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Brandon Tyson
bat60@uakron.edu

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Tyson, Brandon, "The Effects of Improvisation in Beginning Musical Instruction on Music Literacy" (2021). *Williams Honors College, Honors Research Projects*. 1254.

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The Effects of Improvisation in Beginning Musical Instruction on Music Literacy

A Review of Literature

Brandon Tyson

The University of Akron

Author Note

This report is for fulfillment of the Williams Honors College at The University of Akron

Abstract

Teaching is a skill that has many different techniques and strategies. Each instructional strategy is valid for giving the student the opportunity to learn. In the 1993 article “Improvisation is the Manifestation of Musical Thought,” Azzara states that improvisation is a spontaneous expression of musical concepts. Many have used improvisation to bring knowledge together and synthesize the content. Improvisation is a tool that can be utilized at any point in the educational process. Opportunities for improvisational play gives students personal experiences on leading to skill development in listening and performing of the skills. After a solid foundation of performance ability and aural perception is built, notation can be introduced to provide a symbol to the already learned skill.

This literature review synthesizes information and data about the effects of improvisation on music literacy in beginning musical ensembles. A secondary purpose of the literature review is to analyze common pedagogies used by music teachers and to compare them to the use of improvisation. This paper is intended to provide information on the benefits of improvisation at any point in a musician’s developmental process. Resources and discussions through this literature review are meant to provide strategies for the incorporation of improvisation into the teaching process.

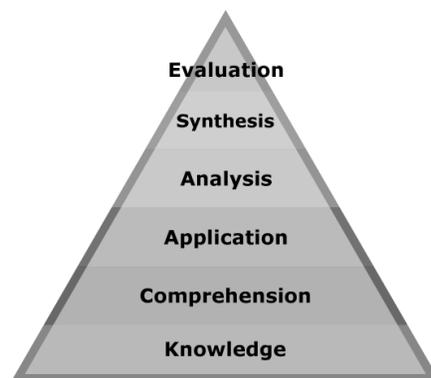
The Effects of Improvisation in Beginning Musical Instruction and Music Literacy

Teaching is a skill that has many different strategies for assisting students in achieving higher knowledge. Each method and technique is designed to set the student up for the best chance at success when it comes to developing a student's knowledge on a subject.

Bloom's Taxonomy is a learning theory that is separated into the cognitive, affective, and psychomotor domain. Bloom's cognitive domain taxonomy is originally presented in a hierarchy. This is because Bloom believed some cognitive skills were more foundational while others were considered higher-level skills (Swartwood, 2012). Bloom's taxonomy shows that the levels of skill development, in terms of cognition, from lowest to highest are knowledge, comprehension, application, analysis, synthesis, and evaluation (see Figure 1). The bottom three levels are the foundational levels that support the upper levels (Swartwood, 2012).

Figure 1

Bloom's Cognitive Domain Taxonomy Pyramid



Improvisation could be considered as a demonstration of synthesis. Synthesis is the act of applying learned skills and information together to create a new whole. In music, one equivalency would be putting the musical concepts together to create a new melody or musical

idea. Azzara (1993) labels improvisation as the extemporaneous manifestation of musical thought.

Improvisation does not have to be the act of putting already learned concepts together. It is a tool that can be used at any step in the student's development. Improvisation can be either free or guided. When improvisation is free, there are no limitations to the improvisation. For example, improvisation is often thought of as jazz improvisation in which a musician spontaneously creates a melody over a previous established set of chord changes. However, the act of improvising is not limited to use in jazz. When improvisation is guided, limitations are set for the improvisation to guide the person improvising. For example, limitations could be defined for pitches, rhythms, or articulations used. Guided improvisation may be a pathway and tool useful for discovering new concepts. Music students may achieve effective learning through improvisation in the early stages of development through uses of guided improvisation and exploration. By approaching music learning through listening and guided improvisation, students are acquainted with skills through performance.

Linguistics and Music Instruction

In Hall's article "Improvisation as an Acquired, Multilevel Process" (1992), he asks the question "Why is it that language is acquired by all normal human beings and music by only a few?" (p. 233). Although music is considered to have more context than words due to the added components of pitch, articulation, and other musical characteristics (Hall, 1992), there could be similarities in language development and music development.

In language development a child is first surrounded by both linguistic and non-linguistic sounds. The infant listens to sounds around them before being able to understand what they mean or how to use the sounds (Garnica, 1975; Gordon, 2010). This listening immerses the infants in

the contextual language in which they will be using for communication. The beginning of a young child's language development is devoted to listening.

Children then begin to use vocalizations by pushing air through their vocal folds (Garnica, 1975). Although this process is not imitating the language, it has a crucial role in linguistic development as infants begin to experiment with the sounds they can make with their voices. Following vocalization, children begin demonstrating word babble. Word babble is the act of repeating the sounds and putting words in sentences that may not make sense. This is when the child begins to use words like "mama, dada, etc". The child soon chains words together into sentences that will start to make sense. This is the beginning of emulating the language they have been immersed in to start communicating. (Garnica, 1975). Finally, the child begins to understand the use of grammar and how to construct sentences. The child develops the ability to read and write the language after being able to communicate vocally.

Music learning has an opportunity to follow a similar sequence. Many researchers have recommended that students begin learning music through aural development, movement, and singing before transferring the ideas to musical notation (Grey, 2020; Grutzmacher, 1987). Gordon lists a process of music learning that is similar to language learning. Gordon begins by stating that listening to music is the first step that a child goes through in their development. Then they begin to experiment with the sounds that they hear, trying to recreate them. This is when the child screams or reacts to music. Gordon continues that they will begin to use tonal babble. This is most of the time through the action of singing the folk songs that their parents sing to them. As children get more and more comfortable with making the sounds and imitating the music they are hearing, they begin to understand the components of the music (Gordon, 2010). The process that the student goes through involves the act of aurally listening and

recreating. Listening and recreating lead to creating and experimenting with the sounds that they learned aurally without the use of written notation at this point in development.

