A Study to Investigate the Effectiveness of Interactive Writing with At-Risk Kindergarten Students

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Introduction

In order for students to become literate, educators must constantly examine how their instruction affects student achievement. Schmoker (2006) argued that literacy instruction has a direct link to student achievement and stressed the importance of educators constantly reflecting and analyzing their instruction. Clay (2005a) explained that the goal of instruction was to produce independent readers and writers so that the students continue to learn each time they read or write. Moreover, high-quality instruction provided by skilled teachers makes a difference for the most struggling learners (Lyons, Fletcher, Fuchs, & Chhabra, 2006). And, Snow, Burns, and Griffin (1998) found that if students from non-supportive homes received effective literacy instruction, these students could reach adequate literacy achievement levels. Clearly, teaching and learning are connected and we must continue to investigate effective literacy practices to positively impact achievement of all students, but especially struggling learners.

In addition to the studies investigating best literacy practices in reading, it is also important for educators to constantly examine how their literacy instruction affects writing achievement. Effective writing instruction can support students who are at risk for literacy failure (Craig, 2006). Clay (2005b) defined writing as constructing a meaningful message while utilizing known words and building a writing vocabulary. Within this context, students shift from writing simple messages with limited language to more complex messages with extended details (Clay, 2001).

Writing is an intricate process for novice, emergent writers to master. Most kindergarten students are classified as emergent or novice writers. They understand that messages can be written to express meaning and that others can read their messages. Novice writers have to learn how to balance graphomotor, linguistic, and cognitive demands of the task (Askew & Frasier, 1999; Clay, 2001; Craig, 2006; Williams, 2011). In addition, students must learn how to manage concepts about print and conventions that must be used flexibly during the writing process. Even though writing is a complex process, it is important for teachers to understand how to implement effective writing instruction. As a part of this process, interactive writing could be an effective instructional tool that can affect early writing achievement (McCarrier, Pinnell, & Fountas, 2000). Interactive writing is an instructional tool where children are invited to use their own language within a supportive environment while developing critical foundational skills about letters, words, and sounds (McCarrier et al., 2000).

Students who are at risk for literacy failure must be afforded opportunities to overcome this risk early in their development to acquire foundational literacy knowledge. Without early explicit literacy instruction in kindergarten and first grade, at-risk students typically underperform on state and district assessments in later grades. Without early literacy intervention, the gap seems to widen making it more difficult for these students to catch up with their peers. One type of writing instruction for early writers to consider is interactive writing. Interactive writing can be an effective instructional tool to close this literacy gap. Hovland, Gapp, and Theis (2011) found that a disproportionate amount of time was being devoted to reading instruction in early grades while writing was given less time and attention. The purpose of this study is to investigate how a group of at-risk kindergarten students’ writing achievement improves after implementing interactive writing.
Brief Review of the Literature

Allington and Cunningham (1996) noted that if students consistently receive high-quality instruction, there will be fewer students who are in the lowest literacy group. The following review of research demonstrates how high quality writing instruction through interactive writing may affect student writing achievement with emergent writers who are at risk for literacy failure. The importance of early intervention, the framework of interactive writing, and a review of historical research on interactive writing will support the focus of the study.

Early Intervention

Response to Intervention, known as RtI, was recommended from the policies of No Child Left Behind legislation that was passed in 2001 (Bush, 2001). In 2004, the U.S. Congress reauthorized IDEA with some important changes. The RtI approach was developed to reduce the number of students being identified as learning disabled and to ensure that students are receiving optimal core instruction (Greenwood et. al, 2011). Barone (2002) found that high quality classroom instruction is often lacking in typical kindergarten classrooms noting that a majority of classroom instructional time was devoted to low level coloring activities and whole group instruction versus small flexible groups with targeted instruction. Lyon et al. (2006) argued that high quality classroom instruction alone could drastically reduce the occurrence of reading difficulties.

Rti also encourages early intervention by providing additional services to students who are struggling academically. Otaiba (2001) and Ziolkowska (2007) contended that intervention needs to be early because it is more difficult to help students reach the average of their peers if intervention is started in later grades. Otaiba found that early intervention in kindergarten and first grade reduce the number of students who are at risk in literacy. Ziolkowska found that working intensely with students when the onset of reading and writing problems emerged helped the students make significant gains. A five year longitudinal study by Velluntino, Scanlon, Small, and Fanulele (2006) also revealed that the students who received intervention services in kindergarten or first grade scored average on literacy tasks in third grade.

