A STUDY OF THE COMPARISON OF THE AMOUNT OR FREQUENCY IN THE USE OF TECHNOLOGY IN THE MUSIC CLASSROOM, AS IT CORRELATES TO THE AMOUNT OF TEACHERS EXPERIENCE

By

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ABSTRACT

The purpose of this study was to determine if there is a correlation between the number of years of experience of music teachers and the frequency of their use of technology in the elementary music classroom. The group selected for this study was several music teachers from various locations in the state of Missouri. These locations included; rural areas in Northwest Missouri, urban and suburban areas in Kansas City, Saint Joseph, and the Saint Louis areas. The group was emailed surveys and was asked to fill out and return. The data collected in this study was number of years of teaching experience, the amount of technology used by the individual teachers as well as their expressed comfort and confidence level in using technology in the music classroom. So after surveying the teachers, it seems that experienced educators use the technology more and seem to be more comfortable incorporating it in to their daily lessons. However, after doing the t-Test, the results were different than what I had previously thought. The t-Test showed that there wasn’t any significant difference between the inexperienced and experienced and the usage of technology.
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CHAPTER ONE

INTRODUCTION TO THE STUDY

Background, Issues, and Concerns

This study will show the correlation or differences between the years of experience of elementary music teachers and the amount of technology that is incorporated in their lessons and the comfort or confidence level in using and creating lessons. With technology being such an important entity within education and society today, all teachers need to be trained and proficient in using technology to enhance their lessons. It would seem that the less experienced teachers, that are digital natives, would be more likely to use technology in many creative ways in their classroom. However, as stated in a newspaper article by Marsha Ratzel, “It’s the older, more experienced teachers “baby boomers” – not younger, so-called “digital natives” – who are experimenting more with new technology in the classroom.” I was surprised by that, and similar articles that stated just the opposite of what I had expected, which was that less experienced teachers integrated more technology with their students. The information from this study will assist in identifying areas in which additional training and professional development resources maybe needed.
Conceptual Underpinnings for the Study

“There has never been a time in history when music education has been more necessary. To enrich the creativity coming out of our youth, music educators must learn how to use these new tools of technology and incorporate them into currently existing and entirely new music curricula.” (West) With the rapid change in the pace of development of the tools of technology it is important that the educators stay current and develop and maintain efficiency in using the latest technology. Considering the importance of professional development and recognizing the limited resources imposed by budgetary restraint, it is important to determine any deficiencies in the teaching environments.

Statement of the Problem

This study is important to identify the correlation between the number of years teaching and the use of technologies. It will identify where the needs for professional development may lie.

Purpose of Study

The purpose of this study is to determine if there is a correlation between number of years teaching and their use of different technology tools implemented in the music classroom for enhancing their music lessons. Technology is a tool that will enhance lessons, motivate students, and to help build creativity. The independent variable is the experience of the teacher and the dependent variable is how many technology tools are used in the music classroom with the lessons.
Research Question

What is the correlation between the amount of technology utilized in the music classroom and the level of experience of the music teacher?

Null Hypotheses

There is no significant difference in the amount of technology utilized by the inexperienced teachers as compared to the amount of technology utilized by the more experienced teachers.

Anticipated Benefits of Study

The results of this study will provide information on the two groups. This information then can be used to guide administrators in determining what types of professional development and training is needed to support technology use and how the moneys should be allocated.

Summary

The study will determine the amount the experienced versus non-experienced teachers use different technology tools within their lessons. With the ever-increasing use of technology in the schools, the correct professional development and training need to be developed according to the needs of the educators. This study will be able to guide the administrators in doing so.
CHAPTER TWO

REVIEW OF LITERATURE

“Technology has changed the way the world functions on a day-to-day basis, but what about education?” (Hicks) Hicks states that, when most of today’s educators were in school, technology was not available like it is now. The children of today, even the youngest, are extremely tech savvy. Teachers need to embrace technology and the benefit that it has offered. Students from the age of 8-18 are referred to as the “net generation”. They spend many hours a day, using technology for social, purposes, gaming, homework, and creating.

