EFFECTS OF ORFF-SCHULWERK PROCESS OF IMITATION ON ELEMENTARY STUDENTS’ READING FLUENCY

By

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A PROJECT IN LIEU OF THESIS PRESENTED TO THE COLLEGE OF FINE ARTS OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF MUSIC

UNIVERSITY OF FLORIDA

2009
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EFFECTS OF ORFF-SCHULWERK PROCESS OF IMITATION ON ELEMENTARY STUDENTS' READING FLUENCY

By

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December 2009

Chair: Charles Hoffer
Major: Music

ABSTRACT

The purpose of this study was to examine the effects of the Orff-Schulwerk process of imitation on the reading fluency of elementary students. Subjects were second-grade students in the same classroom receiving the same reading instruction. They were then separated into two groups. The control group (N=9) received their regular music instruction once every six days for forty minutes. The experimental group (N=10) received an additional forty minutes of music instruction time in a six-day rotation. The control group read independently in the classroom during those forty minutes. The Orff-Schulwerk activities included chanting rhymes and transferring the rhythm of the rhymes into movement or instrumentation.

Pre- and post-reading fluency test scores for each group were compared at the end of the seven-week study. Paired t-test results indicated the students who received twice as much music instruction showed a statistically significant gain in reading fluency ($t = 2.57$, df = 9, $p = .030$). The mean gains for the control group were not statistically significance ($t = 2.17$, df = 8, $p = .062$). The results indicated the Orff-Schulwerk process of imitation improved the reading fluency of elementary students.
CHAPTER 1
PROBLEM

The current situation in the state of Florida is that music education in public
schools is facing many problems due to budget cuts. Some schools have lost their
music and art programs completely while others have cut the programs in half. This has
happened even though research studies have shown that musical ability increases until
students are about nine years old (Radocy & Boyle, 2003). Abril and Gault (2006)
found that student involvement in music education showed a 50 percent decline, and
the number of music teachers showed 26.7 percent decline in California between 1999
and 2003. These decreases were due to the current budget crisis and the
implementation of the No Child Left Behind Act. Schools don’t have the budget to
support the program while putting more emphasis on reading and math. They
shortened the schedule for music programs (Abril & Gault, 2006).

Abril and Gault (2006) conducted a survey on the music curriculum of elementary
school principals. Ninety-five percent of the principals believed that music is a very
important part of a child’s well-rounded education, and more than three-quarters of
those principals felt that schools should mandate music instruction. Abril and Gault’s
(2006) study clearly shows that elementary school principals understand the importance
of music education, yet the programs are being cut.

According to Kassner (2002), there is no evidence to suggest that cutting time for
music learning and increasing time for reading curricula result in higher test scores.
Kassner states that classroom teachers are already teaching the reading skills to their
students as much as 90 to 120 minutes per day. Music teachers already do what
classroom teachers do to help children develop phonemic awareness, rhyming, segmentation, expressiveness in reading, vocabulary, and other skills (Kassner, 2002).

McIntire (2007) suggests music education can develop literacy naturally. Adding rhythm, music, and movement to a learning experience helps students tremendously. A richer learning experience is created since messages are sent to the brain through various pathways. “If music programs are discontinued, students will be deprived of kinesthetic, aural, oral, visual, and emotional experiences that can ultimately bring written texts to life” (Hansen & Bernstorf, 2002, p. 18).

**The Purpose of Study**

The purpose of this study was to examine the effects of the Orff-Schulwerk process of imitation on elementary students’ reading fluency.

**Null Hypothesis**

There will be no statistically significant difference between reading fluency scores of students who receive training in the use of the Orff-Schulwerk process of imitation and those who do not.

**Research Hypothesis**

Students who receive training in the Orff-Schulwerk process of imitation will score higher in reading fluency tests than the students who do not receive the training.
CHAPTER 2
REVIEW OF LITERATURE

Gromko (2005) studied the effect of music instruction on phonemic awareness in beginning readers. She found that kindergarten children who received four months of music instruction developed greater phoneme segmentation fluency than children who did not receive music instruction. Active music making helped the students to associate sounds with symbols. However, the mean gains for letter-naming fluency and nonsense-word fluency were not significantly different (Gromko, 2005).

Biggs (2007) examined the difference between the use of an interactive sing-to-read program *Tune Into Reading* (Electric Learning Products, 2006) and the regular music curriculum in middle school. Students were tested on fluency, word recognition, comprehension, and instructional reading level. The students who used the sing-to-read program improved on their scores to a greater extent (Biggs, 2007).

Register, Darrow, Standley, and Swedberg (2007) conducted a study to determine the effect of music as a remedial strategy to enhance the reading skills of second-grade students and students with a learning disability in reading. To improve reading comprehension and vocabulary skills, Register designed an intensive short-term music curriculum. Results showed a significant improvement in students with disabilities in reading. They improved on word decoding, word knowledge, and reading comprehension. Second-grade students in both the treatment and the control classes improved on word decoding, and word knowledge. There was no improvement in reading comprehension (Register, Darrow, Standley & Swedberg, 2007).

