

PSYCHOLOGY OF MASTERING STRUCTURAL COMBINATORICS IN THE ART OF MUSICAL IMPROVISATION

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Abstract

To address the problem of organizing music material for improvisation and its structuring are compulsory requirements at optimizing students' educational process at higher education institutions. The paper is concerned with the analysis of psychology of the development of students' improvisational thinking, based on the method of structuring the music material (Smith, 1964; Сапонов, 1982, 1989, 1996; Гнилов, 1992; Волнянский, 2012).

The aptitude for structural combinatorics of different music materials was encouraged and developed in the 18th century. This skill is based on the reconstruction of the structure of music material belonging to different styles and trends. But the limits of what is possible in the development of students' improvisational thinking depend on their abilities. On the one hand, the principal individual-psychological factors of effectiveness are the basic or general musical abilities. Contemporary science considers that the basic musical abilities are: musical hearing, sense of musical rhythm, musical memory, musical thinking and musical imagination. On the other hand, today's scientific literature offers a lot of data on correlations between the speed of the reaction of choice and indicators of intelligence tests: the higher intelligence is, the quicker many choice reactions take place.

The case study research revealed a number of simplifications the students had made in creative assignments at modelling their improvisations, and namely: students had ignored issues of structuring the music material for improvisation, but to address the problem of organizing music material of improvisation, and its structuring are compulsory requirements for optimizing the educational process at higher education institutions.

Keywords: *musical improvisation, psychology of learning, structural combinatorics, decorative-processing approach, principal specific individual-psychological factors of effectiveness, didactic model, content analysis of improviser's activity*

Introduction

Though the studies on the methods of optimizing creative processes of learning the foundations of improvisation are successfully carried out on the basis of musical modelling (e. g. Reimer, 1989; Elliott, 1995; Hamilton, 2002; Martin, 2005; Hallam, 2006; Спигин, 2008; Shaughnessy, 2012; Spigins, 2013), there are several questions in this field of knowledge which still remain unanswered. In the result of a specific case research, we discovered a number of simplifications made by students in the creative assignments at modelling their improvisations, and namely: students had ignored issues of structuring the music material of improvisation, but handling the problem of organizing the music material for improvisation and of its structuring is a compulsory requirement for the optimization of students' educational process in a higher education institution. Therefore, this paper analyses psychological aspects of the development of students' improvisational thinking based on two approaches to structuring the music material for improvisation, which sooner supplement than contradict each other. These are *decorative-processing approach* in praxis of improvisation and *structural combinatorics* in praxis of improvisation (e. g. Smith, 1964; Сапонов, 1982, 1989, 1996; Гнилов, 1992; Волнянский, 2012).

A decorative-processing approach in praxis of improvisation and structural combinatorics of various music materials were encouraged and developed in the 18th century (Сапонов, 1982, 1989, 1996). This skill is based on the reconstruction of the structure of various music materials belonging to different music styles and trends. In the result of such a reconstruction, there emerges a new improvisation with new possibilities of intoning the initial material. These approaches effectively develop psychology of mastering the structural combinatorics in the art of musical improvisation.

Research object: psychology of developing students' improvisational thinking in the process of mastering a decorative-processing approach and structural combinatorics in the praxis of improvisation.

Research aim: to analyse the nature of decorative-processing approach and structural combinatorics in the practice of students' improvisation, and to explore the impact of the process of mastering the decorative-processing approach and structural combinatorics in practice of students' improvisation on psychology of the development of students' improvisational thinking.

Research methods: methods used within the frame of case study are as follows: analysis of literature on philosophy, psychology, musicology, and pedagogy; logical method, modelling of improviser's activity, case study research.

Decorative-processing Approach in Praxis of Improvisation

This paper will focus on and analyse one of the most important sides of improvisational creativity which determines the principles and different approaches to the process of creating an improvisation. This is the "decorative-processing approach" (Гнилов, 1992). According to one of the oldest representatives of American piano jazz, Willy Smith (1964), we learnt the melody by ear and then tried to embellish it with our own ideas. To play music by ear implies the ability to produce it

without notes. The practice of embellishing the theme in a piano improvisation contributed to the emergence of such concepts as *embellishment*, *filling-in* a. o.

