read the word first using the strategy of getting their mouths ready with beginning sounds and then clicked on the letter and word to check

themselves. The website provided several words for the students to do this with, all beginning with the letter they selected.

Based on the data collected from this study, the stations in which students implemented reading strategies most frequently were independent reading in bags (strategies implemented 57 times), classroom library (strategies implemented 32 times), browsing books (strategies implemented 24 times), big books (strategies implemented 20 times), and listening (strategies implemented 13 times).

Independent reading in bags was observed a total of seven times among classrooms A, B, and D. In most cases, this was done for approximately 15 minutes either before or after actual literacy stations began, therefore it was not really considered a "station" in that sense. Due to time constraints and other related factors, this activity had to be observed in place of an actual station at times in order to obtain the needed data. During observations of this activity, three to four students (the same number of students that occupy the typical literacy station) were randomly selected to be observed. Each student had a bag with books inside that were aligned to his or her current reading level. The students independently read the books inside their bag during the allotted time. While engaging in this activity the students in the three classrooms were observed implementing use the picture 26 times, get your mouth ready nine times, look at the part you know two times, reread ten times, sound the word out four times, does it sound right two times, look for chunks two times, and read-skip-read two times. One example of use the picture that was observed was when a student was trying to figure out the word *umbrella.* The student's eyes went back and forth between the word and the picture of an umbrella, and she suddenly said, "umbrella!" Get your mouth ready was observed when one student used the beginning sound */ch/* to help her figure out the word *chickens*. Look at the part you know was

used when a student was trying to figure out the word *racing*. The student first recognized the word *race* which she used to help her determine the whole word, *racing*. When rereading, sometimes students would reread just one word and sometimes they would reread a whole phrase or sentence. In one instance, a student originally read a word as *racecar* and then reread it correctly as *racing car*. In another instance, a student originally read a sentence slowly and choppy like. He then went back and reread it more fluently. Sound the word out was used in one instance to help a student determine the word *deck*. The student slowly sounded out each part of the word, */d/ /e/ /k/*, and then blended the sounds together. Does it sound right was used in one instance when a student originally read a word as *say*, but after realizing that it did not "sound right" or make sense within the context, the student correctly reread the word as *saw*. Look for chunks was observed in one instance when a student was trying to figure out the word *playpen*. He first recognized the word *play* and then figured out *pen*. The same was done by another student with the word *doing*. She first recognized *do* and then *-ing*. Read-skip-read was used in one instance when a student skipped the word *stool* and kept on reading. However, he never tried to revisit the word or go back and figure it out which is the preferred way to approach this strategy.

At the classroom library station, observed a total of four times among classrooms A, C, and D, the students each read several books of their choice and then chose one book to which they wanted to respond. When constructing their responses, students typically had to write the title and author of the book, circle whether they thought the book was great, good, fair, or okay, and write whether someone should or should not read the book and why. While engaging in this station, the students in the three classrooms were observed implementing use the picture eight times, get your mouth ready six times, reread three times, sound the word out two times, look for

chunks five times, read-skip-read two times, and does it make sense six times. Use the picture was observed in one instance as a student looked at the illustration to help her determine the word *swings*. Get your mouth ready was observed when a student used the beginning sound in the word *mud* to help him figure out the whole word. Rereading was observed in one instance when a student first read a phrase as "*in* the vine." She then reread it correctly as "*on* the vine." Sound the word out was observed as students sounded out and blended the individual letter sounds in words. Look for chunks was observed as a student figured out the word *unfolded* by recognizing the three chunks within it, *un-fold-ed*. Read-skip-read was implemented in one instance when a student read "We _____ around the table." The student skipped the word *gathered* which had been giving him trouble. (Again, however, the student never revisited the word to try to figure it out after reading on.) Does it make sense was implemented when one student read "to *hurt* for food." After realizing that that did not make sense, the student quickly reread it as "to *hunt* for food." In another instance, a student first read "the witch *throat* about …" After realizing that that did not make sense, she went back and correctly reread it as "the witch *thought* about …" (It should be noted that this particular strategy could also, at times, be interpreted as rereading. However, it was considered "does it make sense" over "rereading" when the rereading significantly changed the meaning of the text.) Although strategies were used prevalently at this station, many times students simply switched to another book if they came across a challenge, instead of using strategies to help them overcome the challenges they faced.

