USING THINK-ALOUDS TO ASSIST TRANSFER OF ISOLATED PHONICS SKILLS TO TEXT

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The purpose of this study was to determine if instructors utilizing Think-Aloud methodology would be effective in teaching struggling reading students how to transfer newly learned phonics skills taught in isolation to a continuous text. The students selected for this study were twenty-three first grade students who scored at the below proficient or well-below proficient level on individually administered benchmark reading assessments given at the beginning of the school year. Half of the students received small group instruction that employed Think-Alouds by the teacher to demonstrate how to transfer phonics skills to a continuous text. The other half of the students, although placed in small groups, did not receive instruction that utilized Think-Alouds by the teacher to assist in students’ transfer of phonics knowledge to text. Benchmark assessments were then given again at middle of the year to determine student growth in reading achievement. There was no significant difference in reading achievement between the two groups of struggling readers.
INTRODUCTION

Background, Issues, and Concerns

Think-Alouds have been used as a teaching technique to teach comprehension strategies. With Think-Alouds, the teacher speaks aloud her thoughts before, during, and/or after reading a selection orally to the class in order to demonstrate how an expert reader processes information while reading. The students are able hear the instructor’s thinking as she makes connections, visualizes, formulates predictions, answers and/or asks questions she has about the reading, creates analogies, recognizes comprehension breakdowns, and utilizes fix-up strategies (Davey, 1983).

Teachers have struggled with how to instruct low-performing readers to transfer decoding knowledge taught in word isolation to speedy sight word recognition and reading comprehension (Compton, Olinghouse, Elleman, Vining, Appleton, Vail, & Summers, 2005). This study specifically looks at how to transfer phonics skills taught in isolation to reading in continuous text. An effective bridge from word work and text needs to be identified. This study modified the idea of Think-Alouds by using it to explicitly model for students how to apply what they have learned in a focused phonics lesson to continuous text.

Practice under investigation

The practice under investigation examined the use of the Think-Aloud methodology when modeling for low-achieving readers how to apply isolated phonics skills learned in small groups to continuous text.
School Policy to be informed by study

If a significant difference is found between the progress monitoring and/or benchmark text reading and comprehension assessment scores of those students that received Response to Intervention (RtI) Tier 2 phonics instruction using Think-Alouds and those RtI Tier 2 students who did not receive instruction using Think-Alouds, teachers should be certain to use this strategy in order provide a solution to the non-generalization of learned phonics skills to other reading tasks.

Conceptual Underpinning

According to Vygotsky (1978), considerable critical learning by the child happens through social interaction with a More Knowledgeable Other (MKO). The MKO may demonstrate actions and/or provide oral instructions for the child. Vygotsky refers to this as co-operative or collaborative dialogue. The child searches to comprehend the behaviors or verbal directions given by the MKO and “internalizes the information, using it to guide or regulate their own performance.” In other words, Vygotsky’s Social Interaction Theory of Development says children’s interactions with an adult or MKO shape their language patterns. These language patterns are then internalized and shape children’s thought patterns (as cited in McLeod, 2007).

Small group instruction that applies Vygotsky’s Social Interaction Theory of Development may increase student achievement in reading. As the teacher thinks aloud and explicitly models how she is solves or decodes an unknown word that employs the newly learned phonics skill in context, it brings forth the language of the MKO for students to utilize as a model for their thinking when performing the same task independently. Students may at first say out loud the MKO’s speech pattern as they
perform the task. However, as the students begin to internalize the behavior through practice and repetition, the original MKO’s language then becomes the students’ thought patterns.

Statement of the Problem

The problem is that reading achievement of all students must increase in order to be successful in meeting the demands of the daily environment and experiences that they will encounter in life. Teachers must find a solution in assisting struggling readers to transfer new knowledge gained to other contexts in order to increase reading achievement.

