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**Influence of improvisation on aural and musical score analysis
achievement of beginning piano students**

Many beginning piano methods for children from different countries include improvisation. Some of them have less or more developed model of improvisation. Despite the presence of improvisation in piano methods, most piano teachers do not recognize the importance of improvisation and use it rarely in instruction (Albergo, 1988; Heilbut, 1993). In the public elementary music schools in Macedonia improvisation is not used in beginning piano instruction for children.

Instrumental music improvisation research addresses the importance of improvisation and the need for it in every instrumental curriculum (Azzara, 1992; McPherson, 1996; Montano, 1983; J. Wilson 1971).

The studies of Azzara (1992), McPherson (1996), Montano (1983) and J. Wilson (1971) studied the relationship between improvisation and the ability to read music as a criterion measure of musical achievement. The results of these studies suggest that while improvisation is a valuable skill in its own right, it appears that improvisation ability transfers to a student's clearer comprehension of music performed from notation. Other researchers focused on measurement of musical creativity (Gorder, 1980; Hassler & Feil, 1986; McPherson, 1993, 1995, 1996; Vaughan, 1977; Vaughan & Meyers, 1971; Webster, 1977, 1987b).

However, none of the instrumental music improvisation researchers focus on beginning piano instruction for children and the influence of improvisation on aural and musical score analysis achievement of beginning piano students.

Purpose

The purpose of this study was to develop a model of improvisation and to examine its influence on the aural and musical score analysis achievement of beginning piano students, 7- to 9- years old.

Definition

In this study, improvisation is not a complex and advanced musical task, but an activity for child beginners. Improvisation is here viewed as a teacher guided exploration of different sounds and musical lines, a spontaneous expression of musical thoughts and feelings as well as an interactive musical conversation between the child and the teacher within certain guidelines.

Method

The primary objective of this study was the creation of a model of improvisation. The model of improvisation was created on the following basis:

- Analysis of piano methods for child beginners and teacher guides which include improvisation.
- The national piano curriculum for the public elementary music schools in Macedonia.
- The first Macedonian piano method by Lepsa Piperkovska, which is used in the first year of piano instruction in the public elementary music schools in Macedonia. This piano method does not include improvisation.

The model of improvisation consisted of the following elements: pentatonic scale, imitation of animals and sounds of nature, intervals, half and whole steps, C-, G- and F-major scales, question and answer, transposition, sequences and cadences. This model of improvisation was created for use in the first three months of individual beginning piano instruction for the public elementary music schools in Macedonia. It was decided that the time frame of the experiment should be three months because of the model of music development proposed by Swanwick and Tillman (1986; Swanwick, 1991). According to this model, by the age of 7 or 8, children are able to create patterns and phrases that fall

into two-, four- or eight-bar units. This children ability matched the length of learned piano pieces. According to the Macedonian national piano curriculum most of the learned piano pieces in the first three months are eight bars long. After this period of time the learned piano pieces are longer.

The analysis of elements of the model of improvisation shows that one element can include all the other elements in itself. This is the element composed of a musical question and answer. It was supposed that through improvisational exercises with questions and answers the following could be developed:

1. The aural analysis achievement, through aural recognition of questions and answers;
2. The musical score analysis achievement, through:
 - recognition of written questions and answers; and
 - finding the end of a written question and the beginning of a written answer.

The development of those skills is very important for good musical interpretation of the repertoire learned in the first three months of the beginning piano instructions in Macedonia. Two thirds of the learned piano pieces in this period of time are composed of questions and answers.

After the creation of the model of improvisation the following general hypothesis was formulated: There will be no difference between the children who studied improvisation and the children who did not study improvisation in the beginning piano instruction in their aural and musical score analysis achievement.

From this general hypothesis three null hypotheses were formulated:

Hypothesis 1: There will be no difference between the aural analysis achievement through aural recognition of questions and answers of children who studied improvisation and children who did not study improvisation in beginning piano instruction.

Hypothesis 2: There will be no difference between the musical score analysis achievement through recognition of written questions and answers of children who studied improvisation and children who did not study improvisation in beginning piano instruction.

Hypothesis 3: There will be no difference between musical score analysis achievement through finding the end of a written question and the beginning of a written answer of children who studied improvisation and children who did not study improvisation in beginning piano instruction.

For the purpose of testing these three hypotheses one experimental (n=5) and one control group (n=5) were created. The participants from the experimental and the control group were chosen from 91 musically gifted children, 7- to 9- years old, students of preparatory year in the public elementary music school “Ilija Nikolovski-Luj” in Skopje, Macedonia. The 91 students of preparatory year were previously selected from 200 children.

Each participant from the experimental group was matched with a participant from the control group. The pairs were matched under the following criteria:

- both students in the pair were beginning piano students;
- they were of the same age;
- they had the same scores on the test Intermediate Measures of Music Audiation from E. Gordon;
- they had the highest grade (5) in Solfège;
- each student received 24 piano lessons altogether, two lessons per week.

Both groups received the same individual beginning piano instruction, the difference being that the experimental group also received improvisation instruction based on the created model of improvisation while the control group did not.