The browsing books station, observed two times in classroom A (no other classroom implemented this station besides the one in which it was observed), contained strictly non-fiction books which typically offer a greater challenge and are more difficult to read. The teacher in this classroom expected her students to simply "browse" through the books, looking at the pictures

and reading as much as they could. There was not a book response required at this station during the beginning phase of observations, but toward the end, the teacher did require a book response. While engaging in this station, the students were observed implementing use the picture seven times, get your mouth ready five times, reread four times, and sound the word out eight times. Most of the strategies that were observed at this station were seen implemented by two particular students. One very persistent student reread the sentence that contained a difficult word twice and kept looking at the picture for clues. He also kept trying to sound the word out. His efforts finally paid off, and he figured out the word. The other student was also very persistent in using his strategies, although he never did figure out the word that was giving him trouble, *mapping*. The student used the picture, tried to sound the word out, and reread, but after trying very hard, he finally closed the book and moved on to another. One strategy that these two students did not use, get your mouth ready, was observed in a separate instance with another student. The student implemented the strategy by focusing on the beginning sound in the word *learns*. The student repeatedly said "*/l/ /l/*" and used that beginning sound to help her determine the whole word.

At the big books station, observed a total of three times between classrooms B and D, the students each read several big books of their choice during the allotted time. There was no sort of book response required with this station. While engaging in this station, students were observed implementing use the picture ten times, get your mouth ready one time, look at the part you know four times, reread one time, look for chunks two times, does it make sense one time, and try that again one time. Get your mouth ready was used to help a student determine the word *dreamed*. The student repeatedly said "*/dr/ /dr/*" and then called out "dreamed!" She used the beginning sound to help her determine the whole word. Look at the part you know was observed in one instance as a student was trying to determine the word *splash*. The student said to herself,

"I know *pl* is */pl/* and I know *sh* is */sh/*." She then used those two parts that she already knew to help her determine the entire word. Rereading was observed when a student originally read, "My dog …" He then paused for a bit and reread, "My dog's the best." Most of the strategies observed at the big books station, however, could be summed up in the actions of two students in classroom D. Various reading strategies were displayed on the classroom wall above the big books station. Students frequently looked up and referred to these strategies whenever they encountered a challenge in their reading. (It should be noted that the students seemed very aware of the fact that they were being observed and appeared to want to "impress." Nevertheless, they were actively using reading strategies which is the most important.) Look for chunks was observed as the two students were trying to figure out the word *fuller*. One of the students said, "Let's look at the part we know, so cover up the *-er*." They did so and read the word *full*. They then added the *-er* to get *fuller*. Try that again was used after the students thought they had figured out the word *fuller*. To be sure, one of them said, "Now, let's try that again." They proceeded to reread the sentence in its entirety. Does it make sense was used when the students originally read a word as "keept" (a nonsense word). One of them said, "Well, let's see if it makes sense." When they read it in the sentence, they realized it did not make sense and then determined that the word was "kept." The students also said a couple of times throughout their reading, "Let's try to use our picture clues" whenever they encountered an unfamiliar word. The students even ran their fingers over and across the pictures appearing to examine them for clues.

At the listening station, observed a total of five times among classrooms A, B, C, and D, the students each put on headphones and listened to a story that was read to them on tape. The students followed along in their books as they listened. The stories used at this station were usually those from the students' reading texts. In each classroom, the students typically had to

write some sort of response to the story that they listened to whether it was retelling the story, sequencing the main events, or filling out information about various story elements. While engaging in this station, the students were observed implementing get your mouth ready one time, story elements three times, and retelling nine times. The one instance that get your mouth ready was used occurred while a student was constructing his written response. The student was trying to determine the spelling of a word by sounding out the initial sounds he heard. "Story elements" was observed as the students constructed written responses to stories they had listened to on tape. The response sheet required them to list/write about the setting, characters, problem, and solution of the story. Therefore, the station was directly related to the target strategy, story elements. Retelling was also observed as students constructed written responses to the stories they listened to on tape. The response sheet directly asked, "What was this story about?" Again, the station was directly related to the target strategy, retelling. It should be noted, however, that the students used retelling in a more basic way. They did not necessarily touch on each thing that happened in the beginning, middle, and end. For example, one student's response to *The Pumpkin Book* by Gail Gibbons was, "The book was about pumpkins; funny pumpkins, scary pumpkins, and all kinds of pumpkins."