Contrast Gordon's process with pedagogies for teaching music that begin with the written notation or start the written notation early in the musical development. Although each pedagogy introduces notation at its own time, some tend to teach musical concepts using notation. One example of this process is in most beginning band method books. If a teacher follows a method book as a teaching guide rather than a resource, the first thing taught is the musical staff and its components. The teacher then shows the student what something looks like, describes what the skill is, and then gives ways of practicing it before applying it in context. This method of teaching focuses on the written and notational side of understanding.

In Feierabend's article "Developing Music Literacy: An Aural Approach for an Aural Art" (1997), he writes that music should be taught aurally. Although notation is important, the aural aspect of music should be the driving force of musical understanding and teaching. According to Feierabend (1997), music literacy must be preceded by three acquisitions: comfortable and accurate singing skills, comfortable and accurate moving skills, and expressive sensitivity. If a student is taught through notation, it is possible for them to not fully develop these acquisitions.

In Feierabend's list of prerequisites to musical notation, he included "expressive sensitivity". This is the ability to interpret music in an expressive way. Expressive sensitivity means the musician can interpret the parts that cannot be written in the musical notation. These hidden musical expressions are tone color, vibrato, stress, and other musical concepts that the performer is responsible for in music. Through listening and recreating, the student begins to internalize these expressions and learn how to interpret music and develop their musical intuition

(Feierabend, 1997). When learning a language, it is typical of infants to listen and imitate the sounds around them before learning how to read the language similarly to how music is learned.

Suzuki Method

The Suzuki Method was developed by Shinichi Suzuki born in Nagoya, Japan in 1898. When Suzuki was young, he heard a recording of the famous violinist, Mischa Elman, playing Schubert's *Ave Maria*. He thought it was so beautiful that he brought a violin home and began to teach himself how to play by imitating his playing based on what he heard (Suzuki Association of the Americas, 2020). Suzuki utilized imitation and listening as his main method to learning. He believed that everyone could be a musician and starting at a young age was better for students to learn. Suzuki also felt that the way that children learn music should imitate how they learn language, by being surrounded with music at a very young age.

Suzuki method begins with educating the parent as a way of allowing for the music to be taught at home too. This helps to immerse the student in the musical sounds and ideas so that they have practice at home as well as at school. The method encourages the desire and will to play and learn as a priority. It also encourages group participation in the learning process.

Suzuki method puts a priority on the music as an aural art over the music in its notated form. The Suzuki method recognizes the importance of music literacy. However, it builds the foundational skills and musicianship before the addition of written notation. Teachers the use this method instruct the parents how to read so they can help the student learn by ear, but reading notation is later in the process when compared to other commonly practiced methods of music instruction. The Suzuki Association of America (2020) states that music is and aural art and should be learned in a similar fashion as we learn to read. We begin by learning what it sounds like before what it looks like.

Orff Method

The Orff method was developed by Carl Orff who experimented with musicians and dancers in the 1920's (Campbell, 2017). He then developed a school, Guntherschule, and wrote five volumes of chants, songs, and instrumental pieces called *Musik fur Kinder* (Campbell, 2017). These principles and ideas were spread and followed despite the destruction of the Guntherschule in Europe and North America.

Orff's method has a heavy emphasis on preliminary play, imitation, exploration, and improvisation. Preliminary play is "guided experiences of spontaneous exploration of materials under focus" (American Orff-Schulwerk Association, 2020). Imitation is the accurate replication of ideas. This is usually through a call and response format. Exploration is "guided experiences in applying suggested ideas" (American Orff-Schulwerk Association, 2020). Finally, improvisation is the invention of original material.

In Orff Schulwerk method, notational learning is seen as an extension of the rote learning of music. Music literacy is an important part of music education. In Orff's method, Music literacy is a product of preliminary, play, imitation, exploration, and improvisation. "The guiding principle is that notation and reading be built on known musical materials and that sound precede symbol" (American Orff-Schulwerk Association, 2020). Improvisation is found in every phase of an Orff-Schulwerk based lesson (Aaron, 1980).

Dalcroze

Emile Jaques-Dalcroze was a Swiss composer and educator. He was responsible for the development of the Dalcroze pedagogy for musical instruction. While Dalcroze was instructing students in Geneva Conservatory, he observed that his students lacked the ability to hear what they were writing, and their playing showed "little sense of rhythmic life" (Dalcroze Society of

America, 2020). Dalcroze's students were also having issues with being rhythmically accurate, poor phrasing, and accurate accents (Grey, 2020). He began by developing ear training games to help the students develop their aural perception of written music.

The most notable aspect of the Dalcroze style of methodology is the use of Eurythmics. He was fascinated with the natural motions of humans imitating the music. Dalcroze had his students walk around and make any motion that they thought conveyed the music (Johnson, 1993). "Eurythmics teaches the concepts of space, time, direction, level and shape" (Johnson, 1993, p. 41). Dalcroze founded a school in Hellerau, Germany to refine his pedagogical methods and investigate new possible pedagogical developments of the principles in Eurythmics. (Dalcroze Society of America, 2020).

Dalcroze methodology is separated into three main parts: eurythmics, solfege, and improvisation (Dalcroze Society of America, 2020). In Dalcroze style of learning, improvisation can find its initial use in eurythmics through the students creating their own ways to move to the music. When students improvise with movement, they use body motions to show what the music is conveying (Johnson, 1993). It can be used to synthesize information together. It can also be a way to further the creativity and expressive nature of the student.