Purpose of the study

The purpose of this study was to determine if using Think-Aloud methodology was effective when demonstrating to low-performing students how to transfer phonics skills learned in isolation to reading in text. The data gained from this inquiry will inform educators about what are best practices with helping students shift the knowledge gained in one context to another in order to increase reading achievement.

Research question

RQ1: Is there a difference in student achievement in reading in context when teachers use Think-Aloud methodology and when teachers do not use Think-Aloud methodology in teaching phonics?

Null hypothesis

There is no difference in student achievement in reading in context when teachers use Think-Aloud methodology and when they do not use Think-Aloud methodology when teaching phonics.
Anticipated benefits of the study

The outcome of this investigation will provide best practices to implement when teaching struggling readers how to transfer phonics skills learned in isolation to an authentic reading situation.

Definition of Terms

More Knowledgeable Other (MKO)- an adult, teacher, or more knowledgeable peer

English Language Learner (ELL)- a student learning English as a second language

Response to Intervention (RtI) – a three-tiered model of increasingly intensive instruction as students move up into each tier, as needed, determined by monthly progress monitoring of students performing below grade level expectations.

Tier 2 – second tier of a Response to Intervention model that maintains small group instruction of no more than five students

ESOL- English Speakers of Other Languages program

Running Record- an informal assessment tool used by the teacher while observing a child reading in context that documents reading behaviors, types of errors made by the child, and strategies used at the point of difficulty. This kind of assessment can also determine the level difficulty of a text for the student- independent, instructional, or frustration

Summary

It is essential that teachers find an effective way to instruct struggling reading students how to transfer newly learned phonics skills to reading in context in order to
increase reading achievement. Vygotsky’s Social Interaction Theory of Development states that through conversation and dialogue teachers can shape language patterns. These language patterns then affect the thought patterns in students. Through the use of Think-Alouds that have been modified to explicitly model for students how to apply phonics skills to reading in context, this study hopes to find a solution for the transfer of new knowledge gained to varied authentic reading situations.
Lev Vgotsky (1978) believed that social interaction is imperative for learning and is a device used to convey knowledge. He argued that children’s interactions with adults shaped their language development, which in turn, shaped their cognitive development. Language becomes the nature of thought; therefore, thought is the product of language because of previous social interactions with adults. The language and thought patterns of the child then help direct the child’s own behavior when performing the task independently (as cited in Walker, 2005; Damianova & Sullivan, 2011; Dorn, 1996; McLeod, 2007). Knowing this, he believed that by increasing children’s linguistic abilities it will improve overall cognitive abilities. This is known as the Social Interaction Theory of Development (McLeod, 2007).

Much research has been done regarding the concept of using Think-Alouds to instruct students how to apply learned phonics skills to running text. Rupley, Blair, and Nichols (2009), wrote an article about effective reading instruction for struggling readers using direct and explicit teaching. They found that low-performing readers are more apt to learn reading skills and strategies if the teacher used direct instruction by providing new knowledge though meaningful student-teacher communication and teacher-guided practice. The essence of the direct instruction model was explicit explanations, modeling, and guided practice of the newly learned skill. This model could be used to learn all the content strands in the reading process: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Regarding the use of Think-Alouds as a modeling technique. Rupley et al. said:
“This stage is founded on modeling or demonstrating a reading skill or cognitive strategy and its use in an actual reading situation, and thinking aloud with students about what the skill is and how it is used (i.e., showing how to apply it in context; Blair & Rupley, 1988). Modeling is a direct/explicit strategy that effective teachers use to help students conceptualize reading skills and strategies and how to apply them. As its name implies, modeling is demonstrating for the students how to use their learning.” (p. 127)

Taylor, Pearson, Clark, & Walpole (1999) noted that effective primary teachers instructed phonics skills in isolation with small groups and then coached the students with guided practice of the newly learned skills in authentic reading tasks (as cited in Rupley et al., 2009).

