

# ONLINE TRAINING OF IMPROVISING SKILLS IN MULTICULTURAL HIGHER EDUCATION

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**Abstract**—In this research the implementation of prospective teachers online training multicultural music education is investigated. The analysis of the background a gap in the study of psychological approach for training improvising skills of prospective music teachers in multicultural higher education has been identified. In these frameworks the research question was pointed out: does the online music training based on multicultural approach benefit the students' improvising skills? Regarding multicultural training, the small private online course (SPOC) was designed in two sections: theoretical material and performing practice. The theoretical part delivered the comparison of Western and Eastern psychological approach, while practical part consisted of five groups of exercises: Perception, Integration, Rhythm, Melody, Co-Creation based on the Indian music techniques. This online course was implemented at Kazan Federal University for the undergraduate student' group of 18 persons. The methodology was based on mixed methods approach by using average rating, questionnaire, and feedback. Based on the positive results was concluded, design of online exercises based on psychological approach through the comparison of Eastern and Western mindset contributes students' improvising skills.

**Keywords**— online training, digital technologies, multicultural approach, professional education, pedagogy

## I. INTRODUCTION

Since the emergency COVID19 pandemic the relevance of design online tools for teaching remotely significantly increased. Due to promotion of innovative technologies in educational process which foster students' learning achievements, scholars suggest improvement of online courses. Among large variety of them researchers define MOOC (Massive Open Online Course), BOOC (Big Open Online Course), DOCC (Distributed Open Collaborative Course), LOOC (Little Open Online Course), MOOR (Massive Open Online Research) and SPOC (Small Private Online Course) [1]. However, scholars state that preparing effective online courses is a very time-consuming process, which requires from the academics specific skills and efforts for creating content [2]. Besides, standard components of online courses, such as video lectures, quizzes, Web-sources in general provide theoretical knowledge. In order to support professional activity and interaction between all the participants in the learning process Rumble [3] suggests for the development of online courses to shift the point of view from delivering theoretical material to engagement students in the process of training professional skills. In such a purpose the design of online tools [4] based on innovative approach for training students' performance skills allows bridging this gap.

## II. BACKGROUND

Music education is an essential part of the social, psychological, and aesthetic development of children which aims at improvement of musical intelligence, defined by Gardner as "ability to perform, compose and appreciate music and musical patterns" [5] (p.21). The broad objectives of music education point towards the need to develop special educational training in remote way, as continually growing deficit of music teachers has been noted in different countries [6].

### A. Online technologies for teaching music remotely

In the recent past, an experiment of teaching piano by skype was conducted [7] as the first attempt in the area and was conducted in a limited context. Without involvement of face-to-face interaction, this process showed

advantages in delivering music lessons online for students who are deprived of the opportunity to learn music. Another project that aimed at increasing participants of music education was conducted in England. The study included instrumental lessons for students and courses for continuing professional development for teachers and in both cases camera and high-quality audio were used and stated benefits of using multi-camera set-up for delivering lessons [8]. Though there was limited research in the field of digitalization in music education before the pandemic COVID-19 [9], the most elaborated trend was the collaboration in group performance by using online resources [10-12]. However, lack of knowledge in the field of online musical professional training has not been researched.

In comparison to MOOCs recommended as a supplement to classroom teaching, in a case when a teacher needs to increase the time of personal interaction with students the type of Small Private Online Course (SPOC) could be more suitable [13]. In contrast to global availability of MOOCs, access to SPOC is managed by the teacher and can provide attention for each student [14], what is very important in traditional music education, where the exchange of artistic experience is in the core of process. Combining online lessons with face-to-face classes allows enhanced satisfaction and knowledge acquisition of students and engages them in creative making with instrumental music [15]. Regarding using SPOC research could be found only in the field of teaching music history [16], while practical issues like delivery of theoretical knowledge were not covered by them. Summarizing the recent studies, the process of re-examining of the teaching approaches and redesigning of music courses was noted. For the purpose of improving the online music education scholars are searching for active learning methods and design of the online environments [17].

### **B. Multicultural music education**

Researchers recognize the increasing importance of multicultural music education. Nethsinghe [18] states that exploring music of other cultures promotes the understanding of local culture, and moreover musical background in the frameworks of education. Belz [19] criticizes concentration on the Western classical music in traditional musical education instead of studying cultural diversity. In addition, the researcher points that students should learn to express musical ideas by using Western as well as non-Western music. Recent research argued music is not a universal language. According to Elliott, in contrary to popular understanding, that people from different countries can enjoy the music of other folks, they “do not immediately understand and appreciate” [20] (p.11). Kang states, “these discussions contributed to the awareness of cultural differences of musics” [21] (p.25). Elliott figures out the traditional way of learning Western music is not appropriate for studying Eastern music where individual expression through improvisation is absolutely priority instead of following strict rules of music theory in Western culture [20]. Abril points, in the framework of multicultural music education, the studying of music as culture is a significant aspect [22].

