EFFECT OF INTRODUCTORY REHEARSAL STRATEGIES ON MIDDLE SCHOOL INSTRUMENTAL MUSIC ACHIEVEMENT

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Abstract

This study covered researched-based instructional strategies in the middle school band class. Two “tried and true” band strategies were compared to a top Marzano strategy. The strategies used were “rhythm counting/singing”, “teacher/student modeling” and “identifying similarities/differences”. Small groups of students received a short introduction to a new etude with a varied instructional approach. Students from each group were recorded and scored by 3 judges. The modeling strategy had the highest scores, followed closely by rhythm counting, with similarities/differences coming in third. Through ANOVA testing however, there was not enough significance to disprove the null hypothesis that there wouldn’t be a difference in the instructional strategy used.
Introduction

Background, Issues and Concerns

Research-based instructional practices are a hot topic in the educational community right now. Educators are constantly trying different ways of presenting information to students for the highest rate of understanding. (Differentiated instruction has been defined and installed in educator’s vocabulary for years as a trait of an accomplished teacher and a source for higher level of understanding. Music teachers have been using this method in their rooms for years. However, instructional practices focus on the introduction of material to the class as a whole.) Grades and standardized testing scores must be increased for teachers to keep their jobs intact, and funding for schools and programs to continue. With the introduction of the Common Core State Standards, raised individual state standards and reduction of time/resources for fine art programs, teachers in instrumental music classes must use their time wisely. Successful band directors use many methods of introducing new concepts and musical pieces to their groups. With a possible reduction in class time or resources in the future, directors might wonder which approach lends to the highest rate of student understanding.

Practice under Investigation

The practice under investigation is the perceived level of student understanding. Students in this study will receive one of the tested introductory instructional strategies, record the etude, be assessed by a band director, and video tape will be reviewed and reflected upon by the director.
School Policy to be Informed by Study

While many school districts have a limited number of music instructors, this study can be shared with any large performing ensemble instructor. This data is not necessarily limited to teachers of music, but any large class instructor that can modify the information and adapt the recommendations to their subject matter.

Conceptual Underpinning

Every student in the classroom can benefit from effective instructional strategies. These instructional strategies don’t always include a large amount of teacher lecture. It is commonly known that pure lecturing is one of the lowest strategies for student understanding. Numerous research projects have compared the amount of time for verbal feedback between experienced and inexperienced directors and concluded that experienced teachers spend less time speaking and use more time for student’s performance (Manfredo, 2006). When directors are rehearsing a full ensemble, studies also show that a complete three piece cycle should be in place for a more efficient and effective rehearsal. This cycle consists of 1. Teacher instruction, 2. Student response and 3. Teacher feedback (Arnold, 1995). For many cycles, the teacher instruction is comprised of a location to start/what concept to focus on, followed by the students performing that section as their response to the instruction, and then the teacher giving feedback on how they did. In theory, the three piece cycle should improve student performance.
Statement of the Problem

There is a lack of documentation about which musical rehearsal techniques get the highest perceived rate of student understanding initially. Marzano’s research is highly detailed, but is focused more on the typical classroom. If one rehearsal technique has a significantly higher assessment score, educators should know about it.

Purpose of the Study

The purpose of this study is to find which rehearsal techniques or strategies yield the higher rate of student understanding/student performance level during middle school band rehearsals.

Research Question

RQ: Is there a difference in student understanding/performance between students who experience instructional techniques including teacher/student modeling, singing/rhythm counting and identifying similarities/differences compared to students who did not experience instructional techniques including teacher/student modeling, singing/rhythm counting and identifying similarities/differences?

Null Hypothesis

Ho: There is no difference in student understanding/performance between students who experience instructional techniques including teacher/student modeling, singing/rhythm counting and identifying similarities/differences compared to students
who did not experience instructional techniques including teacher/student modeling, singing/rhythm counting and identifying similarities/differences?

**Anticipated Benefits of the Study**

Through research during a study of rehearsal techniques and strategies used in the instrumental music classroom, the anticipated benefits are twofold. First, the goal of any teacher, especially one with performance schedules to worry about, is to have an efficient use of time in the classroom with student on task time at a high percentage. One goal for the study is find which strategies work the most efficiently in my classroom. Second, the goal for any teacher is to increase student understanding. The second benefit would to be to find what techniques increase student understanding and assessment scores. As a performance based class, students need to progress on the material at a similar rate in order to work together efficiently, otherwise students might end up with idle class time while a teacher is catching up a certain section/individual of the band.