Denton and Otaiba’s (2011) study focused on teaching word identification to students with reading difficulties and disabilities using evidence-based instructional practices. Fuchs, Fuchs, Hosp, and Jenkins (2001) believed that the ability to read at the word level, using phonics and phonemic awareness, ultimately affects a student’s reading fluency and comprehension of whole text passages (as cited in Denton et al, 2011).

Denton et al. (2011) felt that effective and efficient word recognition instruction was important in helping struggling readers catch up with their classmates. Gersten, Compton, Connor, Dimino, Santoro, Linan-Thompson, and Tilly (2008) discovered through more instruction and more practice, accelerated progress was possible with daily classroom instruction and small group intervention (as cited in Denton et al., 2011). Denton et al. when on to state that in providing evidence-based instruction for students with reading difficulties or disabilities, the teacher used formative assessments given at
regular intervals to guide instruction, taught phonics, phonemic awareness, and word recognition of high-frequency words in a logical, sequential order, promoted reading fluency, gave demonstrations using clear modeling of new skills, provided immediate corrective and/or positive feedback to the students during guided practice, and gradually allowed independent practice with the new found skill, all the while closely watching the mastery of the skill and reteaching, if needed.

Denton et al. (2011) supported the use of Think-Alouds in phonics with direct, explicit instruction through modeling. The authors found:

“When teaching a skill or strategy, such as decoding a multi-syllable word or reading a silent e word, effective teachers first demonstrate or model by showing the students what they want them to do. When teaching strategies, teachers can ‘think aloud,’ talking through each step of a process that will ultimately be performed ‘in the head’.” (p. 7)

Levy, Abello, & Lysynchuk (1997) found that teachers should not assume that the skills taught were generalized automatically (as cited in Denton et al, 2011). Guided practice in continuous text was needed to help students who were able to perform in word-recognition skills but unable to transfer those same skills in a real reading situation.

White (2005) researched the effects of using systematic and strategic analogy-based decoding for 2nd graders with word reading and reading comprehension. This initial study involved 15 2nd grade teachers using a set of 150 lessons that were designed to be taught over the course of one school year to low and average-achieving students on how to use analogies to decode unknown words. Each lesson used a planned sequence for teaching phonics, had teachers explicitly model how to use the analogy decoding
strategy, and gave practice for students to transfer the decoding skills to unknown words in isolation. These lessons were implemented within a balanced literacy program emphasizing comprehension. As students read in context apart from the decoding lessons, they were prompted to use the analogy-decoding strategies to decode unfamiliar words. In analysis, the study showed a positive correlation between the number of lessons taught and students’ achievement on posttests for word reading and comprehension.

White (2005) stated that there were six elements of the analogy-based program that clarified why it was beneficial in students’ reading achievement. Of those six elements, the researcher felt that the following were the most important in boosting reading scores: (1) the lessons were designed to promote transfer from analogy decoding skills to carefully selected unfamiliar words, (2) teachers encouraged students to apply the use of the decoding strategies beyond the isolated phonics lesson to reading in context, writing, and spelling, and (3) the teachers modeled the analogy decoding strategy by thinking aloud to the students.

Block and Israel, (2004), discussed how to use highly effective Think-Alouds with students and demonstrated 12 examples of how to teach students with Think-Alouds before, during, and after reading. According to the authors, students benefit from seeing an expert reader going through the thought processes necessary for reading so that they too may reproduce such behaviors in their own reading. Think-Alouds can also be used as assessment tools for teachers and tutors. Many educators feel that they do not perform Think-Alouds very well and are then reluctant to use them.
According to Garcia (2002) students have expressed the desire for their educators to use Think-Alouds, especially low-performing readers and English-language learners (as cited in Block et al., 2004). These students conveyed the need for teachers to use Think-Alouds for various strategies such as decoding, inferring, using prior knowledge, predicting, questioning, etc. The authors suggested that instructors use this strategy to teach how to decode using phonic in think-aloud lessons focusing on thought processes during reading.