Let's look at the nature of a filling-in practice in a piano improvisation. Being faced with the necessity to embellish a melody during the implementation of a decorative-processing approach, the improviser begins to seek for the sources of ornamental material. Learners, who have not been confronted with the improvisation before, cannot independently generate decorative-processing material for modelling specific styles, since they do not have the auditory experience with the necessary content as yet. After choosing the style for their own improvisations, it would be necessary for them to borrow this material from reliable sources. The process of borrowing the material and its further integration into a decorative-processing theme were discussed with the students by using the example of assimilating and developing musical ideas taken from works by a well-known pianist, composer and improviser O. Peterson (Spigins, 2013; Спигин, 2019). He is the improviser who most completely and comprehensively has elaborated the principles of practical improvisational development of music material. It was shown that, to a certain degree, any melodic-rhythmic construction may become a "pattern" – a model (rhythmic figure, melodic construction, cycle of accents or sequence of chords, formula of texture etc.).

A pattern is a peculiar building material for a musical development. It is a stable structural formation which does not lose its stability at being repeated several times, but allows its own diverse variation (changing of accents, transposition, sequencing).

Structural Combinatorics in Praxis of Improvisation

This paper will look at the problems of the architectonics (composition) of improvisation processes in music of the 20th century, based on making generalizations about tendencies of improvisational thinking in the epoch of postmodernism. In the result of the most complicated evolution which the art of music had undergone, the problems of architectonics became especially acute. A new approach under the name of "structural combinatorics" emerged then. This approach allows to freely structure the music material independent of the nature of its sound-pitch and syntactic organization. The main principle of the structural combinatorics is modifying and combining or a modified combining of structural elements.

On the basis of a decorative-processing approach in praxis of improvisation, students developed their skills in improvisations of the type: a) paraphrase, b) formulary improvisation; c) motif improvisation.

It is quite obvious that at adopting a decorative-processing approach in praxis of improvisation, students are restricted only by the sound-pitch and syntactic organization of that or another language of music material. In music, whose organization is not tonal and which lacks a generally accepted system and all kinds of models emerging from it – both compositional and transformative (the result of transforming the initial text), structuring becomes improvisers' personal prerogative and takes place on the basis of a conceptual space organized individually. This is time – space where various sound structures exist: motifs, figures, patterns and much larger structural objects, such as, for instance, different combined music systems.

Everything said above suggests a new understanding about the architectonics of a compositional-improvisational process.

In practice of improvisation, structural combinatorics allows to freely structure music material independent of the nature of its sound-pitch and syntactic organization. However, it requires special psychological qualities of students' personality. Students are faced with the necessity to process a vast amount of information within a very limited period of time given for sorting out possible alternatives for coping with their creative tasks. At this point, it becomes clear that this process requires special psychological abilities. By using a decorative-processing approach in the praxis of improvisation, students develop their ability to quickly respond to a changing structure of a sound flow.

Contemporary literature offers a lot of information on the correlation between the speed of responding to changes and indicators of intelligence tests: the higher the intelligence is, the quicker the response to changes is made. (Айзенк, 1995; Чуприкова & Ратанова, 1995; Knorr & Neubauer, 1996; Чуприкова, 1997, 2007; Ратанова & Чуприкова, 2004). Thus, G. Aisenk (Айзенк, 1995) interprets a biological intellect as a simple speed of transmitting nervous impulses along the neuron chains. In turn, N. Chuprikova's (Чуприкова, 2007) conception offers a different interpretation of a link existing between the intellect and time of the reaction to changes: it is based on such a perception about the nature of intellect that contradicts Aisenk's idea. N. Chuprikova has shown that the time of a simple reaction is shorter for more gifted children aged 9, while for grown-ups (17 years old) such differences were not identified (Чуприкова, 2007).

This paper describes a specific case study research where the analysis is principally oriented towards a practical implementation of goals and tasks formulated before (speed of reaction to changes in case of structural combinatorics). The term *case study* used in this paper complies with the definition given by R. Yin (1989), who interprets *case study* as empirical research, which explores a contemporary phenomenon within the context of existing reality. The borderline between the phenomenon and the context is not evident, and a lot of multiform sources of information are used in it.

There is no special moment when data collecting for a case study begins (Stake, 1995). This deep thought expressed by the American scientist underlines the fact that researcher's knowledge and experience that have been accumulated during many years of professional activity are necessary for studying any specific case.

Case Study Design and Results

At describing the history of case, for the sake of greater clarity of how events occur, at first, only a formal side of the events will be described, and aspects which are related to chronology and content analysis will not be taken into account. During the research, we carried out the observation of creative processes, which took place during the final classes on mastering the fundamentals of musical improvisation in one of the universities of Latvia at the faculty of pedagogy. The results obtained from observations were analysed and studied.