The term “multiculturalism” refers to the political, legal and philosophical strategies that emerged after World War II to accommodate this new-found social diversity. Society that is called “multicultural” is to claim that it contains multiple cultural groups rather than just one [23]. Kang notes, “the perspective and practice of “multicultural music education” have varied according to the political and social norms of the various periods” [21] (p.21). While earlier studies demonstrated their interest to music of different cultures from the ethnocentric standpoint, gradually they came to value of variety of music as cultural phenomena [21]. Abril supports this idea in definition of multicultural music education, which “varies across and within regions of the world” [22] (p.33). In his work he defines multicultural music education in global aspect as “wide body of musics for the purpose of musical and cultural understanding” [22] (p.33). Legette considers the multicultural music education as “the use of music from regions around the world in music education” [24] (p.52) and defines it as a process in which individual and group effort is expended toward creating a society that recognizes and celebrates cultural diversity and where cultural groups coexist equitably [24] (p.51). In regards to multicultural music education Kang states the valuable effects of technologies, including CDs and video, which can promote variety of musics, engage people in exploring them [21].

### **C. Psychological approach to multicultural online training improvising skills**

Multiculturalism in education is a trend of preparation for the social, political and economic realities that individuals experience in culturally diverse and complex human encounters [25]. According to the work of Davidman [26] multicultural education could include but not be limited to experiences which:

- Promotion of abilities to confront issues such as racism, sexism, religious controversy.
- Examine the dynamics of diverse cultures and implications for developing teaching strategies.
- Examine linguistic variations and diverse learning styles as a basis for the development of appropriate teaching strategies.

In respect to the studying process Elliott suggests several models of curriculum of multicultural music education [20]. Each of these models establishes the way of teaching music in the diverse world. Some of them tend to eliminate cultural variety by promoting unification of the music through searching similarity of their elements, genres, styles. On the other hand, other models tend to preserve cultural diversity in the frames of music education. One of them was called dynamic multiculturalism. This model is used to develop a student’s awareness of world music cultures, while their elements become mended “and/or replaced with concepts original to the musical cultures under study” [20] (p.18). Moreover, implementation of this model provides upgrade of teaching methods by incorporating approaches for studying music from other cultures. So, virtuoso improvisation is the pivotal characteristic of Eastern music, while in Western tradition it is rather a trend of performance practice. In contradiction to the Western art, which according to Orlov [27] featured by the principle of discreteness, Eastern

music avoids the musical notation, and any performance solo or in a group becomes a unique self-expression flow. In such frameworks the psychological approach based on comparison of Eastern traditions in performance practice can allow to foster improvising skills of students, who have Western musical background. Using online technologies will allow us to bridge the gap between Eastern and Western mindset by sharing performing experience without any borders from local musicians to university students.

### III.OBJECTIVES

Based on literature review reflected the relevant issues in the fields of online technologies for teaching music remotely, multicultural music education, and psychological approach to online training improvising skills based on differences in Eastern and Western mindset the general aim of the investigation was stated:

Does online music training based on multicultural approach benefit the students' improvising skills?

In order to achieve the general aim of the study research questions were determined:

- RQ1 Which elements of online resource promote the training improvising skills based on multicultural approach?
- RQ2 Is online training based on multicultural approach associated with results of fostering students' improvising skills?

### IV.MATERIALS AND METHODS

#### A. Design of online resource for training improvising skills by using multicultural approach

In order to provide the teacher' attention to each student in the academic group the small private online course (SPOC) [13] was developed. While MOOC is available for global audiences, access to SPOC is offered to the specific cohort according to learning goals [28]. In the frames of the SPOC for future music teachers the additional module based on multicultural approach for training improvising skills was designed. This part of the course includes theoretical materials, interactive tasks, forum, chat. The lectures, loaded in the MOODLE, presentations and Web-resources explained the differences and contradictions of musical elements and performance practice in East and West cultures. A multicultural approach was used for constructing the set of exercises for training improvising skills. Each exercise aims toward the holistic approach to music elements which students were suggested to modify by voice or a musical instrument through the associations stimulated by the variety of artistic image characteristics. In such a way the pivotal characteristics of Eastern performance practice were implemented in the frameworks of Western musical learning traditions.