Not all music programs improve the students’ reading skills. Johnson and Memmott (2006) examined the relationship between participation in high- and low-
quality school music programs and standardized test scores. The National Standards were used to determine whether music programs were of high or low quality. This study had 4,739 participants from elementary and middle schools. The data showed that the elementary students in high-quality music education programs had higher scores on both English and mathematics standardized tests than the students who experienced low-quality music programs, although the effect sizes were small. The middle school students who were in high- and low-quality music programs scored higher than the students who were not a part of any music programs (Johnson & Memmott, 2006).

Orff-Schulwerk recognizes rhythm as a starting place. Children are taught a rhyme first. Using echo pattern practice or using different types of voices, the students learn the taught rhyme very well. They also can explore different dynamics and tempos. Then body percussion and percussion instruments often accompany that simple rhyme. Melodic material consisting of two pitches is introduced next. Two-pitch melodic materials are expanded to the pentatonic and diatonic scales later. Simple ostinato pattern and simple chord changes are taught as an introduction for harmony.

Orff-Schulwerk suggests four phases of musical development: exploration, imitation, improvisation, and creation (Shamrock, 1997). Shamrock suggests that classroom teachers can benefit greatly from the speech and rhythmic materials. The Orff approach offers many connections between music and language development (Mizener, 2008). Through chant activities the students experience steady beat, durations, accent, dynamics, tempo, pitch, texture, form, and expression, which are the same concepts used to teach language experiences. “Rhythmic flow, or fluency,
experienced in rhymes and chants can transfer to the uninterrupted flow necessary to read with understanding” (Mizener, 2008, p.12).

Burkett (1996) applied Orff-Schulwerk for the training of beginning percussion students. Burkett explained using the rhythm of speech helped students learn the rhythm more quickly. In the imitation phase of Orff-Schulwerk, students develop basic skills in rhythmic speech and body percussion. First, the teacher introduces a rhyme to the students. Using that rhythmic pattern from the rhyme, the students then transfer it to body percussion, drums, or other instruments (Burkett, 1996).
CHAPTER 3  
METHODOLOGY

This study was conducted at an elementary school in Florida with a second-grade class that received reading instruction from their classroom teacher. This class was separated into two groups. The control group received regular music instruction once every six days for forty minutes. It consisted of nine students. The experimental group consisted of ten students. The experimental group received an additional forty minutes of music instruction time in a six-day rotation. The control group read independently in their classroom during those forty minutes.

The Orff-Schulwerk activities included chanting rhymes while keeping steady beat. In each lesson the students were introduced to a few new rhymes. They were asked to keep steady beat on their knees or on their feet walking while chanting the rhyme. Then, the students transferred the rhythm of the rhyme into clapping or patting on their knees. The syllables of the words were broken down to make rhythm. Then they played the rhythm on classroom percussion instruments such as tone blocks, drums, triangle, and wood blocks. They also improvised on xylophones using the rhythm of the rhyme.

A total of six treatment lesson plans (240 minutes) were taught for seven weeks. Pre- and post-reading fluency test scores of each group were compared. All schools in this county use the Treasures Reading Series by Macmillan/McGraw-Hill. The classroom teacher used the weekly fluency assessment from this reading series to monitor the students’ progress. The students were asked to read a story, and the words per minute (WPM) were calculated by taking the total number of words the student read minus the mistakes. The study took place in September and October, 2009.
CHAPTER 4
RESULTS

The pre-test and post-test scores of each subject from the experimental and control groups are shown in Table 4-1. Figure 4-1 shows the mean gain scores for the experimental group compared to the control group. The experimental group gained 10.5 points, while the control group gained close to 14 points. Results of the paired t-test indicated the students of the experimental group showed a statistically significant gain in their reading fluency, $t = 2.57$, $df = 9$, $p = .030$. The mean gains for the control group were not significant, $t = 2.17$, $df = 8$, $p = .062$ (Table 4-2).

The classroom teacher commented that the experimental group students improved on their fluency speed and comprehension. The students began recognizing the rhyming patterns in words in the classroom. In addition, the teacher suggested that the students seemed to become confident in their reading (Appendix).