Today, the less experienced teachers referred to as “digital natives”, while at the other extreme, the more experienced teachers, known as “baby boomers”, which didn’t grow up with technology, and are in the process of learning and experimenting.

This review of literature will focus on the years of experience of music educators, and the amount of the use of technology in the music classroom. The music teachers that have already started using technology in their classrooms see it effective in 3 areas: 1) encouraging collaborative learning; 2) allows more for creativity to grow and to encourage the interdisciplinary learning; 3) for motivation of all students, especially the students that are not as interested in music. (Olson)

Deb Socia, an administrator in a Boston public middle school, noticed and was surprised that the less experienced teachers (“digital natives”) had a more difficult time integrating technology in their lessons than the more experienced teachers (“baby boomers”). Socia learned that the “digital natives”, less experienced teachers, were good at using technology to learn, to play, to socialize online, but they were not as effective at
teaching with technology. After doing some investigating on her own, Socia discovered that the inexperienced teachers had attended college and learned about teaching by instructors that didn’t use technology. Therefore, in the education classes, the potential of using technology as an educational tool did not get taught or discussed. She wondered why the experienced teachers were more comfortable integrating technology. “I learned that many veteran teachers have a few advantages that their novice colleagues do not.” (Socia) First, they have figured out how to manage a classroom of students, they have made connections with their students; they are organized to keep the learning on task and to keep on top of what the students are doing. (Socia) The veteran teachers are also confident in saying “I don’t know.” Therefore the teacher and the students are learning together the new technology tool.

The less experienced teachers may struggle with curriculum pacing, instructional and behavior management, and know how to keep a large number of students learning, so having to experiment and implement technology in to their lessons is a daunting task that they don’t use the energy for because they are still dealing with the new challenges of being a novice teacher. (Ratzel)

The amount of different music technology tools has grown through the years, to help enhance the music lessons. (Olson) Regardless of the years of experience, students need all their teachers to investigate the potential of different technology tools to increase engagement and deeper learning. (Ratzel) “Every teacher needs to become “connected” and tap into the vast professional resources available via their fellow educators, social media and the Internet.” (Ratzel)
CHAPTER THREE
RESEARCH METHODOLOGY

Purposes and Overview
Field Study Methods

This research paper will study if there is a correlation between the number of years of experience of music teachers and the frequency of their use of technology in the elementary music classroom. Surveys were sent out to various Missouri teachers to obtain information consisting of the number of years of teaching and the amount and types of technology tools utilized in their classrooms. Types of technologies specifically identified were: smart board and projector, websites, software, document cam, projector and screen, television, DVD player, CD player, lap tops for each student, desk top computers for usage in groups, VCR/VHS tapes, digital camera, Ipod, Ipads, digital video camera, cd burner, scanner, and digital keyboard.

Study Group

Music teachers from the area were surveyed on their years of experience and the amount of technology tools were used in their music lessons. The survey will be anonymous, with no disclosure of names.

Independent variable

The independent variable is the years of teaching experience of the teachers surveyed. This will verify if the years of teaching experience make a difference.
Dependent variable

The area teachers were asked questions on a survey. The dependent variable is the number of different types of technology tools used in the music classroom.

Data Collection and Instrumentation

I gathered data from surveys emailed to area music teachers in the state of Missouri. These surveys will supply information on the teacher experience and the amount of technology tools used in the music classroom.

1. How many years have you taught?

2. What technology tools do you use and have in your classroom (that the school district has provided for your classroom) and how comfortable do you feel in using them? Put an X by the following that apply.