The module of SPOC for training improvising skills includes two parts: theoretical learning and performing practice. In the theoretical part for sections deliver the main aspects of comparison Western and Eastern musics:

- East raga VS West harmony
- East-West comparison of music theory
- Main differences of Eastern and Western music
- How East musicians make music

The practical part consists of five groups of exercises: Perception, Integration, Rhythm, Melody, Co-Creation. In each group 5-9 exercises were included, some of them are listed:

- Recording feelings while listening; Mentally evaluating the duration of a music piece.
- Composing a mythical story about music; Description of sounds associations; Graphical visualization of sounds.
- Composing and clapping the rhythm in complex metre (5/4, 7/8); Performing rhythms in varied images.
- Filling of the wide intervals in the melody; Composition of contrast images of the melody; Compose melisms to a song.
- Writing the musical symbols in a poetry; Writing of nature sounds by musical symbols; Composition of an additional voice for performance.

For each exercise students had self-practice at home, then they recorded the results and loaded them in the online resources. For the feedback they received in online resource comments and assessment from the teacher.

#### B. Ethics and procedure

1) Study Design: The research work was organized at Kazan Federal University. The study in regular class included online interaction with a teacher, reading and watching theoretical materials, doing online exercises and participation in forum discussion. The research work was approved by Human Ethics Advisory Group by using the Ethical guidelines for educational research proposed by British Educational Research Association [28]. Data were collected from one academic semester during from September 1, 2024, to January 31, 2025.

The future music teachers' curriculum includes the hours for the special practicum, in which students are training the standard set of music teacher' professional skills. These hours offer a sort of practice for studying the real profession in its complexity. Depending on the students' level of study, this part of the curriculum provides different types of programs that cover instrumental and vocal performance, music analysis and creativity as well as project work. This work supports the transition from the role of student into the professional role of a teacher. The components of this practice were covered by the online training based on multicultural approach implemented by the means of SPOC.

The organizing process of the study included several types of activities of students and teachers throughout the academic year. Regular teaching learning process was conducted on the platform MOODLE. During this process teachers facilitated students' learning practice by:

- Facilitating students learning with MOODLE sources including lectures, e-books, web-sites, tests, tasks, quizzes.
- Stimulating student engagement and effective self-improvement in improvising skills by providing comments and recommendations.
- Providing video records of school music lessons and analyzing the professional experience.
- Discussing current problems and challenges in music education school practice.
- Consulting students in project work.

• Evaluating students' musical records with solo and group performances, creative musical works and projects. During the learning process, students have been trained in the music teacher performance skills including playing musical instrument, vocal singing, composing, improvising music, and discussing results. All artistic works prepared by students were evaluated by the teacher. At the end of the academic semester, additional study to enquire about the students' satisfaction of online training was carried out. All the students of the academic group were involved in this work.

2) Study sample: This study's sample population were students in music education at the Kazan Federal University. All of them are enrolled full-time undergraduate program in the frames of national project of preparing specialists for teaching in multicultural school environment. It was an appropriate sample for this study as the students are prospective music teachers. The sample was 18 students from one academic group (3 male – 16.6% and 15 female – 83.3%) from 4th academic level. The age of them was 22-25 years.

3) Research methods: The methodology was based on the mixed methods approach by using average rating, questionnaire and feedback. The main criteria of assessment included the elements, which students varied in improvising exercises (melismatics, melody, harmony, rhythm, tonality, texture, strokes, etc.). Each criterion was assessed by teacher by using ten-level scale. For the highest level of a criterion students received 10 marks, and for the lowest 0 marks. The questionnaire examined some characteristics of students' cohort and their previous experience in the field: age, period of music education, music composing experience, music improvising experience, lack of confidence of the improvise skills, negative experience in improvisation. The quantitative data from the students' evaluation were analysed by statistical methods of the mean score, median and standard deviation and were processing by Statistical Package for the Social Sciences (SPSS).

The students' perception of SPOC was studied in feedback by a semi-structured questionnaire that was a combination of a set of closed questions (10) in a scale through which the respondents express their degree of approval or rejection about a given statement by using the quantitative measure, and open questions (2) designed to capture student's insight about a particular issue. The closed questions were composed in a 5-level Likert agreement scale (1-I totally disagree; 2-I partially agree; 3-I rather agree; 4-I agree; 5-I fully agree). Two open ended questions clarified the students' satisfaction of learning by SPOC: What did you enjoy most in using SPOC? (Q11), What inconveniences did you find while studying on the SPOC? (12). Student's satisfaction questionnaire was delivered on paper (in most cases) or made available via Moodle or through a Google forms as per requirement. For the sake of correlating students' answers with their academic results, students were asked to identify themselves through their initials which were codified by their teachers in order to guarantee student privacy. The students were ensured that this identification was purely for research issues.