Improvisation on instruments is commonly used to develop the working knowledge of musical concepts that are already heard and sung in Dalcroze method. This can be an effective way to explore a wide variety of musical parameters. It offers a way for students to manipulate musical principles in a way to further understand them (Johnson, 1993). In the article "Dalcroze Skills for all Teachers" by Monica Dale Johnson (1993), Johnson states "when students improvise, they are manipulating music concepts creatively, enhancing as well as demonstrating their understanding" (p. 44). This is similar to experimenting in science class with materials so

that the student discovers the reactions by their own means rather than being told. Experimenting with sounds through improvisation leads students' personal musical discoveries.

James Froseth's "Do it" Method Books

James Froseth is Professor Emeritus, former chair of the graduate committee and doctoral advisor for the music education department at the University of Michigan from 1984-1999. He is a leader in the study of music teacher education and a strong advocate for nonverbal modes of music teaching and performance-based assessment of musical learning. Froseth's methods incorporated creative musicianship at all levels of instruction (Watkins, 2011).

Froseth wrote and distributes the method book "Do it! Play in Band" which is a method book based on the aural approach to music learning. It uses CDs that feature artists models of beginning level musical repertoire with a set of musical accompaniments in a multitude of styles to give students many opportunities to learn the musical concepts through listening. Music students are able to listen to the CDs for a sound to emulate and play along with the accompaniment to experience the skills. With the accompaniment, they could play a pre-existing melody or create their own using guidelines set by the instructor.

The method book gives many opportunities for improvisation as well as developing the ear of the students by having students sing music while even including words to the songs. There are also many opportunities for the students to play melodies by rote with no written notation to assist them in playing back the melodies.

Effects of Improvisation

Improvisation is often viewed as an activity that is only attainable after a strong foundation of musical skills has been developed. Yet the Suzuki, Orff, Dacroze, and Froseth methods demonstrate the successful incorporation of improvisation at early levels. In addition,

there have been many studies conducted on the benefits of improvisation in musical instruction and its effects on musical performance and understanding of music concepts. According to Della Pietra and Cambell's (1995) article "An Ethnography of Improvisation training in a Music Methods Course",

... students in music methods courses can be enabled, through training, to conceive musical improvisation as a model based and integrally linked to the teacher's careful design strategies for analytical listening; recognize the pedagogical importance of providing 'building blocks' through listening, teacher demonstration, and student imagination; accept the tripartite pedagogical structure for stimulating improvisation among students...; and to assist other students in socially interactive ways to produce a musically logical 'solution' to their individual tasks and problems. (p. 124)

Della Pietra and Cambell clearly demonstrate how collegiate music methods courses can inform future teachers about using improvisation in instruction. Including training and becoming comfortable with improvisation in methods courses can lead future teachers to incorporating improvisation and other tactics into their lesson planning.

The Manhattanville Music Curriculum Project (MMCP) was created to study "the purpose, substance, and means of music instruction in the schools and in the preparation of the music educators" (Thomas, 1991, p. 27). Reading musical nomenclature activates cognitive pathways for students to associate the written notes to sounds and then activates the necessary motor functions to create that sound on the instruments. Improvisation, on the other hand differs in the nature and the extent of cognitive involvement.

Improvisation relies on deduction, induction, and intuitive musical thought when creating (Thomas, 1991). This determination is informed by several factors, such as idiomatic preference, knowledge of the musical context, performance, etc. According to Ronald Thomas (1991), “improvisation is not the total answer, but it is an important teaching strategy, that can lead to significant insights” (p. 29). There is currently limited formal training in improvisation skills and abilities in collegiate music education disciplines. This is reflected in the lack of instruction using improvisation in public schools (Thomas, 1991).

Christopher Azzara (1993) conducted an experiment focused on the effects of improvisation on music students’ musical achievement. Experimental groups participated in improvisational techniques and control groups continued instruction through normal means. The results provide evidence of a possible correlation of improvisation practices and improved instrumental performance while reading musical notation (Azzara, 1993).

Music improvisation involves the ability to adapt and integrate the sounds and coordination in real time, using learned and stored sequences in order to produce a flexible result (Beaty, 2015). There are two main types of improvisation, free and guided. Early improvisation should be a very strict guided practice. According to Azzara’s article “An Aural Approach to Improvisation,” (1999) giving limitations on improvisation gives the student more ability rather than less. The restrictions limit the possible outcomes and allow for a more comfortable and relaxed improvisation. After becoming comfortable playing with the restrictions, the students can then begin to play inside and outside of them (Azzara, 1999). As the student becomes more musically developed, restrictions can be removed to allow for a freer improvisation experience. The ability for a student to improvise freely is a direct showing of the instructors use of guided improvisation (Aaron, 1980).

According to Norgaard, Stambaugh, and McCranie (2020), improvisation included in the warm-up activities has been shown to increase productive rehearsals and be beneficial to the student's musical growth. Warm-up is the time for students to prepare themselves for the lesson. Most warm-ups include setting up the body for embouchure, flexibility, and tuning. Incorporating improvisation into warm-up activities could foster creativity and "change some aspects of students' executive functioning" (Norgaard, Stambaugh, McCranie, 2020).

Depending on the complexity level, improvisation may cause a deactivation in the desolated prefrontal cortex. Meaning that when complex improvisation takes place, rapid selection of musical choices during the execution will not have temporal delay (Landau, 2017). This means that when a musician is improvising, it is likely that there is no premeditation in the performance. Improvised performances represent the display of concepts that are so ingrained in the performers understanding, that recall does not take a lot of time. To allow for effective improvisation, there must be trust and confidence in the player to be free to explore the sounds. Trusting themselves allows for the music students to become more comfortable with the material they are improvising with and more confident in the material. Instructors should cultivate comfort with improvising by making it normal for the student to improvise (Landau, 2017). Fostering a safe environment even if they play something that is "wrong" with stipulations set prior to improvising will help improvising to become more comfortable.