Framework of Interactive Writing

The framework of interactive writing was developed as a result of the Language Experience Approach (as cited in Button, Johnson, & Furgerson, 1996). Within the Language Experience Approach, the teacher assists a student or group of students to write a message by acting as their scribe. McKenzie (as cited in Button, et al. 1996) developed a process identified as shared writing where the teacher and students collaborate together to construct a written message. The Ohio State University researchers constructed the Early Literacy Initiative for small group instruction (Compton, 1994). Reading aloud, familiar reading, guided reading, shared reading, interactive writing, and independent writing were components of their small group instruction. Over time, the concept of interactive writing grew as an effective early literacy strategy for small group instruction.

McCarrier, Pinell, and Fountas (2000) defined interactive writing as an instructional approach where a group of students compose a meaningful text while attending to sounds, letters, and words. Interactive writing is intertwined as a cognitive and social process where the teacher and the students work collaboratively through meaningful interactions to transcribe a message. Askew and Frasier (1999) noted that interactive writing is a process utilizing scaffolded learning and instruction. During interactive writing, the goal is for the students to contribute what they know while the teacher extends their understanding of how print works. During interactive writing, teachers engage in continuous decision making processes regarding what to teach, how to teach, and when to teach while observing students carefully in this process (Matzcu & Straw, 2005). As students become more independent, the teacher offers less scaffolding, similar to the concept of gradual release of responsibility (Pearson & Gallagher, 1983). The purpose of interactive writing is to increase early
literacy knowledge with emergent readers and writers through an approach to writing text in apprenticeship style. Interactive writing focuses on concepts about print, sound and letter correspondence, and the use of high frequency words while composing a meaningful text within a supportive risk taking environment.

**Historical Research on Interactive Writing**

Interactive writing was one component of the Early Initiative that was developed by the researchers at The Ohio State University (Compton, 1994). Compton conducted a study to determine how interactive writing contributed to the literacy development of first grade children. The study was conducted in one first grade classroom over a year that involved five students who were at risk. The results of this study revealed that all of the students made significant gains in their writing vocabulary while writing strategies transferred to their independent writing growth. Although Compton's study was comprehensive, it was limited to one first grade classroom and only involved students who received interactive writing.

Button, Johnson, and Furgerson (1996) investigated interactive writing in a kindergarten classroom. Button et al. (1996) was similar to Compton (1994) by using the *Observation Survey of Literacy Achievement* (Clay, 2002) to assess student’s literacy knowledge and behaviors. At the beginning of the intervention, most aspects of writing were controlled by the teacher but towards the end of the year, more contributions were made by the students within the writing task. At the end of the research, the researchers found that the students made significant gains in phonemic awareness and print conventions. Button et al. (1996) also found that even though interactive writing was not directed to teach her students to read, most of them were reading at the end of their kindergarten year.

Williams and Hufnagel (2005) found that interactive writing supported fundamental concepts about print in addition to written conventions. Williams and Hufnagel (2005) and Brotherton and Williams (2002) noted how interactive writing provides a way to produce a written message that is meaningful while phonemic awareness and letter knowledge are utilized in a supportive environment. Moreover, interactive writing provides a foundation to move an emergent writer to a conventional writer.

Craig (2006) compared “metalinguistic games-plus” to an adapted form of interactive writing, “interactive writing-plus.” The “plus” part of each approach was supplemental sound-letter instruction. There were 87 student participants who were randomly assigned to each group. Each group participant received 20 minutes of instruction four times a week for 16 weeks. The results indicated that students in the interactive writing plus group had higher results in comprehension, word reading development, and word identification. Even though a high number of students were involved in the study, a major limitation of the study was that it was conducted in a short time frame of only 16 weeks.

Patterson, Schaller, and Clemens (2008) investigated interactive writing at three elementary schools. Contending that interactive writing was an easy technique to use throughout their curriculum, they used interactive writing to teach students how to write in different content areas. Similarly, Patterson et al. (2008) found that interactive writing improved language development, spelling and writing skills while supporting all learners, especially with their ELL population by providing a focused framework within a comfortable setting.