The experimental group began with the improvisation instruction from the first piano lesson. The improvisational activities started on black keys with teacher guided exploration of different sounds and melodic lines. On the next three lessons the improvisational activities continued with transposition of different melodic lines, clusters, intervals 2nd, 3rd and 5th from black keys on white keys. These activities were played on the whole keyboard. On the fifth lesson was introduced the music notation and the participants began to play melodies from musical score. Every next lesson each participant learned two or three pieces from musical score. The improvisational activities continued with different intervallic improvisation exercises and their transposition. After

successfully mastering of these exercises, the names of the intervals were learned. On the eighth lesson was learned C-Major with its dominant and tonic. The improvisational activities included improvisation with sequences in C-Major. On the eleventh lesson was learned the musical phrase with its two basic components: the (musical) question and the (musical) answer. The question and the answer had always the same length, the question usually finishing on dominant and the answer on tonic. On three questions played by the teacher, each participant had to improvise an answer with the same length as the question and right final note. The participants also improvised questions and the teacher improvised answers. On the twelfth lesson F-Major was learned and new questions and answers were improvised in this tonality. On the 14-th lesson G-Major was learned and questions and answers were improvised in this scale. On the 16-th and 17-th lesson sequences in C-, F- and G-Major were made and then followed the theory about what sequence is. Between the 19th lesson and the last one 24th, questions and answers in C-, F-, and G-Major were improvised and transposed. For homework, the participants had to write their improvised questions and answers in notes.

After 24 lessons each child learned 35 pieces from musical score and created 30 improvisational tasks. The pieces and the improvisations included whole, half, quarter and eighth notes. The pieces from the musical score were in Major or minor scales with up to three sharps or flats. The improvisations were in pentatonic scale on black and white keys, C-, F-, G- Major and a-minor.

The control group did not receive any improvisation instruction. The first two lessons the participants played melodies by ear and on the third lesson they started to learn the music notation and to perform pieces from musical score. After 24 piano lessons each participant learned 35 pieces from musical score. These pieces included whole, half, quarter and eighth notes and were in Major or minor scales with up to three sharps or flats. The theoretical units as intervals, C-, F-, G- Major, sequences, transposition, questions and answers were only theoretically learned without any creative practical experience.

After a period of three months, that is 24 piano lessons, the two groups were given three tests for aural and musical score analysis achievement. The three tests were especially created for this study.

The first test was designed for measuring the aural analysis achievement, through aural recognition of musical questions and musical answers. The test included 20 questions and 20 answers, or a total of 40 items. The questions and answers were chosen from the children's classical music repertoire. All questions and answers were tonal, the questions usually ending on dominant and the answers always ending on tonic. The order and tonality of the questions and answers were as follows:

Q for question A for answer

Q (C-Major), A (C-Major), Q (G-Major), Q (F-Major), A (G-Major), A (F-Major), Q (a-minor), A (a-minor), A (g-minor), Q (g-minor), Q (F-Major), A (G-Major), Q (G-Major), A (F-Major), Q (e-minor), Q (G-Major), A (a-minor), A (G-Major), Q (G-Major), A (c-minor), A (d-minor), Q (d-minor), Q (C-Major), A (C-Major), A (e-minor), Q (D-Major), Q (e-minor), A (D-Major), Q (a-minor), A (D-Major), Q (A-Major), Q (D-Major), A (a-minor), Q (C-Major), A (G-Major), Q (C-Major), A (C-Major), A (a-minor), Q (C-Major), A (a-minor).

The length of the questions and answers was as follows: 14 questions and 14 answers were four-bar long, two questions and two answers were six-bar long, four questions and four answers were eighth-bar long.

The test was displayed on audio tape and was 13 minutes long. The test answer sheet had two possible answer choices for each of the 40 items: a) question, b) answer. The participants had to circle one of the two choices. The participants had five seconds to circle each item.

The second and the third test were designed for measuring the musical score analysis achievement. The second test measured the recognition of written musical questions and written musical answers. The test was consisted of ten questions and ten

answers or 20 items in total chosen from the children's classical music repertoire. Each question and answer was four bars long. The questions and answers were in C-, F- or G-Major. For each written item there were two possible answer choices; a) question, b) answer.

The order of the written questions and answers was the following:

Q for question A for answer

Q (C-Major), A (C-Major), Q (G-Major), A (G-Major), A (F-Major), Q (F-Major), Q (C-Major), A (G-Major), Q (F-Major), Q (C-Major), A (F-Major), Q (G-Major), A (C-Major), A (G-Major), Q (F-Major), A (F-Major), Q (C-Major), A (G-Major), A (C-Major), Q (F-Major).

The participants had 30 minutes to do the test.

The third test measured the participant's capacity of finding the end of a written question and the beginning of a written answer. The test included 20 written musical phrases. Each musical phrase was composed of a question and answer, always beginning with the question and ending with the answer. The phrases were in C-, F- and G-Major. The length of the phrases was different and was as follows: phrases 1-3 were four-bar unit long, phrases 4-6 were six-bar unit long, phrases 7-13 were eighth-bar unit long, phrases 14-16 were twelve-bar unit long, phrases 17-20 were sixteen-bar unit long. Some of the phrases were written only in violin clef, while the others were written in violin and bass clef. Each participant had to put X as a sign at the end of the question and the beginning of the answer.

The participants had 30 minutes for the test.

Results

The results of the experimental group showed significantly higher scores than the results of the control group. The participants from the experimental group also showed higher motivation for piano instruction, than the participants from the control group.

After this experiment, the participants in the experimental and the control group continued to learn how to play the piano from other piano teachers. The participants in the experimental group showed stronger motivation for public piano performances than the participants in the control group. Two participants of the experimental group won prizes on piano competitions for children. One of the participants from the experimental group won the first prize for composition of children songs.

Conclusions

It is expected that the results of this study will provide piano instructors with information regarding specific strategies for teaching improvisation. The development of aural and musical score analysis skills is important for understanding and learning new repertoire quickly. The development of these skills through improvisation is a very appropriate method for 7- to 9- year - old children.

Future research should continue to examine how motivation can be increased through improvisation as part of piano instrumental curricula and the development of different models of improvisation.

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