**Definition of Terms**

Differentiated Instruction: A framework or philosophy for effective teaching that involves providing students with different avenues to acquiring content; to processing, constructing, or making sense of ideas; and to developing teaching materials and assessment measures so that all students within a classroom can learn effectively, regardless of differences in ability.

Common Core: The Common Core State Standards (CCSS) are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next
generation of K-12 standards in order to help ensure that all students are college and career ready no later than the end of high school.

Dr. Robert J Marzano: Noted for transforming educational research and theory on the topics of standards-based assessment, cognition, high-yield teaching strategies, and school leadership into practical programs and tools for K-12 schools. Marzano is a senior scholar at Mid-Continent Research for Education and Learning (McREL), and co-founder and CEO of Marzano Research Laboratory.

Summary

This study will be conducted to see if there is a significant difference in assessed level of understanding for different instructional strategies used in my instrumental music classes. If the ANOVA findings conclude there was a significant difference, directors should try the highest efficiency instructional method first, before differentiating, so more students can efficiently learn the material. Since students have different learning styles and learning paces it is necessary to utilize many teaching methodologies to help all students be successful. After this study is completed, music directors can benefit by looking at the performance data and using these strategies with their own ensembles. School districts can benefit by having more efficient musical ensembles, installing a strong background of music instruction within its students. The correlation between music instruction and higher overall test scores has been documented in many other studies.
Review of Literature

The topic of instructional methods in the classroom as the topic for this research paper was inspired by the professional development going on at the middle school in a rural, mid-western school district. The entire staff has studied various chapters from Marzano’s book “Classroom Instruction that Works” and worked through scenarios in their professional learning communities. This information was adapted and used to see how it worked in the middle school band classroom, compared with some “tried and true” band instructional methods.

On the topic of effective music teachers, one of the older articles available was from Manny Brand at the University of Houston. Brand poses many questions, but they mainly evolve around the conditions of teaching environment, the style/qualities of effective teachers, and what determines an effective music teacher in the first place. Through surveys of parents, students, administrators and others, very few people even agreed on what one could define a “good” music teacher was. Early reports, and often the “fall back” definition, of a superior music teacher is one that has superior student performances. Brand goes on to explain why this is not always a good indicator of successful instruction. Brand has collected information from other researcher’s surveys and noted that a conclusive list is impossible, but gives us hints that effective transitions, fast pacing, musicianship, care for students, classroom management and eye contact are all top qualities of effective music teachers.(Brand, 1985)

Leigh Berkley, a graduate student at the University of Maryland-College Park completed a study covering many aspects of the rehearsal strategies of successful band directors with various years of experience from novice to veteran. Twelve music teachers
were studied on various topics including performance targets, common phrases, sequential patterns, error detection and the different effective rates of all these options. The data was interesting noting how an experienced teacher worked less in total time, but was more effective generally, able to pin point their performance targets faster. The more experienced teachers had their downtime was more spread out in order to facilitate breaks or administrative duties. Novice teachers used 33% of a class period for non-musical tasks, while expert teachers only used 19% for these tasks. Each segment of the rehearsals was documented and separated into one of the 3 parts, either “presentation of task”, “student response”, or “reinforcement”. These parts combined made a complete rehearsal cycle. Berkley noted how many cycles were complete, and how many were used effectively. Experienced teachers used more non-verbal communication, as well as more focused drill points and specific concepts. (Berkley, 2011)

The history and future of the school band might not be the same thing. Allsup and Benedict have gathered thoughts about the problems with the school band in their music philosophy article. Historically, context of “control” in the instrumental music classroom has been strict. When a conductor has a large amount of students in the band room with loud instruments in their hands, one must have control and expect certain behaviors from everyone in the group. The authors speak of the 10 to 20 second bursts of instruction from the conductor, and then right back into playing to keep the students busy. The authors of this article warn about the problems of the “conveyor belt” education style of many controlling band directors. They say that it may limit the creativity of the student and that ultimately it is not nurturing the artistry of the student. The relationship of “oppressor” and the “oppressed” is used as an analogy for the conductor versus the band.
The question is not, “are the students learning?” because they clearly are, but the question is “what is the best way to creatively reach them?” This question is hard to swallow when there are so many successful band programs following this old method. Allsup has an interesting view of “fear” in the music setting, and how it is a common stimulate to alter behavior of students of many ages. The concept of students co-running rehearsals of small groups and co-composing music of their own like a “garage band” is one approach to working on artistry in an otherwise controlled setting. (Allsup & Benedict, 2008)