Jones, Reutzel and Fargo (2010) compared interactive writing to writer’s workshop with students in kindergarten classrooms with 151 student participants. Repeated measures data were collected every four weeks for 16 weeks. The measures included alphabet knowledge, phonological awareness, and word study. Results indicated that there was no significant statistical difference between the students who received interactive writing versus writer’s workshop. Even though writer’s workshop is often presented as an opposing instructional approach, both appear to support the growth of early literacy skills. Furthermore, this study supports the concept that when teachers choose an instructional tool that fits with their beliefs and experience about writing instruction, student
growth is experienced. Even though the study included a high number of participants, the study did not include a status-quo control group which limits the overall generalizations. In addition, a longer study over a school year could strengthen the findings of this study.

Williams (2011) used a modified approach of interactive writing with students who were hard of hearing or deaf. The data consisted of 45 writing lessons that were taped and transcribed from six students. The results indicated that students learned to be writers by changing their speech or sign to print while practicing writing conventions. The researcher recognized that learning to write is a complex process and that teaching beginning writing is crucial. Williams concluded that interactive writing provides a powerful framework for students who are deaf or hard of hearing and that interactive writing may also be supportive for students without hearing loss.

Roth and Guinee (2011) examined the effects of interactive compared to students who received writer’s workshop in a first grade classroom. Fifty-two students from six different schools in five different school districts participated in the study. Results indicated that 49 students showed significant gains who received interactive writing as opposed to writer’s workshop. The yearlong study revealed that the interactive writing group also made greater gains on each subscale writing assessment. This study also supports the previous work of Brotherton and Williams (2002) and Jones, Reutzel, and Fargo (2010).

Williams, Sherry, Robinson, and Hungler (2012) combined the instructional framework of interactive writing and the use of the practice page. Hungler was a former Reading Recovery teacher and a primary grade teacher. She valued utilizing the practice page within Reading Recovery lessons and used this same approach within interactive writing for classroom instruction. Williams et al. (2012) noted that the practice page served as a visual reminder for explicit instruction of spelling or word study and that the practice page made the writing more strategic and memorable for the students.

Interactive writing provides a powerful instructional approach to deliver explicit writing instruction. Research documents that interactive writing has been found to be effective with primary, emergent writers. Emergent writers who experience interactive writing develop letter knowledge, phonemic knowledge, and word knowledge while transferring strategic writing behaviors to their own writing.

Methodology

An action research methodology was utilized to study the effect of interactive writing with at-risk emergent writers. Mertler (2008) defined action research as systematic inquiry that is conducted by teachers, administrators, or other educational personnel who are interested in discovering how teachers teach, how students learn, or how schools operate. The main purpose of this action research study was to investigate how a group of at-risk kindergarten students’ writing achievement improves after the implementation of interactive writing.

Brief Description of Subjects

The study was conducted at an elementary school in the Midwest within an urban city. Ninety three percent of the population has a free or reduced lunch rate. Eighty-one percent of the student population is Caucasian while nineteen percent represent a variety of racial groups. One kindergarten classroom was chosen to participate. Within this classroom, three students were randomly selected from a pool of students who were below basic based on literacy benchmark assessments at the end of the second quarter.
Procedures

The three students selected for the study were below basic on the Developmental Reading Assessment (DRA 2) and the letter identification assessment. The study commenced after permission was given by the parents. Permission from the district, principal, and classroom teacher was secured prior to the study. The three students were chosen to participate in a daily interactive writing group. The students participated in the interactive writing group daily for six weeks. Each session was thirty minutes or less. Students did not miss any core instruction from their classroom teacher or any required content because the students were working independently at literacy work stations while the teacher instructed students within a small group. The researcher did not schedule interactive writing while the classroom teacher worked with the participants in small group instruction. The selected students received interactive writing instruction within the classroom setting. This design ensured the least amount of change in their daily routine for these students. The students and the classroom teacher were assigned pseudonyms in order to protect the participants in the study.