Coleman and Goldenberg (2010) discussed using interactive and direct techniques to help classroom teachers assist English learners develop English reading and writing skills. The authors stated that both English learners and struggling readers need similar kinds of instruction in skills and concepts. Explicit instruction could be used in teaching all areas of literacy. English language learners needed it especially because of not only learning literacy skills, but learning to speak it as well. Interactive instruction was beneficial to English learners because the communication between students and the teacher challenged students to use cognitive and linguistic skills at the same time. Modifications were necessary for these students, such as making instruction and expectations clear, using visuals to demonstrate concepts, providing extra practice, and using text with familiar concepts.

The article stated that English language learners needed clear input, modeling, and repeated guided practice. Although it does not specifically mention Think-Alouds as a technique in teaching phonics or decoding, Think-Alouds are a form of modeling and an inherent part of direct instruction.
RESEARCH METHODS

Research Design

A quantitative study was conducted with struggling first grade reading students, as identified by the beginning of the school benchmark reading assessment, to determine if there was a significant difference in student reading achievement on text reading and comprehension assessment scores when Think-Aloud methodology was used and when Think-Aloud methodology was not used to promote transfer of newly learned phonics skills to a continuous text. The independent variable was the categorization of students into two groups based on the type of instruction given. Group 1 used Think-Aloud methodology for four months when teaching phonics and its application to new text. Group 2 did not use Think-Aloud methodology when teaching phonics and its application to new text. The dependent variable studied was the score, or the difference in text levels attained from the beginning of the year reading benchmarks to the middle of the year reading benchmarks used to assess students’ reading level achievement and comprehension.

Study Group Description

First grade Tier 2 students from a Title I elementary school located in a large rural community in the Midwest were selected for this research. In the school year of 2013-2014, the population of the school was around 330 students. The Free or Reduced lunch percentage was 89.1% and had a mobility rate of 56.63%. Eighty-seven students were qualified as English Language Learners (ELL) and were serviced by a full-time English Speaker of Other Languages (ESOL) teacher. These ELL students represented ten countries and nine languages. The racial make-up of the school was 57.2% Caucasian,
18.6% Black, and 12.0% Hispanic. The remaining 12.2% make up the Asian and multiracial population.

Group 1 had twelve students, seven boys and five girls. Of those twelve students, three were ELL students (25%). Seven out of Group 1 (58%) were Caucasian, two (17%) were Black, two (17%) were Hispanic, and one (8%) was multiracial. Group 2 had eleven students, five boys and six girls. Of those eleven students, none (0%) were ELL students. Ten out of Group 2 (91%) were Caucasian, and one (9%) student was black.

Data Collection and Instrumentation

Data was collected through an individually administered benchmark assessment given at the beginning of the year and at the middle of the year. The assessment involved a first grade student reading an unfamiliar book to the teacher while the teacher took a running record. When the book proved to be at the instructional or independent level (90% to 100% reading accuracy), five questions of varying difficulty were asked about the book for determination of reading comprehension. Students were expected to answer comprehension questions with at least 80% accuracy. Assessment stopped once students reached frustration level on text reading (89% accuracy or below) or had a comprehension score of 79% or below.

Statistical Analysis Methods

A t-test was conducted to determine if there was a significant difference of student reading achievement assessment scores, by looking at the growth in reading levels, with first graders when Think-Alouds were utilized to demonstrate how to transfer newly learned phonics skills to text. The independent variable was divided into two groups. Group 1 would receive instruction with the teacher using Think-Alouds to model
the application of the new knowledge to continuous text. Group 2’s teacher did not use Think-Alouds to show how to use the learned skills in a book. The mean, mean D, t-test, df, and $p$-value were determined from the results of this test. The alpha level was 0.25 to test the null hypothesis: There is no difference in student achievement in reading in context when teachers use Think-Aloud methodology and when do not use Think-Aloud methodology.
FINDINGS

A t-test was conducted to determine if there was a significant difference in student reading achievement when Think-Aloud methodology was utilized in instructing students how to apply learned phonics skills to running text (Group 1) versus not utilizing Think-Aloud methodology when teaching how to apply phonics skills to running text (Group 2). The following graph demonstrates the raw data found from the t-test analysis.