Table 4-1 Reading fluency score (pre- and post-test) of each subject

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Subject</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>58</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>92</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>86</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>86</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>38</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>85</td>
<td>95.5</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>6.59</td>
<td>4.5</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Control group</th>
<th>Subject</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>92</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>63</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>49</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>46</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>83.33</td>
<td>97.11</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>23.58</td>
<td>6.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>Mean gain</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Experimental</td>
<td>85</td>
<td>95.5</td>
<td>10.5</td>
</tr>
<tr>
<td>Control</td>
<td>83.33</td>
<td>97.11</td>
<td>13.78</td>
</tr>
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</table>

Figure 4-1 Mean gain score comparison

Table 4-2 Paired t-test results

<table>
<thead>
<tr>
<th></th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 10)</td>
<td>(N = 9)</td>
</tr>
<tr>
<td>t</td>
<td>df</td>
<td>p</td>
</tr>
<tr>
<td>2.5664</td>
<td>9</td>
<td>0.0304*</td>
</tr>
</tbody>
</table>

*Significant difference, p < .05.
CHAPTER 5
DISCUSSION

The purpose of this study was to examine the effects of the Orff-Schulwerk process of imitation on the reading fluency of second-grade students. Results showed that the students (N = 10) who received six additional music classes showed greater gains in their reading fluency when compared with the students (N = 9) who did not receive additional music instruction. Even though there is a relationship between Orff-Schulwerk instruction and reading fluency, the result does not establish a causal relationship. Further study is necessary to determine a more detailed relationship between Orff-Schulwerk music instruction and reading fluency.

Several factors need to be considered. The control group gained close to 14 points while the experimental group gained 10.5 points. Seven students in the control group scored 100 on the post-test. Of those seven students, five scored 100 on the pre-test. Most of the control group’s gain was the result of one student (Subject 8) who moved from 46 to 91. The experimental group had a student (subject 1) who moved from 58 to 100, but it also had a student (Subject 8) who did not show much improvement. This subject only improved from 38 to 55.

The paired t-test results indicated the students of the experimental group showed a statistically significant gain in their reading fluency while the control group’s mean gain was not significant. However, the control group came rather close to the .05 level. If it had had a couple of more subjects in it, it would have probably been statistically significant.

The standard deviation for the control group was high in the pre-test, but was smaller in the post-test, which indicated that the learning was uniform among the
subjects. The attendance rates of the treatment group students were not consistent due to the flu season. It may have affected learning of some students. The study was conducted for a short period. A different result might have been observed if it were for a longer period. Having a large number of subjects would have been helpful to see a more detailed relationship between Orff-Schulwerk music instruction and reading fluency.

Music can offer a lot to students. It can teach them important social skills such as working as a team, being responsible, and being creative. It can help them succeed in other subjects, especially reading, through the activities that students can easily be a part of. Since each student learns differently, educators should offer different teaching styles. For some students, music might be the answer to improve reading fluency. An activity such as chanting rhymes in music class will improve the children’s reading skills and attitude toward reading unconsciously. The Orff-Schulwerk process of imitation has a possibility to improve reading fluency. The students deserve to have a complete music education in their lives.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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</thead>
<tbody>
<tr>
<td>How did the treatment group respond to the additional music instruction?</td>
<td>The treatment group was always very excited to attend the additional music instruction. When they returned they wanted to share everything they had learned with the rest of the class.</td>
</tr>
<tr>
<td>What did you perceive to be the strengths of the music instruction on reading fluency?</td>
<td>The strengths would have to be the enunciation of words. They no longer slurred their speech when they would read which made their fluency speed pick up and their comprehension increase. The students also recognized rhyming patterns in words when they read. This skill helped them get over having to sound out every letter of each word. This is a phonics skill they seemed to have missed from first grade and the music presented it in such a way that those students grasped the concept and were able to apply it to their reading. This was a major factor in increasing their fluency. In addition to the academic benefits, I noticed changes in my shy students. They developed more confidence and would read aloud more frequently. I believe hearing themselves read aloud was instrumental in building their fluency. They could hear where they made mistakes and determine whether or not the tempo of the reading was appropriate.</td>
</tr>
</tbody>
</table>
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Naoko Wicklein Suzuki was born in Hokkaido, Japan. She came to America as an exchange student when she was a senior in high school. After graduating she continued with her education in the United States and received her Bachelor of Music with Honors in Piano Performance from the University of Florida in December 1994. During this time she studied piano with Dr. Holly Hughes. She then completed the music education certification course for Music K-12 at the University of Florida in 1997. She worked as a music teacher at South Ocala Elementary for five years. During those years she completed the Orff-Schulwerk Level I, II, III certification courses at James Madison University, University of Memphis, and Western Carolina University. She returned to Japan and taught English at a junior high school for 2 years. She came back to the U.S. in 2005. She has been teaching music at Hammett Bowen Jr. Elementary School since 2006, and became a National Board Certified Teacher in the music/early and middle childhood area in 2007. After completing her national certification she also became a certified Kindermusik instructor. Naoko currently serves as president of the Marion County Music Association and as treasurer of Heart of Florida Orff Chapter. She enjoys working as a music educator, and she likes to share the joy of making music with her students. She is happily married to her husband, Christian Wicklein.