The remaining three stations that were observed, phonics letter tiles, phonics beginning blends, and phonics word families, were each directly related to a particular reading strategy, but an exact number of times that each strategy was implemented was not recorded due to the fact that the strategy was an integral part of the station and was used constantly. At the phonics letter tiles station, observed one time in classroom B, the setup consisted of several sheets of construction paper that each had four small pictures glued onto the left hand side. On the right

side, beside each picture, the students used letter tiles to spell whichever word was pictured on the left. The strategy sound the word out was directly related to this station.

At the phonics beginning blends station, observed one time in classroom C, six beginning consonant blends were displayed on a chart, some of which included *pl-*, *fl-*, and *bl-*. Each consonant blend was printed on a small card along with a picture of an object that began with the blend and the corresponding word printed below the picture. The students had to find three more small cards (out of large pile) that began with each of the six consonant blends. Each card had a picture of an object with the corresponding word printed below the picture. However, the beginning blend had been removed from each word and replaced with blanks. For example, one card had a picture of a flower on it with "_ _ower" printed below. On the back of each card, was the actual consonant blend (in this case, *fl-*) and the original picture that represented that blend (in this case, *flashlight*). After finding three words/pictures that started with each of the six consonant blends, the students had to write and draw on handwriting paper, the beginning blend as well as each word and picture that began with that blend. The teacher then came around and had each student read aloud all the words he or she wrote. The strategy look for chunks was directly related to this station.

At the phonics word families station, observed one time in classroom C, the students had to find various cards that corresponded to each word family that was displayed on a small chart. After sorting the cards, the students had to draw a picture and write out each word in its entirety on handwriting paper. Each student then had to read it all back to the classroom teacher. The strategy look for chunks was also directly related to this station.

During this study, one of the teachers from a participating classroom explained that she has to prompt her students a lot to use their strategies, that they do not really use them on their

own. This teacher said that once the students actually use their strategies, though, they are successful. She explained that she simply has difficulty getting them to implement the strategies on their own. She said that she believed the strategies that were most often used were use the picture and sound the word out. (Based on the data collected, she was correct about use the picture, the strategy used more frequently than any other.) However, she said she is trying to move the students higher than "use the picture" which she described as a "kindergarten strategy."

With the current emphasis on students' academic achievement, it is important to be able to show that classroom practices are effective in promoting achievement. For this reason, the data collected from this study were analyzed in regard to how often the students in each classroom implemented reading strategies while engaging in independent literacy stations. Then, the data were compared to the results produced by the Developmental Reading Assessment (DRA). Students in classroom A implemented reading strategies the greatest number of times, a total of 57 times. They implemented use the picture 18 times, get your mouth ready nine times, reread 14 times, sound the word out 14 times, and does it sound right two times. Students in classroom D implemented reading strategies a total of 43 times. They implemented use the picture 20 times, get your mouth ready seven times, look for chunks four times, story elements three times, read-skip-read four times, does it look right two times, does it make sense two times, and try that again one time. Students in classroom B implemented reading strategies a total of 39 times. They implemented use the picture ten times, get your mouth ready 13 times, look at the part you know eight times, reread two times, does it sound right three times, and retelling three times. Students in classroom C implemented reading strategies the least number of times, a total of 33 times. They implemented use the picture three times, get your mouth ready 11 times,

reread three times, look for chunks five times, retelling six times, and does it make sense five times.

A paired-samples t-test was conducted using the data collected from student DRA scores obtained in October, at the end of the first nine weeks, and those obtained in December, at the end of the second nine weeks (See Table 1).