Figure 1

t-Test Analysis Results for Think-Aloud Methodology and Student Reading Achievement

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>Mean D</th>
<th>t-test</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 (n=12)</td>
<td>1.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 2 (n=11)</td>
<td>2.14</td>
<td>-0.59</td>
<td>0.92</td>
<td>21</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Note: Significant when p<=0.25

The independent variable was the categorization of students into two groups. Group 1 utilized Think-Aloud methodology when instructing students how to transfer newly attained phonics skills to text. Group 2 did not utilize Think-Aloud methodology when instructing students how to transfer newly attained phonics skills to text. The dependent variable was the score, or difference of reading levels achieved from the beginning of the year to the middle of the year, based on reading benchmark tests given to determine independent, instructional, and frustration reading levels for each student and the ability to comprehend the text at each level of difficulty. 23 first grade students who were identified as reading below grade level expectations from the beginning of the year reading assessment were selected and randomly divided into the two groups.
described above. The mean score for Group 1 was 1.54, and the mean score for Group 2 was 2.14. The difference between the mean scores (Mean D) was 0.59. The t-test value was -0.92. The degrees of freedom (df) were 21. The null hypothesis was: There is no difference in student achievement in reading in context when teachers use Think-Aloud methodology and when they do not use Think-Aloud methodology when teaching phonics. The null hypothesis is not rejected because the p-value was 0.37, which is greater than the alpha level of 0.25. This means that there was not a significant difference in student achievement in reading in context when teachers used Think-Aloud methodology and when they did not use Think-Aloud methodology when teaching how to transfer phonics skills to text.
Figure 2

Total of Text Reading and Comprehension Scores for Group 1 and Group 2

Figure 2 demonstrates the difference of the total of students’ scores on the middle of the year benchmark given to assess student text reading and comprehension. Group 1 had a total score of 18.5. The mean text reading and comprehension score for Group 1 was 1.5. In other words, on the average, the students raised their reading level by 1.5 levels. Group 2 had a total score of 23. The mean text reading and comprehension score for Group 2 was 2.1. This means, on the average, the students raised their reading achieved by two reading levels.
CONCLUSIONS AND RECOMMENDATIONS

The results of this study demonstrated that there was no significant difference in student reading achievement when Think-Aloud methodology was used to model how to transfer phonics skills taught in isolation to reading in context. The t-Test findings from the middle of the year reading benchmarks indicated that the $p$-value was 0.37, which is greater than the alpha level of 0.25. Therefore, the null hypothesis was not rejected.

The conceptual underpinning of cognitive theorist Lev Vygotsky was not supported by this study. Vygotsky’s Social Interaction Theory of Development states that childrens’ thought patterns and/or cognitive development is shaped by language used in social interactions with adults or a MKO (Vygotsky, 1978). By utilizing Think-Alouds to explicitly model how to problem-solve unfamiliar words in text using newly learned phonics skills, this theory was studied to discern if students internalized the language used by the MKO to decode in a running text.

After concluding this study there are further studies that need to be considered. The three ELL students in this study had a mean score of 2.8, or they raised their reading achievement by almost three levels. All the other students in the study were English speakers and had mean score of 1.7, or they raised their reading achievement by a little less than two reading levels. Therefore, the ELL students had a better average score than the English-speaking students. The Social Interaction Theory of Development and the use of the Think-Aloud methodology needs to be examined more closely with ELL students on a grander scale to determine if using Think-Alouds would have a significant impact on their reading achievement.
REFERENCES