Music improvisation is rooted in our limbic system (Hall, 1992). The limbic system is the part of our brain involved in behavioral and emotional response. This system gives the improviser the ability to explore how different musical techniques and learned skills fit together. Improvisation allows for players to experience these combinations and the emotional effects they have on them.

The study by Diaz Abrahan (2018) reviewed and discussed the effects of music improvisation on memory and emotion. The study revealed that participation in improvisation prompted high levels of emotional investment. The human brain perceives emotional and non-emotional memories differently (Diaz Abrahan, 2018). Since music contributes to emotional memory, the act of performing music can possibly lead to more retention of memory.

Music Literacy and the Effects of Improvisation on Literacy

Music literacy is the ability to read and write music in a standardized notation. Music literacy demonstrates the understanding of the music itself as well as the correlation between each symbol and its musical representation. Most beginning band method books teach music literacy through a symbol first approach in which they show what the symbol is, then what it means, and finally explains how it is used and gives contextual exercises. Pedagogical methods such as Orff, Dalcroze, and others utilize a sound before symbol approach, wherein performing the skill is done before the student see the notational representation. Improvisation in literacy instruction could be considered as a sound before symbol approach. After the students are taught by either call and response or another way of identifying and introducing a particular topic, the student could then continue the exploration of the topic through guided improvisation. This approach would allow for several experiences. The most obvious is to allow for the student to have more practice with the topic before reading it. This also allows for the student to experiment with the sounds and topic to allow for them to discover on their own some details about the topic.

Through the method book approach, visuals are given to the student from the very beginning. Before anything is played, the parts of the staff are taught. The main issue with this is it over emphasizes visuals and deemphasizes aural learning. Over emphasizing visuals teaches

students to not listen and rather see (Strick, 2017). Music is an aural art. To effectively read and understand musical notation, the musician needs to understand how the symbols sound.

Including improvisation and musical experience with sound prior to learning the musical symbols allows for the development of these skills. Azzara (1999) writes that music students should start with listening and improvising before reading musical notation.

Silijimaki (2019) stressed that improvisation should be used as a method for skill development before reading notation. Improvising assists with the accuracy and comfort level the students have with playing the instruments before reading music using the skills they learned. Silijimaki wrote about using improvisation in beginning music education as a way to prioritize individuality and personal exploration of music rather than “the feeling of alienation that is produced in learning theory and notation” (pp. 126). Including improvisation encourages creativity and aural development before the theoretical understanding of the concepts.

There are many aspects that may affect a student’s ability to read music notation. Grey (2020) suggests that students are having difficulty reading music due to lack of skill development. There becomes a reliance on drill strategies rather than musical reading. Edward Asmus (2004) stated in his commentary “Music Teaching and Music Literacy” that lack of skill development and the push for being able to read musical notation has been brought on because of the festival and performances required in undergraduate and high school groups.

Discussion

Improvisation has been shown to be a way of creating and exploring music. Giving opportunities for students to improvise as a tool for exploring and understanding concepts can be beneficial in the early stages of education. Improvisation is a tool that can be used to teach and assess students in a musical concept.

To effectively learn the written notation of music, we must understand and be able to communicate using music. Similar to communicating with words before being able to read, being able to convey musical ideas should be presented before learning the notation. This is beneficial for a few reasons. It allows for the sound and production of music to be the initial and overarching focus on learning music. It develops the sound, expression, and technique before relating those to reading music. These aspects allow the two processes to assist each other but not become dependent on each other. This would mean that a student could play a piece with or without music if the processes are both taught equally.

There is room for improvisation, rote learning, and notational reading at all developmental levels. Each of these processes can inform the others and be beneficial for the student. Allowing time for improvisation gives the student a chance to experiment, listen to themselves, and experience the concepts that are being taught. Notation gives a visual and a structured way of conveying the musical principles. Understanding both gives a complete understanding of the sound and usage of the concepts.

Improvisation is not only for students who fully understand a topic, it can be presented earlier and even before they know the notational symbols associated with the topic. Improvisation could be used as a pedagogical method, further developing and structuring the topic so that the notation can be easily taught by already have a firm grasp on how it sounds and how to create it.

Application of Principles in Class

There are many ways of including improvisation in the classroom at any stage (i.e., See Appendix A). Teachers can use guided improvisation as a method to introduce concepts to the students. The instructor should indicate the stipulations for the improvisation, limiting the

possibilities to guide the student to a successful improvisation. Fewer restrictions are needed as students gain more experience with their musical knowledge. The student's intuition, musical experience, and musical patterns replace the need for restrictions. This will allow for students to experience free improvisation with the musical skills developed using guided improvisation.

Instruction could begin with a form of call and response to introduce the musical concept. Then after the teacher has led the call and response, having a student lead the call and response will allow for guided improvisation. Keeping variables, such as number of pitches or rhythms, controlled at the beginning stage will allow for more success and focus on the skill being developed.

Improvisation could also be explored by giving students time periods in class to experiment playing with a skill that was recently taught to them. This time period could be a group assessment, in which the teacher would be listening and assessing the students practice and give individual feedback. After the group assessment is over, the instructor could give feedback on what they observed from the class as a whole.