Changing from the controlling band director, to a more professional approach to conducting an ensemble, Price and Byo have some research surrounding the atmosphere of the rehearsal. This team of music psychologist and music educator have a chapter that covers many concepts surrounding conducting and rehearsing an ensemble. It speaks of the atmosphere of the groups being affected by many things including research showing that positive feedback will increase student attentiveness compared to only negative feedback. Pacing of a rehearsal is important as well, notes Byo and James, stating that a fast pace is generally deemed more effective, but the most successful teachers will vary speed depending on the issue being addressed. The conductor must also be a character, using eye contact, body motions, facial expressions, hand gestures, and varied speech dynamics to capture attention and to install a passion of their message. Byo and James covers what most educators deem to be best practices when rehearsing an ensemble of any age. (Byo & Price, 2002)

When working with younger students, best practices for rehearsing may need some editing in some cases. Lynette Jackson did research in her classroom in a school district that has a wide range of demographics. With experiences and success of teaching
in other young instrumental music programs she realized that the end of the school day, 85 minute class period, with a wider set of demographics, required a re-work of her normal lesson plans. She wanted to introduce other methods of learning rather than just full group rehearsing. She focused on working on her motivational skills and tried these three approaches: listening to professional recordings, student directed sectional work, and student self-critique. Through a 4 week study with two sixth grade classes she also tried article reading, drawing, student written response and a fun video/audio listening unit. Jackson used a survey to find the students’ preferences and she found that the students enjoyed the variety of activities. The level of student understanding and success of the class, as well as future enrollment in the class, all raised percentages with this new plan of attack. (Jackson, 2011)

Joseph Manfredo, a conductor at the University of Illinois Urbana-Champaign, shared his thoughts on planning ensemble rehearsal, how to split up the rehearsal into time for equipment moving, tuning, sight reading, announcements, warming up and rehearsal or performance of the pieces being worked. The conductor of the groups needs to verbally address the group during many portions of a rehearsal, so Manfredo asks for short, concise instructions, well defined objectives, and when rehearsing parts of new pieces, limit repetition to a reasonable amount, enough to get the point across, but not too much to bore or lose focus. Self-analysis for a director is a helpful technique to improve rehearsal effectiveness, and Manfredo shows a chart example for a conductor to go through and track various aspects of the rehearsal including types of comments (positive, negative, directive), and whether or not they were goal related. (Manfredo, 2006)
Pacing of a rehearsal can make or break its effectiveness. In their research article, Gundersen and Williams stress the importance of a faster paced rehearsal with a high percentage of student performance, a middle percentage of teacher instruction and a low percentage of off task or setup time. Through the accurately managed rehearsals of successful band and choir programs at different age levels, the data show that there are only small differences in data between ages and types of program. Students should be performing be around the mid 50% area, with instruction in the mid 40% area, with off task time in the 1% or 2% areas. The study showed that on average, the best programs at any level have about 10-12 seconds of instruction, and then a student performance of nearly the same amount. (Gundersen & Williams, 1998)

James Arnold conducted research to see if directors were using a complete cyclical process of teaching, and could they improve their usage of this pattern through self-evaluation. The three part pattern includes task presentation, student response and teacher feedback. The teachers in this study were all 6th grade music teachers that video recorded one of their classes every other week. The experimental group of teachers watched their own tapes to watch and number the 3 part cyclical pattern, and the control group looked over transcripts of the video tapes to track the pattern. The results of the study showed that the experimental group was able to use the complete cyclical pattern more often as the study went on, and were also able to increase on task musical activity in their classes. (Arnold, 1995)

Some might have the thought that there are no tests in music class. Goolsby approaches from the opposite point of view saying that using more frequent assessments
Rehearsal Strategies

in the music classroom will ultimately save time. If a director claims that their students need more time in rehearsal because of fixing common mistakes, and less time working on assessments, this shows that their rehearsals are not efficient, and that assessment of the student needs to take place in order for the director to find out what the students already know. Instructors commonly use placement assessments for chair order, auditions and challenges. Instructors also use summative assessments such as concerts and festivals as a final public performance of achievement. Goolsby goes through other teacher examples of assessment such as diagnostic and formative, along with the placement and summative. Goolsby suggests that students can use have quarterly objective check lists, worksheets for music theory or composition, audiotape recordings of solo works, and self-evaluation forms for group performances. (Goolsby, 1999)