A. smart board and projector
B. software
C. websites
D. document cam
E. projector and screen
F. television
G. DVD player
H. CD Player
I. lap tops for each student {having to get from the laptop cart}
J. desk top computers for usage in groups
K. VCR/VHS tapes
L. digital camera for your usage in your room
M. IPOD
N. I pads for students to use
O. digital video camera for usage in your room
P. cd burner
Q. scanner
R. Digital keyboard

Figure 1. Data Collection Instrument for Music and Technology Study.
Data Analysis Methods

The statistical analysis used is a t-test comparing the independent variable (the years of teachers experience) and the dependent variable (the amount of different technology tools used in the music classroom). The p-value will be set at 0.25.
CHAPTER FOUR

FINDINGS AND RESULTS FROM DATA ANALYSIS

Findings by Research Question

The independent variable; teacher experience versus the dependent variable; amount of technology used in their classroom, showed not enough significant difference to reject the null. By looking at the data, one would assume that there would be a significant difference between the inexperienced and experienced teachers in the use of technology. I find this interesting, because it is just assumed that the less experienced “digital native” teachers would be using the technology with projects in their lessons. However, all are the same because of what the different experiences can give them.

RQ. What is the correlation between the amount of technology utilized in the music classroom and the level of experience of the music teacher?

Null H. There is no significant difference in the amount of technology utilized by the inexperienced teachers as compared to the amount of technology utilized by experienced teachers.
**Figure 2.** The Comparison of Inexperienced (Sample A) to the Experienced Teachers (Sample B) Showing the Amount of Technology Tools Used in their Music Lessons.
### Data Summary

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<th></th>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>n</td>
<td>8</td>
<td>10</td>
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</tr>
<tr>
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<td>74</td>
<td>98</td>
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### Results

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<th>P</th>
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<td>-0.44</td>
<td>16</td>
<td>one-tailed</td>
<td>0.3329115</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>two-tailed</td>
<td>0.665823</td>
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For independent samples, these results pertain to the "usual" t-test, which assumes that the two samples have equal variances.

### F-Test for the Significance of the Difference between the Variances of the Two Samples

<table>
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<th>df_2</th>
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<tr>
<td>9</td>
<td>7</td>
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(Applicable only to independent samples.)
P > .05 indicates no significant difference detected between the variances of the two samples.
Figure 3. The summary of T-Test and F-Test Analysis Results of the Correlation between the Amount of Technology Used and the Number of Years of Experience.

The alpha number was set at .25. The p-value was larger than the alpha, so therefore there was no significant difference between the experience versus number of technology tools used in the music classrooms. So the Null Hypotheses was not rejected.
CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Restatement of the Purpose

Technology will enhance elementary music instruction and motivation if it is used.

The study will address the correlation between the experiences of teachers versus the use of different amounts of technology tools in the classroom.

Summary of Research Methods and Findings

Surveys were sent out to many elementary music teachers from different areas of the state of Missouri. Upon receiving them back, I analyzed the data and compared the number of years of experience to the amount of the technology tools implemented with the students. It first seemed that the more experienced educators used the technology more than the inexperienced teachers in their music lessons. But after the t-test, both groups were about the same in integrating the technology tools in their classroom.

Conclusions

This conclusion is based on the years of experienced and inexperienced teachers and that it doesn’t make a difference in the amount of usage of the technology tools in their lessons. The t-Test showed, no significant difference between the non-experienced and experienced educators.

Policy Recommendations

After finding the results of the tests, I would recommend that educators do all they can to integrate technology usage in their lessons. It shows that the digital natives don’t have it totally over the experienced teachers, they all have advantages and they need to work together with each other and the students. Teachers will need more preparation
time to develop these lessons to integrate technology. This would bring down the frustration level, if all had more time to play with the tools and create.
REFERENCES


http://thomasjwestmusic.com

http://www.thomasjwestmusic.com/technologyandmusiced.htm

VITA

Jennifer Frazier is an elementary music teacher with the Saint Joseph School District. She has been with the district as a teacher for 25 years and received her undergraduate degree from Missouri Western State University. With the completion of this research project, Mrs. Frazier now also holds a Masters degree in Instructional Technology from Northwest Missouri State University.