The Allendale Columbia School makes use of an improvisational instructional method where the teacher begins with the first phrase or two of a melody. Then the student improvises or creates their own phrase to the song (Grossman, 2018). The class also receives stipulations that the improvisation needs to follow. Each student gets a chance to perform their antecedent phrase.

Potential Further Study

This paper was originally formulated to be a research experiment focused on the effects of improvisation on the reading of musical notation. The study was approved by The University of Akron International Review Board. Due to the events of the pandemic the week prior to the scheduled testing, this study was changed to be a literature review. This study could be a

potential guide to future educators or scholars (i.e., See Appendix B). The study design stratified a large group of volunteers into two groups that are similar in instrumentation and musical ability. One group would learn musical concepts through the traditional way a beginning band method book addresses them. The other group would learn the act of performing those same concepts through improvising. The improvisation and lesson to cover the topic would be timed to assure the same time frame of instruction.

In this future study, control group participants will enter with their instrument already assembled. They are to be seated with all the materials they need to properly perform. The researcher will read from a script and have them play through three excerpts to teach them notes on an unfamiliar music cleft. After working through the three excerpts, they will be asked to play the assessment piece. Their performance on the assessment piece will be scored based on steady pulse, note accuracy, and tone quality.

The experimental group will go through a similar process as the control group. The experimental group, however, will not have the three excerpts from which to learn but will be given a sheet of paper that is similar to a fingering chart with the notes that they will be using on it. They will be allotted a time frame to create melodies using these notes. They will be assured that they are not being judged on their improvisation skills and should play whatever comes to mind using the notes on the paper. After the improvisation period, they will be asked to play the same assessment piece the control group played. They will be scored using the same rubric as the control group.

All the tests will be audio recorded, the researcher will score all the recordings and a second expert will be asked to score 20% of the recording. The researcher will compute reliability measures from the results and have set the target reliability at $r = .80$. When the

reliability observer listens to the audio recordings, both will go over the criteria that they will be assessing the students by. Then all the recordings will be scored independently.

The results of this study would help provide further information on the possibility of an effect of improvisation on literacy. This study would give insight into the immediate correlations. The use of improvisation as a means to assist in music literacy is still a newer concept and field in music education and requires more research to fully understand the capabilities and possible usage as a means to assist in fundamental music teaching.

Conclusion

Improvisation not only has benefits for music students at a beginning level. It also is part of the National Music Standards. Anchors under the “Create” area of the standards have many aspects relating to improvisation that could be met with lessons built around the use of improvisation. There are sections in the national curriculum for improvisation and creativity across all grade levels. Improvisation could be a method that teachers can utilize for instruction.

More studies need to be done to further assess the possible applications and benefits for improvisation. Although there are studies that have been done, more could further answer questions regarding how it affects student performance.

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APPENDIX A: LESSON OUTLINES FOR IMPROVISATION USE IN CLASSROOM

Lesson 1: Finishing the Phrase**Grade:** 7th or 8th**Use of Improvisation:** Improvising the final phrase.**Pre-requisite knowledge:** Bb major pentatonic scale, steady beat, half notes, whole notes, eighth notes, quarter notes, and related rest, bars/measures.**Summary of task:** The teacher will play the first phrase of a melody. The students will listen to the melody one time and then each student will have a chance to improvise the answer phrase.**Steps after warming up**

1. Explain that the students will hear the teacher play a four-bar phrase in the key of Bb. Then the students will have the opportunity to play a phrase that they improvise back at the teacher.
2. Explain the rules of the improvisation: Must use only the notes of the Bb pentatonic, Must start and end on Bb. Must take up all 4 bars. Can use any articulation and note value that was previously covered.
3. Play an example of an answer melody, showing the seamless transition with a metronome playing.
4. Give each student a chance to play through the improvisation, giving feedback after each performance.
5. Go over the overview of what the teacher observed about the improvisations.

Relation to Literacy: This gives practice on skills regarding note choice in the scale and rhythmic values. This also trains the students ears to hear what the teacher played and call back with related material. The students and teacher could also introduce dictation of what the student played to show them how the notation matched what they played.

Lesson 2: Scale Study (for this example C major)**Grade:** 8th or 9th**Usage of improvisation:** Free improvisation over a harmonic soundscape.**Pre-requisite information:** Instrument carriage and embouchure, notes of the C major scale.

Summary: The student will use the notes of the C major scale to play whatever they feel like (a free improvisation) over either a drone of a C major chord or over a groove and chord progression (tonically in C major, either C major only (tonicizing sound), a I-V sound allowing for two chords each, ii-V-I in C (allowing for all notes to be present in the improvisation as “correct notes” while still tonicizing C). Some possible methods for the backing track would be to either play them on a piano, use a backing-track found on YouTube, or use the IRealPro app to design a backing track suited to the class needs.

Steps: (assuming C major has already been taught note by note)

1. Explain the procedure that will happen for everyone to improvise over the backing track.
2. Have the whole group play the C major scale starting from tonic to tonic, then have them start of different pitches and go up and down the scale.
3. Play an example of a small improvisation to model the process.
4. Allow each student a moment to improvise over the backing track.
5. Give feedback for every students and supportive compliments on improvisatory use of the notes.

Relation to Literacy: Using this will increase their comfortability with the scale as a group of notes instead of a chain of notes from root to root. Which will help them when playing a written piece to relate it to key center instead of needing to see courtesy accidentals. This would be a good introduction to key signatures prior to showing them in notation. This would also be effective if you were to play a small melody and then play it in a different key and show them how they look on notation.

Lesson 3: Brass partials**Grade:** 5th or 6th**Use of Improvisation:** Call and response.**Prerequisites:** Instrument carriage, posture and embouchure, sirens.

Summary: Brass class students will start on their lowest (not fundamental) partial and improvise a line using the partials on their instrument (French horns with trigger down) and the class will respond with the same partials.