Burrack describes the organization of several types of assessments in the instrumental music classroom. In Carroll Community Schools in Iowa, their band department organized a new portfolio system as a portion of their assessments. In the middle schools years, they listen to recordings and make written reflections about the groups/their own performance and goals toward improvements. In the high school years, they make individual recordings of etudes, pieces and scales to be kept in their portfolio. For the high school ensembles, they also make written group assessments as homework after listening to rehearsal recordings during class. These assessments were used as part of the student’s regular grades for the class. The students resisted the change at first, but most understood that it would help them in the long run. Musicians that were interviewed mentioned that reflecting on their work did help motivate them to correct all of the
smaller mistakes that could really improve a good performance, to a great performance. 
(Burrack, 2002)

Many teachers in the last decade have studied various research findings from Robert Marzano, a leader in educational research. In 2001, his groups list of top instructional strategies were described in the first version of *Classroom Instruction that Works*. A second edition of this book, by different authors, released in 2012 continues the explanations and best approaches to use these strategies. One of the nine top strategies was “identifying similarities and differences” and is actually listed as the most powerful strategy, is one of the methods in this research study. Identifying similarities and differences can be broken down into four categories of comparing, classifying, creating metaphors and creating analogies. These strategies help move students from existing knowledge to new knowledge, concrete to abstract, and separate to connected ideas (Dean et al., 2012). With these new connections, students will increase the chances of understanding new information from the network of prior knowledge. In the book’s study, students were led on interactive, engaging instruction discussions where they were to identify similarities and differences. These acts connected new and old information. Some recommendations for classroom practice of this include: teaching students a variety of ways to identify traits, guiding students as they engage in the process, and providing supporting cues to help student identify similarities and differences. (Dean, Hubbell, Pitler, & Stone, 2012)
Research Methods

Research Design

An eighth grade band class was chosen as the research group. Through a random number sequence generator (www.random.org), the student musicians were divided into three groups. Each group will be introduced to a new musical etude separately, using a different instructional method. After introduction and a short rehearsal (20 minutes) of the new selected etude, a random sampling of the students from each group will play an assessment. Assessments will be recorded using quality digital audio equipment and labeled with a number. The entire class will be video recorded for reflection purposes. The director will watch and reflect on the recording for instructional quality and various other indicators of student understanding such as pacing, complete cyclical instruction, and on task time. All recorded assessments will be blindly scored by several local area band directors. This assessment data will all be compiled and ANOVA testing will be utilized using www.vasserstats.net. The dependent variable will be the average test scores for each instructional method and the independent variables will be the three instructional methods used: teacher/student modeling, singing/counting, and identifying similarities/differences.

Study Group Description

The school district in this study is located in a rural community with about 6,900 residents. It is comprised of a single elementary, a single middle school, a single high school, and an alternative high school. The middle school enrollment at this building with grades 5 through 8 is about 524 students which are 93% white. The free and reduced
lunch rate for the building is 47%. The attendance rate is about 95%. The student to teacher ratio is 18:1.

The 8th grade band is the student’s third year of instrumental music instruction. It is comprised of 54 students, 28 male and 26 female.

Data Collection and Instrumentation

Through the video recording, student’s progress will be noted on an individual and full group level, while also noticing class-on-task time and other indicators of student understanding such as the type of questions being asked or the student’s answers to the director’s prompts.

The official assessments will be recorded on a SuperScope digital recording console with two condenser microphones. Tracks will be burnt to CD and given to graders for their assessment. Graders will be provided with a rubric and scores will be averaged for each student. Scores will be charted and averaged for each instructional method.

Statistical Analysis Methods

The website “www.vasserstats.net” will be used to complete the statistical calculations in this study for ANOVA. Microsoft Excel will be used to compile totals and graphs.
Findings

A one-way ANOVA weighted test was complete with the overall averages for each instructional strategy. The following charts and graphs will depict the findings. In figures 1-3 below, the rubric for the performance assessment is shown. Each randomly selected student played the etude and was graded by three separate band directors. The rubric only involved two factors, those of pitch and rhythm. Typically, a music instructor would also grade on the various areas of tone, articulation, dynamics or musicality, but the rubric was simple for a few reasons. First, some areas like tone or articulation are considered prior knowledge, and not applicable to this test. Also, the etude was chosen for it’s simple notation, lacking any embellishments or special musical markings. Each rubric area could receive ten possible points, totaling twenty points.
(Figure 1.) Results from first instructional strategy of rhythm counting/singing.