## V. RESULTS

The research investigates the research questions through the analysis of data received during the academic semester when students had been training by using online resource based on multicultural approach. In this process was examined the students' background in musical improvising, their online training outcomes after the work with resource, a satisfaction of them of the learning process.

### A. Design of online resource for training improvising skills by using multicultural approach

In the beginning of the academic semester all students from the group filled the form of questionnaire. They were asked to reply to the questions about some personal features in regard to the research purpose, particularly about their age, period of music education, music composing experience, music improvising experience, lack of confidence of the improvise skills, negative experience in improvisation (Table 1).

The analysis of the results lets us state the significant difference in students' background in music education in the same group (from 6 to 15 years). Some students did not attend music school before entering the University, while another graduated from music school, and even musical college. Several students graduated from music college, but never attended music school. Among the students' group only 6 persons (31.3%) had any experience in composing music, and even less number 2 persons (11.1%) experienced the improvising on an instrument or by voice. A very high percent of students in the group noted they have not enough confidence of personal capacity in improvising music (15 persons, 83.3%). One person (5.5%) from the group marked the having negative experience of music improvisation in the past.

TABLE I STUDENT' BACKGROUND IN IMPROVISATION

Metric	Mean	Frequency (%)
Students' cohort	18 persons	100
Age	22-25 years	100
Period of music education	6-15 years	100

Music composing experience	6 persons	31.3
Music improvising experience	2 persons	11.1
Lack of confidence of the improvise skills	15 persons	83.3
Negative experience	1 person	5.5

### B. Assessment of students' online training achievements

Studying the results of students' improvising exercises were evaluated by the teacher, who had been working with the group. The 10-level Likert scale was used. The results demonstrate in general high enough level of all the criteria (the total median is in the period 4-10). The mean score was lower in all the cases because improvising skills were assessed very strictly (in the period Hardly audible- Impressed). The standard deviation confirmed the absence of statistically significant difference between each student' evaluation for each criterion (all the results are in the interval 0.4853-0.9885).

According to the goal of the study the element, varied by students in the improvising exercises were examined also (Table 2). The analysis of the received data showed in the majority of cases students significantly changed melody (M=9, SD 0.9745) and melisms (M=10, SD 0.9885) in the music. Besides, valuable changes were stated for the criterion of rhythm (M=5, SD 0.4853). Students varied strokes (M=6, SD=0.8453) and tempo (M=5, SD 0.4853) in less number of times. Moreover, tonality (M=4, SD 0.9855), timbre (M=4, SD 0.6558), genre (M=4, SD 0.5739) and texture (M=3, SD 0.7431) demonstrated not enough distinguishes. The harmony (M=2, SD 0.7345) in students' exercise almost was not improvised.

TABLE III ELEMENTS, VARIED BY STUDENTS IN IMPROVISING EXERCISES

Metric	Median	Mean	SD
	(Scale 0 to 10)	(Scale 0 to 10)	(Scale 0 to 1)
Melody	9	Powerful	.9745
Melismatics	10	Impressed	.9885
Harmony	2	Hardly audible	.7345
Tonality	4	Plain	.8755
Timbre	4	Plain	.6558
Texture	3	Poor	.7431
Strokes	6	Noticeable	.8453
Rhythm	8	Appreciable	.8943
Tempo	5	Ok	.4853
Genre	4	Plain	.5739

### C. Students' satisfaction of online training resource

The questionnaire filled by students after completing the online exercises allowed to clarify students' perception of learning by SPOC. Table 3 shows that the greatest number of students (27.7, 33.3, 11.1) agree that SPOC is an effective tool for musical training. Less number of students agree that the presented resource does not need improvements (11.1, 16.6, 38.8). But most of the students were satisfied by support provided by staff in online learning (16.6, 44.4, 22.2).