Materials

All three students were given the Observation Survey of Literacy Achievement (Clay, 2002) prior to the study and at the conclusion of the study. The National Center for Response to Intervention (NCRTI) gave this survey assessment the highest possible rating for a tool to assess literacy achievement (NCRTI, 2012). The goals of interactive writing include letter knowledge, letter-sound correspondence, word knowledge, and print conventions. Although the survey assessment has six subtests, only the letter identification, concepts about print, writing vocabulary, and hearing and recording sounds in words subtests were administered. The letter identification test was given to identify which letters of the alphabet are mastered. The student was asked to identify the letter by name, sound, or a word that starts with that letter. This is an important assessment because interactive writing develops letter formation and letter knowledge. The concept about print assessment was given to determine what the student knows about how spoken language is represented in print and how print works. The writing vocabulary assessment was given to identify how many words a student can write in ten minutes. The hearing and recording sounds in words dictation task establishes the student’s understanding of phonemes present in words.

Additionally, a writing assessment was given prior to instruction and at the conclusion the study. The Writing in Response to Reading (Dorn & Soffos, 2012) checklist was used to identify strategic writing behaviors on the writing assessment. The students were asked to draw a picture of their favorite animal and write a story about it. The researcher observed the students during this assessment and noted student writing behaviors. In addition to the pre- and post-writing assessments, student journals were used for artifact data.

Data Analysis

Quantitative and qualitative data were collected to investigate how at-risk kindergarten students’ writing achievement improves after implementing interactive writing. Both types of data were collected to increase the number of data points due to the limited sample size. Descriptive statistics were used to analyze the data comparing pre- and post-results from the Observation Survey of Literacy Achievement (OSLA). The Writing in Response to Reading checklist was used to assess specific writing behaviors. Writing behaviors will be assessed prior to interactive writing and after interactive writing.

Results

The graphs below display raw data from the pre- and post-subtests from the OSLA. The assessments were given at the end of the sixth week of interactive writing instruction.
The data represented in the graphs above indicate growth on all subtests across all students. Since each of the subtests possess a different number of items, growth comparisons across subtests is not possible. However, for each test, comparison of student growth can be discussed. On the Hearing and Recording Sounds in Words subtest, Brandon made the largest gains, followed by Sarah and Michael. On the Writing Vocabulary subtest, Michael made the largest gains followed by Sarah and Brandon. On the Letter Identification subtests, Brandon made the largest gains, followed by Michael and Sarah. Finally, on the Concepts About Print subtest, Brandon again made the largest gains, followed by Sarah and Michael. Thus, overall, Brandon made the largest gains across three of the four measures.

Sarah

Sarah knew eighty-five percent of her letters prior to the study. The unknown letters were visually similar to other letters and were common letter confusions. She was able to identify letters by name at a steady pace. Sarah was able to locate two letters within print and able to write a six high frequency words. At the conclusion of the study, Sarah was able to identify four more letters while the speed of identification increased. Sarah’s core of high frequency words increased from being able to write six words to seventeen words within 10 minutes.
Michael

Michael was able to identify eighty-seven percent of the letters at a steady pace prior to the study. Michael was also able to record eight phonemes for sounds in words. Michael was able to locate four letters in print and move across print from left to right while reading. Michael showed that he had a very small core of high frequency words that he could write. At the end of the study, Michael was able to identify six more letters and was able to write ten more high frequency words within ten minutes. Michael was able to hear and record an increase of eleven more phonemes while writing.

Brandon

Brandon was able to identify sixty-five percent of the letters prior to the study. He often guessed at unknown letters while the pacing was slow. He was able to write six high frequency words and was able to hear and record ten sounds while writing. At the end of the study, Brandon was able to identify eleven more letters with an increase in speed. Brandon showed the most gains in hearing and recording sounds in words by being able to hear and record 29 phonemes at the end of the study.

Strategic Writing Behaviors

Each student was given a writing assessment prior to interactive writing and after interactive writing. The researcher was able to observe each student during the writing assessment process to note how the student responded to the prompt.

Sarah

During the writing assessment prior to the study, Sarah demonstrated that she understood the prompt and that she could articulate and remember the message that she chose to write. Her written response indicated that she understood directionality because her written was recorded left to right. Sarah was able to correctly write some initial sounds for the words that she recorded. Her response was lacking space between words and had only one recognizable word within the text. With unknown words, she pronounced the first sound that she heard. She did not reread for the next word to guide what word would come next in her response. Sarah was tentative and was unsure how to provide her own scaffolding herself while writing. After the study, Sarah was able to record a longer response with an increase in high frequency words. In addition, she was able to record initial, final and some medial sounds within words while putting space between each word consistently. She said words slowly to help herself hear and record the sounds that she needed and used the abc chart to search and confirm letters to write, and reread her message for the next word that she needed to record.