In classroom A, 17 students were compared based on their DRA levels, 15 students were compared based on their comprehension scores, and 17 students were compared based on their accuracy rates. The reason for the discrepancy in the number of students is due to the fact that the initial reading level of two students was too low to obtain a comprehension score. According to the October DRA results, the mean DRA level in classroom A was 5.41. In December, the mean DRA level was 8.59. Results of the paired-samples t-test show a statistically significant difference in these reading level scores, $t(16) = 7.374$, $p = .000$. The mean comprehension score for October was 17.13. The mean comprehension score for December was 17.27. Although this does show an increase in the comprehension score, it is not statistically significant, $t(14) = .333$, $p = .744$. Finally, the mean accuracy rate for October was 98.06, while the mean accuracy rate for December was 97.06. In this case, the mean accuracy rate actually decreased, although not at a statistically significant level, $t(16) = 1.587$, $p = .132$.

In classroom B, 17 students were compared based on their DRA levels, 15 students were compared based on their comprehension scores, and 17 students were compared based on their accuracy rates. The reason for the discrepancy in the number of students is, again, due to the fact that the initial reading level of two students was too low to obtain a comprehension score. According to the October DRA results, the mean DRA level in classroom B was 6.82. In December, the mean DRA level was 9.35. The results of the paired-samples t-test indicate a

statistically significant difference in reading level scores, t (16) = 8.847, p = .000. The mean comprehension score for October was 17.60. The mean comprehension score for December was 18.13. This is a statistically significant difference in comprehension scores,

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Table 1

DRA Scores for October and December

	October 2007	December 2007
Class A – DRA Level	**5.41**	**8.59***
Comprehension	**17.13**	**17.27**
Accuracy Rate	**98.06**	**97.06**
Class B – DRA Level	**6.82**	**9.35***
Comprehension	**17.60**	**18.13****
Accuracy Rate	**97.65**	**97.82**
Class C – DRA Level	**4.74**	**7.95***
Comprehension	**19.27**	**19.33**
Accuracy Rate	**97.28**	**97.83**
Class D – DRA Level	**5.63**	**8.58***
Comprehension	**18.78**	**18.11**
Accuracy Rate	**97.95**	**98.26**

* Statistically significant at the .001 level
** Statistically significant at the .05 level

$t(14) = 2.779$, $p = .015$. Finally, the mean accuracy rate for October was 97.65, while the mean accuracy rate for December was 97.82. The mean accuracy rate did increase, but not at a statistically significant level, $t(16) = .447$, $p = .661$.

In classroom C, 19 students were compared based on their DRA levels, 15 students were compared based on their comprehension scores, and 18 students were compared based on their accuracy rates. The reason for the discrepancy in the number of students is due to the fact that the initial reading level of four students was too low to obtain a comprehension score, and the initial reading level of one student was too low to obtain an accuracy rate. According to the October DRA results, the mean DRA level in classroom C was 4.74. In December, the mean DRA level was 7.95. This difference in reading level scores is a statistically significant difference, $t(18) = 7.471$, $p = .000$. The mean comprehension score for October was 19.27. The mean comprehension score for December was 19.33. The mean comprehension score did increase, but not at a statistically significant level, $t(14) = .138$, $p = .892$. Finally, the mean accuracy rate for October was 97.28, while the mean accuracy rate for December was 97.83. The mean accuracy rate also increased, but not at a statistically significant level, $t(17) = .661$, $p = .518$.

In classroom D, 19 students were compared based on their DRA levels, 18 students were compared based on their comprehension scores, and 19 students were compared based on their accuracy rates. The reason for the discrepancy in the number of students is due to the fact that the initial reading level of one student was too low to obtain a comprehension score. According to the October DRA results, the mean DRA level in classroom D was 5.63. In December, the mean DRA level was 8.58. There was a statistically significant increase in the mean DRA level, $t(18) = 6.058$, $p = .000$. The mean comprehension score for October was 18.78. The mean

comprehension score for December was 18.11. In this case, the mean comprehension score actually decreased, although not at a statistically significant level, $t(17) = .507$, $p = .619$. Finally, the mean accuracy rate for October was 97.95, while the mean accuracy rate for December was 98.26. The mean accuracy rate did increase, but not at a statistically significant level, $t(18) = .946$, $p = .357$.