TABLE IIIIVV STUDENTS' SATISFACTION OF USING SPOC

№	Factors	Number of students	Answer options (%)				
			I fully agree	I agree	I rather agree	I partially agree	I totally disagree
1	Learning with SPOC	18	27.7	33.3	11.1	22.2	5.5
2	Satisfaction with SPOC	18	11.1	16.6	38.8	22.2	11.1
3	Satisfaction with support	18	16.6	44.4	22.2	11.1	5.5

The qualitative analysis of open-ended questions of students' questionnaire: What did you enjoy most in using SPOC? (Q11), What inconveniences did you find during study on the SPOC? (Q12) allowed to identify 6 factors, directly considering students' satisfaction: 4 for the Q11 and 2 for the Q12. Table 4 summarized these factors. More than a half of students emphasized the comfortable conditions of learning from home. Few of the most frequent replies were as follows. Approximately a half of them noted the opportunity to manage the time and have productive training. However, half of all the respondents mentioned they met gaps in home Internet during their work, and fewer number of students pointed the outdated interface of MOODLE.



TABLE VIV STUDENTS' ASSESSMENT OF TRAINING BY SPOC

№	Quality	Replies	Persons (n)	Frequency (%)
1	Benefits and Advantages	Learning from home is very comfortable	12	63.1
2		Self-management of time for the learning process	9	47.3
3		Training improvising skills step-by-step	4	21.1
4		Exercises inspire to improvise	5	26.3
5	Weaknesses or Improvements	Some elements, like harmony, are missed in East music	3	15.7
6		There is no example of real performer	2	10.5
7		The gaps of the Internet access	7	36.8

## VI.DISCUSSION

Currently, digital technologies tend to redesign music education noticeably [5],[6]. Online teaching allows to delivery music education to rural communities which are remote from the academic centres [29]. Above that scholars point the benefits of teaching music by computer in the aspect for creating and correcting artistic work [30], and opportunities for self-studying by watching video or stream [31]. Researchers confirm that online learning music can be as well productive as face-to-face interaction, to inspire young musicians and foster their creative thinking [32]. Continuing this trend scholars promote performing in collaboration by using online courses which should be designed in the constructivist frameworks [33]. Besides researchers pointing the gap in multicultural music education suggest the design of online resources across Western and Eastern approaches [34]. Multicultural education had become an important trend from the late 1970's in American teacher education and in other countries include Russia. Some researchers highlight its central feature in the world [35]. Despite the fact of ignoring of this approach for many years, such problems as struggle by African-Americans for full political inclusion, the confederalism adopted by several European states to accommodate linguistic and religious diversity and the multicultural policies adopted by Australia and Canada in the 1970x helped to realize its great mean for world [36]. Recent studies state diametrically opposed development of Eastern in comparison to Western culture. Despite that some scholars point out the research evidence that universal vocal characteristics in East and West cultures associate musical tonalities with emotions of the same effective states.

In such a context necessary to note the meaning of emotions in Asian music, so, in Indian musical system which consists of great number of ragas, each of them characterized by specific emotion or association [27]. Western music theory does not suggest so strict system. Despite the close correlation between musical elements and associations featured the higher level of human perception of music according to Orlov [27]. Consequently, implementation of Eastern and Western music traditions in education can be fruitful for learning tools and teaching strategies for online teaching. However, the majority of teachers note they do not receive training for global music at the undergraduate level [24]. For this purpose the role of technologies for access of teachers and students to the multicultural musical world will be significant for education.

## VII. CONCLUSIONS

A conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

The results of this research work conclude that technologies of remote teaching such as online training can replace face-to-face learning in a case of emergency in the field of music education. The choice of the small private online course (SPOC) as a type of online technology justified the specification of the music lesson and music teacher' competencies which should be learned by students at university. The obtained results demonstrated the effectiveness of the designed course.

Both research questions were confirmed by data by using quantitative and qualitative methods. Considering RQ1 it was stated that the online resource will be effective for the training improvising skills based on multicultural approach if it will include theoretical and practical sections. The content of the course should display the contradictions of the variety of music in the world and features of their perception. Practical exercises base on the prosperous techniques from different cultures are mandatory for training musical skills such as ability to improvise music in the presented study.

With respect to RQ2, the future music teacher's performing development, online training based on multicultural approach can be associated with fostering students' improvising skills while they demonstrate the close correlation

with features of implemented approach, particularly in the traditions of Eastern techniques of creating music for using in Western genres and styles. Overcoming these contradictions allows educators to upgrade learning tools for music education. Implementation of the designed set of exercises based on the Eastern mindset will be effective training of future teachers' ability to improvise music in West or East style.

Based on the positive results was concluded, design of online exercises based on psychological approach through the comparison of Eastern and Western mindset contributes students' improvising skills.

Future research in this field should examine the perspectives for training other musical skills. At the same time, they also can provide the studying music through the lenses of Est-West contradictions in psychological aspect due to the purpose of promotion deep understanding of the homeland culture.

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