The classes were held once a week, each three hours long, and lasted for a month. Three students from the representative sample are characterized by definite significant features, typical of the whole general totality of this research. During classes, students worked with two texts of notes. In the second text, music theme was expounded, and students had to fill in the missing structural gaps. The first note text included a composition thematically completely unrelated to the second music theme. But the thing common for the structure of the first and the second note examples was the fact that in both cases there were motifs, figures, patterns, and phrases. It was required to borrow the material missing in the second example from the first example. This was a process of borrowing the material and its further integration. Students were faced with the necessity to sort out various alternatives within a very short period of time and select the needed structure for carrying out their creative assignment, namely: to find the material, and even if it involved transformations, fill the structural gaps in. At the beginning of a class, the speed of the reaction of choice was zero. Students could not identify (did not hear by the inner ear) those variants with which the structural gaps could be filled in. They were short of time, since only 5 minutes were allotted to carrying out the task. The speed of the reaction of choice was insufficient. Due to a long independent training, one student managed to cope with the set task. Mastering the structural combinatorics appeared to be the most difficult assignment.

What was the goal of this class? Why was it necessary to cope with the task in 5 minutes' time? At the first encounter with the language of one or another style, much time is needed for comprehension and auditory adaptation to the specificity of architectonics of a concrete composition: here everything is new – be it a rhythmic figure, melodic construction, cycle of accent, chord sequence or formula of texture. In this case you must not hurry. However, when playing in an ensemble on the stage, you do not have this time, since you must immediately respond to other musicians, and to react to any musical event. It is necessary to automatize the auditory flow to such a degree that you would be able to insert your own musical ideas into the common context of musical form and its flow. This strongly resembles playing in the ensemble and performing academic music. Musicians control the slightest changes in tempo and rhythm of the general conception of the composition performed. But in the second case there is a ready text, while in the first case it is missing.

Let's give an example of work in the classroom.

Figure 1. Example 1 Texas Blues O. Peterson (1972)

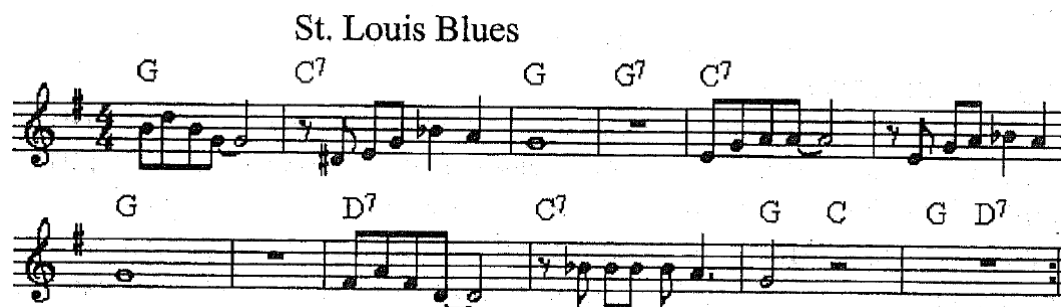


Figure 2. Example 2 St. Louis Blues W. Handy (1914)

Assignment: fill in bars 3,4; bars 7,8 and bars 11,12 of St. Louis Blues W. Handy with possible structures from Texas Blues O. Peterson. A correct solution – any combination of structures is possible. But, taking into account architectonics, it would be better to use structure 1 from Texas Blues for bars 3,4 St. Louis Blues, structure 2 Texas Blues for bars 7,8 St. Louis Blues, and structure 3 Texas Blues for bars 11,12 St. Louis Blues.

The teacher must not hurry with drawing conclusions and tread on the new shoots of emerging creative needs. In her lectures on problems of the development of human brain, T. Chernigovskya (Черниговская, 2022) warns against taking prompt decisions at evaluating perspectives of personality's development. Any talent must be given the opportunity to develop.

Conclusions

1. Skills and abilities of structuring music material are a compulsory condition for optimizing students' educational process at a higher education institution. Speaking about the psychology of learning structural combinatorics in the art of musical improvisation, it is necessary to emphasize the fact that structural combinatorics is the most essential element in improvisers' activity. He starts learning different kinds of activity just at the very first lesson on improvisation.
2. Activities for mastering a decorative-processing approach and structural combinatorics in improvisers' practice develop students' ability of adequately responding to changes in a creative algorithm when plying in ensemble. Knowledge, skills and abilities help to accelerate personality's psychological development, but the activity – to make it automatic and more effective.
3. In the result of special studies and observations (case study research) we can say that any activity mastered by the students increases their knowledge and gives them new opportunities for self-realization as creative personalities.

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