Steps

1. Warm up by the teacher doing call and response partial leaps. Start off very easy and gradually get more challenging.
2. Give students a description of the parameters that they will be creating this call with. 2 measures, whole, half, quarter note divisions. Must start on the concert Bb.
3. Give each student a chance to make some calls and the class to respond.
4. With each call and response draw on the board a visualization of the notes by use of lines. This can later be translated into musical notation.

Relation to Literacy: Having the student experience the partials builds their skill development, then showing it by way of lines shows the contour of what the sound they are making looks like. Then this can be used to show how the contour looks like on the staff so they can help to visualize what the notes on the staff relate to on their instrument in regards of partials.

Lesson 4: Articulation**Grade:** 5th or 6th**Use of Improvisation:** Using articulation on a basic rhythm.**Prerequisites:** Instrument carriage, posture, and embouchure, quarter note and eighth notes, Bb major first five notes.**Summary:** After going over the possible articulations (staccato and accent), they will play a few passages of quarter notes with the students repeating what the teacher plays. A defined melody will already be established by the teacher with no articulations established. Each student will then take turns creating their own going around the class.**Steps**

1. Go over how to play a staccato and accent.
2. Play call and response with the teacher using only quarter notes and the articulations.
3. Play the one measure melody for the students and have them play it back a few times.
4. Have each student play it with their own articulation, then the class will repeat it back with the same articulations.
5. With randomly selected students throughout the lesson, draw a symbol to represent the articulations.
6. Give feedback and go over the information.

Relation to Literacy: Giving them the experience with different articulations and the aspect of performing those articulations will develop their skill of playing them. Then introduce a symbol by itself and use that to indicate the articulations they have already worked on. Then introduce it through notation.

Lesson 5: Rhythmic Paraphrasing

Grade: 5th or 6th

Use of Improvisation: Changing rhythmic values of already known songs to improvise rhythms.

Prerequisites: Instrument carriage, posture, and embouchure, pentatonic scale or first five notes of the scale

Summary: The teacher will perform and teach the melody of a folk song that the students know (such for this example: “Mary Had a Little Lamb”). Then after they all play the melody, the teacher would tell them that they could play two notes instead of one for the beat. After the teacher demonstrates, the students would improvise by incorporating it into their performance of the melody. The teacher would describe how before they were all quarter-notes, then they became eight-notes when they played two in place of one.

Steps

1. Teacher performs folk song and teaches the students how to play it.
2. Demonstrates adding two notes in place of one. Models and has the students play it back.
3. Gives students opportunities to play melody with their own rhythmic improvisations.
4. Explain the difference between the regional rhythmic value of quarter notes and the new rhythmic value of eights.

Relation to Literacy: Giving them the experience of rhythm with an already known folk song and how they relate to it. This can be taken farther with any rhythmic value division or addition. The more complex, the later in the developmental level this should take place. Mary had a little lamb with quarters and eighths can take place in 5th or 6th grade. When introducing the notational way of notating rhythm, you can relate it to their experiences with changing the rhythms of folk songs they already know.

APPENDIX B: ORIGINAL RESEARCH STUDY

Explanation of Research Project

The original purpose of this honors project was to conduct a study on the effects of improvisation on reading musical notation. Prior to being able to conduct the experiment, events caused by Covid-19 caused the experiment to be too dangerous with health concerns with the pandemic to conduct.

The purpose of including the handouts and parts of the original project in the appendixes of the literature review is to give a foundation for a possible research experiment. This is an IRB approved study.

A select group of volunteers were to be stratified into two groups. Each group would have been learning the same material through different teaching strategies. While one group would have been learning through reading excerpts, the other would have been experiencing the material through improvisation. After all recordings took place, the researcher and a second unbiased person would have listened to the recordings. As they are listening, they would both have recorded their findings on a rubric. From this rubric, statistical analysis would have been used to find any possible correlation of improvisation and the results from the assessment piece recording.

Script: Experimental Group

(Participant enters room with instrument already assembled. Give and explain consent form and answer questions. After receiving the signed consent form, begin the script)

(Puts appropriate folder on stand)

Researcher- “Please open the Clarinet/Saxophone Experimental Group folder”

(Participant gets the folder and opens the folder)

Researcher- “For this, I ask that you talk as little as possible and not give any indication of who you are for your own privacy. We will be using four notes to form melodies using improvisation. We will begin each portion by playing a new note and performing the note with good tone. You will be given a fingering chart so that you know what the note looks like on the staff. After you have produced each new note, I will point at the different notes on the fingering chart and you will play them as soon as I point at each note. Then I will turn on the metronome at 100bpm and you should improvise melodies using all the notes that were covered in the study at that point. For the improvisation, play with the purpose of connecting the sound of the note with the way it looks. Continue playing until you feel comfortable with what the note sounds like and how it looks. Try to use all 30 seconds to familiarize yourself with the sound of the notes and how they relate to each other. We will then finish by playing a notated melody that includes all the notes. Do you have any questions?”

(Answer questions)

Researcher- “We will now turn on the recorder and begin the session.”

(Turn on Recorder)

Researcher- “This is Participant number #. Please look at the Fingering Chart. We will begin with the first two notes. First, look at the first note on the fingering chart staff which is B (clarinet)/F#(saxophone). Now look at the fingering below. Play the first note on the Fingering Chart, B/F#.”

(Participant plays B/F#)

Researcher – “Now, look at the second note on the fingering chart staff which is C/G. Look at the fingering below. Play the second note.”