Based on the results of the paired-samples t-test, it is revealed that only the DRA level increased significantly in each classroom. Classroom C, in fact, had the greatest increase in the mean DRA level, followed by classrooms A, D, and B. The comprehension score also increased significantly in classroom B only. Accuracy rates did not show a statistically significant increase in any of the classrooms; however, this is not expected due to the way in which the test is administered. The teacher stops the test before the student's accuracy level declines too much.

Conclusion

When comparing DRA results to the observational data obtained from the eight-week study, one can conclude that the class that had the most growth according to the results of the paired-samples t-test of DRA scores was classroom B, the only class that had a statistically significant increase in both student DRA levels *and* comprehension scores. However, it should be noted that, of the four classrooms, classroom B also had the lowest increase in the mean DRA level, although it was still statistically significant. Likewise, it also must be taken into consideration that most of the students in classroom B (11 out of 18) were at or above the DRA level they should be on at the end of the 2nd nine weeks in first grade. Therefore, the fact that most of the students in classroom B were at or above the desired DRA level and still had a statistically significant gain in comprehension is important.

When reviewing the observational data collected from the eight-week study, one can see some ways in which classroom B differs from the other three classes observed. First, classroom B had more literacy stations in place than any other classroom, a total of seven stations. Four of the 13 stations were only observed in classroom B. These were author study, partner reading, phonics puzzles, and phonics letter tiles. As far as reading strategies are concerned, classroom B was the only class in which "look at the part you know" was ever observed. The strategies "get your mouth ready" and "does it sound right" were also observed more times in classroom B than in any other classroom. See Appendix Table A1.

However, in reviewing data collected from this study, it is also evident that the students in classroom B implemented reading strategies less than those students in classrooms A and D overall. This, perhaps, may have to do with the stations that were observed in each classroom. Independent reading in bags was observed three times in classroom A and three times in classroom D. However, it was observed only once in classroom B. This is of particular importance because independent reading in bags is the station in which reading strategies were implemented the most by far (n = 57). Had independent reading in bags been observed three times in classroom B as it was in classrooms A and D, the number of times students in classroom B implemented reading strategies would likely be greater. Another reason that the number of times students implemented strategies in classroom B appears to be less than in classrooms A and D is because at the phonics letter tiles station, an exact number of times that strategies were implemented could not be recorded because the strategy of sound the word out was inherent in the station itself. This made it too difficult to record an exact number of times the strategy was being used. Therefore, the total number of times that the students in classroom B implemented reading strategies (n = 39) does not include the times in which the strategy "sound the word out"

was used at the phonics letter tiles station. This station was never observed in classrooms A and D.

Another important aspect to consider in this study is the class that implemented the greatest number of reading strategies throughout the eight-week period, classroom A, which implemented reading strategies a total of 57 times. While the students in this classroom implemented reading strategies most often, they were not the class that showed the most growth according to DRA scores. They did show a statistically significant increase in student DRA levels (as did every other classroom), but they actually showed a slight decrease in student accuracy rate, although not at a statistically significant level. However, it is important to consider that as a student's DRA level increases, it is expected that there will be somewhat of a decrease in accuracy rate for at least some time due to the fact that the material is at a more advanced level.

When looking at the results obtained from the DRA, it is evident that classroom C had the greatest increase in the mean DRA level (M = 3.21) followed by classrooms A, D, and B (M = 3.18, 2.95, and 2.53, respectively). Again, the strategies implemented in classroom C were get your mouth ready, retelling, look for chunks, does it make sense, use the picture, and reread. It should certainly be noted that in classroom C, the strategy "look for chunks" was also used constantly in both the phonics beginning blends and phonics word families stations. Since the strategy was essentially inherent in the station, it was difficult to record an exact number of times the strategy was used. Therefore, while it appears that the students in classroom C implemented strategies the least frequently (n = 33), one must take into consideration the fact that look for chunks was not tallied and included in this total number. Had it been, the total number of times in which strategies were implemented certainly would have increased. Classroom C was also the

only classroom to implement the phonics beginning blends and phonics word families stations. The students in classroom C also implemented the strategies look for chunks, retelling, and does it make sense more frequently that the students in any other classroom.