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<th>Judge 2 Notes</th>
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(Figure 2.) Results from the second instructional strategy of teacher/student modeling.

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(Figure 3.) Results from the third instructional strategy of identifying similarities/differences.

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For Judge 1, the average score was highest for strategy 1 at 13.8 points, with strategy 2 close at 13.6, and strategy 3 was further down the scale with an average of 11.6 points. For Judge 2, the average score was highest for strategy 2 at 14.8, strategy 1 was second with 13.4 points, and strategy was last again with an average of 11.4 points. For Judge 3, the average score was highest for strategy 1 at 13 points, strategy 2 in second with 12 points, and strategy 3 ending in last again with 10 points. Averaging all of the judge’s scores puts strategy 2 as most effective with an average of 13.47 points, but strategy 1 is a close second with average of 13.4 points. Strategy 3 came in third place for all of the judges, with an average score of 11 points, 2.4 points lower than the strategy 1.

(Figure #4.) Graph of averages from all strategies.

In figure 4 above, it shows the average scores for each strategy from each judge and the average of the judge’s averages. Judge 1 gave strategy 1 the highest score, closely followed by strategy 2, and with strategy 3 in third place. Judge 2 was the only judge to
give strategy 2 the highest rating, with strategy 2 in second and strategy 3 in third again. Judge 3 was similar to judge 1 in their order. Averaging all of the judges scores together gave strategy 2 the highest score barely, with strategy 1 in second, and strategy 3 was once again in third place.

*(Figure #5.) Results from ANOVA Test.*

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<td>Treatment</td>
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<td>2</td>
<td>9.8741</td>
<td>0.64</td>
<td>0.54438</td>
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<tr>
<td>Error</td>
<td>185.111</td>
<td>12</td>
<td>15.4259</td>
<td></td>
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<tr>
<td>Total</td>
<td>204.859</td>
<td>14</td>
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Alpha level =0.1

In figure 5 above, the results from the ANOVA test are charted. The sum of squares totaled 204.859. The degrees of freedom totaled 2. The Mean Squares equaled 9.8741 and 15.4259. The Fischer F-statistic was 0.64. The p-value was 0.54438. When compared to the alpha level, the p value was above the alpha level of 0.1. Due to this p-value, the null hypothesis not rejected, and the research question was answered negatively.
Conclusions and Recommendations

After the experiment, the video recording of the trials was reflected upon by the director. It was noted that the “rhythm counting/singing” and “teacher/student modeling” instructional strategies were both more effective than the “identifying similarities/differences” strategy. The counting strategy gets the students physically/mentally/verbally involved in the error correction process, with them clapping, counting/singing out counts of the etude. Each counting session was another chance to correct any mistakes. With the modeling strategy, it was noted that the students had the tune in their head before they played and keep the end goal of the piece. This was especially more effective with the brass players and their embouchure adjustments for partial changes. The “identify similarities and differences” strategy didn’t seem effective while introducing the new etude. Near the end of the instructional period, the full runs of the piece never sound correct with matching pitches and rhythms. The students didn’t receive the detailed information they needed about their performance to correct any errors. This method might only be effective after the students have worked on a piece and were down to cleaning up the details. In general, all of the strategies had similar amounts of on-task time and student attentiveness. Of course, as with many theories of teaching, it is generally known a combination of several strategies is often a good choice.

While the groups were randomly chosen, the gender and instrumentation break ups were very even. The test subjects to be recorded were also chosen at random, but there are always prior knowledge issues when running research like this. Student “B4” had nearly a perfect score from all three judges. This student probably would have been successful regardless of the instructional strategy because of their strong prior
knowledge. Student “C5” however, is an example of a lack of prior knowledge which could potentially sway the final results. Other limitations for this study include small sample and population used for the study.

After the conclusion of this study, several things could be adapted for further studies. A different set of rehearsal strategies could be test, or the same set by a different instructor. Ultimately, a larger population and sample size would benefit the study. If there was a director that traveled to several middle schools to teach, it would give a great indicator of success with the strategies.

Many schools already have professional development surrounding instructional strategies. Administrators often track data over which strategy their teachers are using in the classrooms. In the music area, the “tried and true” strategies of “counting/clapping” and “teacher/student modeling” should not be discounted because they had similar or higher effectiveness in this study.
References