(Participant plays second note C/G)

Researcher – “Play the notes that I point to as soon as you can when I point at them”

(Researcher points at the notes on the fingering chart for 15 seconds, participant plays the notes)

Researcher – “I will turn on the metronome. Using any rhythms, please improvise melodies using [B and C] / [F# and G] for 30 seconds using any rhythm you would like. Begin.”

(Metronome = 100bpm)

(Start timer for 30 seconds. Participant improvises using [B and C] / [F# and G].)

Researcher – “Time’s up. Please look at the third note on the fingering chart staff which is D/A and look at the fingering below. Play the third note.”

(Participant plays D/A)

Researcher – “Play the notes that I point to as soon as you can when I point at them”

(Researcher points at the notes on the fingering chart for 15 seconds, participant plays the notes)

Researcher – “I will turn on the metronome. Using any rhythms, please improvise melodies using [B, C, and D] / [F#, G and A] for 30 seconds. Begin.”

(Metronome = 100bpm)

(Start timer for 30 seconds. Participant improvises using [B, C, and D] / [F#, G and A].)

Researcher – “Time’s up. Please look at the fourth note on the fingering chart staff which is E/B and look at the fingering below. Play the fourth note.”

(Participant plays E/B)

Researcher – “Play the notes that I point to as soon as you can when I point at them”

(Researcher points at the notes on the fingering chart for 15 seconds, participant plays the notes)

Researcher – “I will turn on the metronome. Using any rhythms, please improvise melodies using [B, C, D and E] / [F#, G, A and B] for 30 seconds. Begin.”

(Metronome = 100bpm)

(Start timer for 30 seconds. Participant improvises using [B, C, D and E] / [F#, G, A and B])

Researcher – “Time’s up. Please turn to the page with the melody. I will turn on the metronome and you will have 30 seconds to look through the piece. At the end of the time, you will play the melody. When you begin to play, I will turn off the metronome. Ready. Go.”

(Turn on metronome at BPM = 100, begin timer for 30 seconds)

(Timer runs out)

Research – “That is the end of the time. Please play the melody.”

(Once the participant begins playing, turn off the metronome)

(When finished playing, Turn off audio recorder)

Researcher – “Thank you so much for participating. Have a nice day”

Script: Control Group

(Participant enters room with instrument already assembled. Give and explain consent form and answer questions. After receiving the signed consent form, begin the script)

(Puts appropriate folder on stand)

Researcher- "Please open the Clarinet/Saxophone Experimental Group folder"

(Participant gets the folder and opens the folder)

Researcher- "For this, I ask that you talk as little as possible and not give any indication of who you are for your own privacy. We will be playing each new note at the beginning of each musical excerpt. Then I will count you in with a metronome at the appropriate tempo and we will finger the note names. After this, we will play the excerpt and I will turn off the metronome once you start playing. We will then finish by playing one final melody that includes all of the notes. Do you have any questions?"

(Answer questions)

Researcher- "We will now turn on the recorder and begin the session."

(Turn on Recorder)

Researcher- "This is Participant number #. Please look at the Learning Excerpts. We will begin with Excerpt 1. Please play the first note which is B(clarinet)/F#(saxophone)."

[Participant plays the B/F#]

Researcher – "Observe where the note B/F# is written on the staff"

Researcher – "Now play the second note, C/G."

(Participant plays the second note C/G)

Researcher – "Observe where the note C/G is written on the staff"

(Turns on metronome at BPM = 100)

Researcher- "We will finger along first."

(Count the Participant in "1. 2. ready, go.")

(Participant fingers each note of the excerpt in time with the metronome)

Researcher – "Play it when you're ready."

(Once the participant starts playing turn off the metronome)

Researcher – "Now let's move onto excerpt 2. Play the D/A."

(Participant plays the D/A)

Researcher – “Observe where the note D/A is written on the staff.”

(Turn on metronome at BPM = 100)

Researcher- “We will finger along first.”

(Count the participant in “1. 2. ready, go.”)

Researcher – “Play it when you’re ready”

(Once the participant starts playing turn off the metronome)

Researcher – “Now let’s move onto excerpt 3. Play the E/B.”

(Participant plays the E/B)

Researcher – “Observe where the note E/B is written on the staff”

(Turn on metronome at BPM = 100)

Researcher- “We will finger along first.”

(Count the participant in “1. 2. ready, go.”)

Researcher – “Play it when you’re ready.”

(Once the participant starts playing turn off the metronome)

Researcher – “Now please turn to the page with the melody. I will start the metronome and you will have 30 seconds to look through the piece. At the end of the time, you will play the melody. When you begin to play, I will turn off the metronome. Ready. Go.”

(Turns on metronome at BPM =100, begins timer for 30 seconds)

(Timer runs out)

Research – “That is the end of the time. Please play the melody.”

(Once the participant starts playing, turn off the metronome)

(When finished playing, turn off audio recorder)

Researcher – “Thank you so much for participating. Have a nice day”



Office of Research Administration
Akron, OH 44325-2102

NOTICE OF APPROVAL

Date: 4/7/2020
To: Brandon Tyson, School of Music
From: Kathryn Watkins
IRB Number: 20200305
Title: Effects of improvisation on reading musical notation

Approval Date: 4/2/2020

Thank you for submitting your Request for Exemption to the IRB for review. Your protocol represents minimal risk to subjects and qualifies for exemption from the federal regulations under the category below:

- Exemption 1** – Research conducted in established or commonly accepted educational settings, involving normal educational practices.
- Exemption 2** – Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior.
- Exemption 3** – Research involving the use of benign behavioral interventions in conjunction with the collection of information from adult subjects through verbal or written responses (including data entry) or audiovisual recordings, and subjects have prospectively agreed to the intervention.
- Exemption 4** – Research involving the collection or study of existing data, documents, records, biospecimens specimens, pathological specimens, or diagnostic specimens.
- Exemption 5** – Research and demonstration projects conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine public programs or benefits.
- Exemption 6** – Taste and food quality evaluation and consumer acceptance studies.
- Exemption 7** – Research involving the use of a broad consent for the storage or maintenance of identifiable information and/or biospecimens for future research.
- Exemption 8** – Research involving the use of a broad consent for the use of identifiable information and/or biospecimens for future research.