Some important similarities are evident between classroom C, which had the greatest statistically significant increase in DRA level, and classroom B, which had the only statistically significant increase in comprehension. One similarity is that in both classrooms, six different reading strategies were observed. Of those six strategies, get your mouth ready, use the picture, retelling, and reread were each implemented by students in both classrooms. Another similarity is that get your mouth ready was the most frequently used strategy in both classrooms ($n = 11$ for classroom C, and $n = 13$ for classroom B). Also, reread was the least frequently used strategy in both classrooms ($n = 3$ for classroom C, and $n = 2$ for classroom B). A final similarity is that in both classes, a mix of word related strategies and comprehension strategies were implemented. In classroom C, four word related strategies were implemented and three comprehension strategies were implemented. (Use the picture was counted twice as both a word related and comprehension strategy.) The same went for classroom B. Four word related strategies were implemented and three comprehension strategies were implemented. (Again, use the picture was counted in each category.) Therefore, perhaps the key to increased literacy achievement is a balanced mixture of word related and comprehension strategies.

Discussion

As previously stated, the purpose of this study was to determine whether student literacy achievement is more positively affected when the strategies taught or practiced in guided reading are connected to and used in independent literacy stations. Initially, it was expected that the classroom in which the most strategies were implemented would be the classroom that had the

greatest gain. However, this was not the case. It is important to understand, though, that the data collected from this study is based solely on what was observed. That does not necessarily mean that since a strategy was not observed in a classroom, it was never used at all. Some strategies and stations may have been implemented in various classrooms when the researcher was not present to observe. Other limiting factors include the fact that the researcher observed students in classrooms A, B, and D engaging in independent reading in bags, which is technically not a station, per se. Also, the fact that the researcher was unable to record an exact number of times in which "sound the word out" was used in the phonics letter tiles station and "look for chunks" was used in the phonics beginning blends and phonics word families stations could have altered the data and results, somewhat.

For further study, first grade classrooms could be identified at a different school that does not focus on strategy use in literacy stations and then achievement scores could be compared to first grade classrooms that do focus on strategy use. Another topic that could be investigated for further study is whether too much emphasis on strategy use is less effective. Results from this study show that the students in classroom D implemented eight different strategies (more than any other class) but that they had the third greatest increase in mean DRA level (following classrooms C and A) and that they were the only class to have a slight decrease in the mean comprehension score, although it was not at a statistically significant level. Finally, the nine literacy stations suggested by Ford and Opitz (2002) that were previously mentioned (listening, Readers Theatre, reading/writing the room, pocket chart, poems/story packs, big books, responding to literature through art, writing, and reading) could be identified in classrooms and observed for further study in a manner similar to the way in which stations were observed in this

study. Also, it may be beneficial to examine the developmental appropriateness and authenticity of literacy stations and how that factor may contribute to literacy achievement.

Appendix

Table A1

Literacy Stations and Reading Strategies

	Computer/ Internet	Listening	Classroom Library	Reading Bags	Big Books	Browsing Books	Author Study	Partner Reading	Sight Words	Phonics Puzzles	Phonics Letter Tiles	Phonics Begin. Blends	Phonics Word Families
Use the picture			A4, C3, D1 (8)	B2, D17 (19)	B8, D2 (10)	A7 (7)							
Get you mouth ready	C8 (8)	B1 (1)	A1, C3, D2 (6)	A3, B3, D3 (9)	B1 (1)	A5 (5)	B3 (3)		D2 (2)	B5 (5)			
Reread			C3 (3)	A10 (10)	B1 (1)	A4 (4)		B1 (1)					
Does it sound right				A2 (2)			B3 (3)						
Look for chunks			C5 (5)	D2 (2)	D2 (2)							C*	C*
Retelling		B3, C6 (9)											
Does it make sense			C5, D1 (6)		D1 (1)								
Total	8	10	28	42	15	16	6	1	2	5	0	*	*

The strategies listed are those used two to four times among the four classes.
Letters denote classroom in which strategy was observed; numerals denote number of observed occurrences of the strategy.
Numerals in parentheses denote total number of observed occurrences of the strategy.
* Unable to quantify strategy use as strategy was inherent throughout the activity

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