Michael

Michael approached the writing assessment apprehensively prior to the study. He responded to the prompt by quickly drawing his favorite animal but showed resistance when asked to write a story about his favorite animal. He responded with an appropriate oral response to the prompt and then wrote the first word of his response and two initial sounds for the next two words in his message. His written response showed some knowledge of conventional directionality by writing left to right, but lacked spatial concepts by starting in the middle of the page. At the end of interactive writing, Michael responded to the prompt with more confidence by not showing resistance to writing the message. His responses were simple, but he was able to write the response with conventional directionality and started his message at the top of the page. He was also able to write three high frequency words correctly and showed appropriate spacing between each of his words. At an unknown word, he pronounced the word slowly to himself and was able to produce the initial, medial, and final sound. Michael also reread consistently to search for the next word in his response.
Brandon

Brandon approached the writing assessment tentatively. His response fit with the prompt and he understood that his message matched the meaning in the story. His written response was written left to right, but was recorded written in the middle of the page. He was able to hear and record some initial sounds without spacing. No recognizable words were written in his message. After interactive writing, his confidence was evident. He approached the writing prompt by quickly thinking about and drawing his favorite animal and quickly had an idea for his story to write. While he was writing, he was rereading consistently for the next word and consistently used adequate spacing between each word. His written response was started at the top of the page and moved left to right across the page. When he approached an unknown word, he consistently pronounced the word slowly to himself and was able to record most initial, medial, and final sounds within words. In addition, Brandon was able to write two high frequency words correctly within his message.

Summary

After six short weeks, all three kindergarten students made tremendous gains with letter, word, and phonetic knowledge. They were able to apply their literacy knowledge while independently writing a response. All students were able to use conventional directionality and spacing while rereading their message for the next word, saying words slowly, and using their high frequency word knowledge in their written responses.

Discussion & Recommendations for Additional Study

The purpose of this study was to investigate the effect of interactive writing on a group of at-risk kindergarten students. Data was gathered from a writing prompt and the OSLA prior to and after the study. Data from the OSLA was used to establish a starting point for instruction by making sure the students were able to practice and use their known letters and words strategically while they were contributing to the group message or writing independently. Wood (1988) recognizes that successful teachers must possess an understanding of a balanced approach to literacy, understand what literacy skills the student knows, and know what literacy skill should be taught next, while providing just enough support for the student to master the skill or behavior being taught.

Results of this study revealed student growth in letter knowledge, word knowledge, and phonetic knowledge. The students transferred their letter and word knowledge to their independent writing. The largest gains for all three students were in the areas of writing vocabulary and hearing and recording sounds. At the conclusion of the study, all students could represent letters for sounds in words and had developed a base of known words in writing. Although their gains differed, each student made gains in writing.

This study has limitations that should be recognized when considering the results. First, the study only encompassed six weeks of instruction. A next step would be to lengthen the study to a semester or perhaps a full year to explore longitudinal growth patterns. In addition, only three students participated in the study. A logical next step for research could be to compare kindergarten students who receive interactive writing to several schools with students who do not receive interactive writing instruction over an extended amount of time. Another limitation to the study was the demographic composition of the school and population. In future research, it is recommended that at-risk kindergarten students from schools with more diverse socioeconomic status and diversity be studied. Despite these limitations, this study demonstrates that interactive writing can have a positive effect on at-risk kindergarten students’ growth in letter knowledge, word knowledge, and phonological awareness.
References


Note: This technical report is a condensed version of the original study prepared for the UALR Center for Literacy under the direction of Dr. Kent Layton to fulfill the requirements for READ 8349 Research Practicum in Reading. For more information in regarding the study, please contact Shelly R. Shaver at sshaver@spsmail.org. The views of the report are the sole expression of the researcher and do not necessarily reflect the beliefs of the UALR Center for Literacy, the College of Education, or the University of Arkansas at Little Rock.