Annual continuation applications are not required for exempt projects. If you make changes to the study's design or procedures that increase the risk to subjects or include activities that do not fall within the approved exemption category, please contact the IRB to discuss whether or not a new application must be submitted. Any such changes or modifications must be reviewed and approved by the IRB prior to implementation.

Please retain this letter for your files. This office will hold your exemption application for a period of three years from the approval date. If you wish to continue this protocol beyond this period, you will need to submit another Exemption Request. If the research is being conducted for a master's thesis or doctoral dissertation, the student must file a copy of this letter with the thesis or dissertation.

Approved consent form/s enclosed

UNIVERSITY OF AKRON**CONSENT FORM**

You have been invited to participate in a research study being conducted by Brandon Tyson, Senior Music Education Honors Student at The University of Akron. The purpose of this consent form is to give you the information needed to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the research, possible risks and benefits, your right to volunteer, what you will be doing, and anything else about the research. When all your questions have been answered, you can decide if you want to participate in the study or not.

PURPOSE OF THE STUDY

The purpose of this study is to learn more about the correlation between improvisation and music literacy.

STUDY PROCEDURE

You will be randomly assigned to one of two groups. Participants will learn three new pitches on their instrument using either improvisation or traditional notation methods. Then you will be asked to play a short musical excerpt to assess the effectiveness of each process. These sessions will be audio-recorded.

INCLUSION CRITERIA

All students in the Clarinet and Saxophone Methods course will be recruited, with a target sample of 18 students total.

CONFIDENTIALITY

Data will be collected individually by the researcher. Participants performances will be recorded in an audio only format. Data will be coded by a unique ID number. All results will be compiled so that no individual information will be identifiable

RISKS OR DISCOMFORTS

You will be asked to demonstrate skills that are typical in the instrumental methods courses. Some students may feel discomfort with improvising or playing alone.

BENEFITS OF THE STUDY

Students who participate will receive extra playing practice and some will receive improvisation practice. Participants may or may not experience benefits in skill development on their instrument.

ALTERNATIVES TO TAKING PART IN THIS STUDY

The alternative is to continue participating normally in class.

APPROVED
IRB 4/2/2020
Date _____
The University of Akron
EXEMPT 1

RIGHT TO REFUSE OR WITHDRAW

Following your consent, your participation in this study remains voluntary. You may withdraw from the study at any time without penalty. Whether or not you participate will have no impact on your grade in class. There will be no hard feelings if you refuse to participate in this study.

WHO TO CONTACT WITH QUESTIONS

If you have any questions about this study, you may call Brandon Tyson at 330-639-8266 or contact Dr. Russell at crussell@akron.edu. This research has been approved by the University of Akron Institutional Review Board. If you have any questions about your rights as a research participant, you can contact the IRB at (330) 972-8311.

I have read the information provided and all my questions have been answered. I voluntarily agree to the participation in this study and to the audio recording of the session. I will receive a copy of my consent form for my information.

Printed name of Student

Signature

Date

Have you ever played a woodwind instrument?

Yes No

Have you ever participated in jazz or improvised?

Yes No

Circle all music clefs in which you are fluent.

Treble Alto Tenor Bass

APPROVED
IRB *4/2/2020*
Date _____
The University of Akron
EXEMPT 1

Grading Rubric

Participant #: _____

Reviewer Name: _____

	5	4	3	2	1
Pitch Accuracy	Student missed 0-1 pitches on the assessment piece. (This does not account for rhythms or changes in tone)	Student missed 2-4 pitches on assessment piece.	Student missed 5-7 pitches on assessment piece.	Student missed 8-11 pitches on assessment piece.	Student missed 12-all pitches on assessment piece.
Steady Beat/ Hesitation	Steady beat remained consistent. There were no moments of sudden delay or rushed time. (This does not include rushing or dragging)	There was 1 moment of hesitation in time or sudden shift in tempo.	There were 2 moments of hesitation in time or sudden shift in tempo.	There were 3 moments of hesitation in time or sudden shift in tempo.	There were 4 moments of hesitation in time or sudden shift in tempo.
Consistent Tone	Tone of each note is consistent to the overall tone of the player.	The player loses consistent tone on 1-2 notes.	The player loses consistent tone on 3-5 notes.	The player loses consistent tone on 6-10 notes.	The player loses consistent tone on 11-all notes.

Pitch Accuracy: _____/5

Steady Beat/ Hesitation: _____/5

Consistent Tone: _____/5

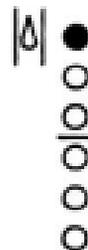
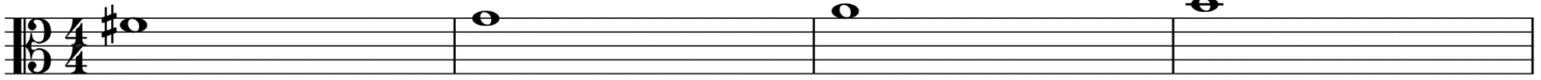
Saxophone Fingering Chart

F#

G

A

B



Saxophone Learning Excerpts

Excerpt 1

F# G



Excerpt 2

A



Excerpt 3

B



Saxophone Assessment



8



Clarinet Fingering Chart

B

C

D

E



