How to Cite:

Rolinska, H. H. (2021). Using project method for the purpose of educating future music teachers. *Linguistics and Culture Review*, 5(S2), 387-400. https://doi.org/10.37028/lingcure.v5nS2.1361

Using Project Method for the Purpose of Educating Future Music Teachers

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Abstract---The article discusses the specifics of applying project method to the educational process. The analysis of scientific materials that concern themselves with applying project method is carried out, their main principles are highlighted, and a project model is proposed. Studies conducted in the field of project method were used as materials for this work. During the research, methods of analysis, synthesis, comparison, deduction and induction were used. The research hypothesis is based on the assumption that applying project method to the training process of future music teachers will help students with improving their professional competencies, and increase the motivation to learn. The study proved that applying project method to the training process of educating future music teachers allows for better pedagogical training, motivating students to work more actively, display creativity, and identity. The project method allows students to receive skills of independent and group work, short and long-term planning, and self-assessment. General positive characteristics of applying project method to the training process of educating future music teachers proves the need to adopt this method in higher education institutions. This paper is intended for teachers and students who will implement creative projects while receiving music education.

Keywords---music teacher, project method, project technologies, teacher education.

Introduction

The basic principles of educational process, higher education in particular, are in a state of constant adaptation to the rapidly changing conditions of the surrounding world. The modern approach to the organization of educational process is characterized by the incorporation of new "central" element. While there was a period when the education process was focused on the subject or discipline, now the main focus has shifted to the person, the trainee, the student.

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Manuscript submitted: 18 April 2021, Manuscript revised: 9 June 2021, Accepted for publication: 29 July 2021

The educational process today is directed not so much at providing large volumes of theoretical knowledge, but at the practical part of their application, forming the students' ability to research, obtain information and using the acquired knowledge in real-case scenarios (Christiansen et al., 2013).

New guidelines in education require new approaches to the organization of the educational process. One of these approaches is the use of project method. Applying project method to the educational process is an important component of modern education (Crawford & Bryce, 2003; Lobashev, 2003). It is particularly important to include project-based training in the professional training program for future teachers. For a long time, the method of projects has been used mostly in the applied and exact sciences, but over time the possibility and necessity of its application in the teaching of creative disciplines has been proved. Incorporating project-based training into education program for the future teachers will help them develop professional pedagogical qualities, allow them to be creative in organizing the learning process and assessing students, and better motivate them to study (Project-Based Learning..., 2015).

Contemporary music is in close contact with various other forms of creativity, and the use of project method in teaching allows for interdisciplinary, inter-genre projects and research. This approach gives students a broader outlook, a more creative perspective on music teaching. The level of student competence is rarely the same, so it requires a different approach of the teacher to the tasks that the student is facing and to the level of knowledge that he / she is able to achieve at a certain stage. The project method serves as means of concurrent training of students with different levels of knowledge, applying different types of tasks with different levels of complexity. Future music teachers usually possess a creative character, the negative side of which may be the reluctance to make efforts to study theoretical disciplines for a long time (Vass & Deszpot, 2017; Sydykovaet al., 2018; Okay, 2012). The project method will also be useful in the aforementioned regard as its implementation can significantly increase students' interest and motivation to learn and acquire new knowledge.

Applying project method to the training process of future music teachers enables students to better develop skills of teaching, because the project will provide practice in planning, finding materials and resources, organizing group work, finding a creative approach to teaching, presenting information in an interesting and approachable manner. Project method allows motivating students to learn, to form the skills of working with a team, in particular as a teacher, to allow using creative initiatives in education process, to develop the professional skills of a musician – this is the kind of educational process that is better suited for future music teachers (What is Project-Based..., 2017).

The research hypothesis is based on the assumption that applying project method to the training process of future music teachers will help students with improving their professional competencies, and increase the motivation to learn. The use of general scientific methods of analysis, synthesis, induction, deduction, and analogy allowed us to study the problems of using the project method and determine the basic principles that should be applied when implementing this method in the educational programs of future music teachers. The purpose of the research is to study the peculiarities of using the method of project technologies when educating future music teachers. Given the goal, we can identify the following tasks that need to be solved to achieve it: analyze the basic principles of the method of project technologies, develop a project model, determine the features of using the method of projects when educating future music teachers, identify the positive and negative aspects of using the method in pedagogical work.

Stages of development of the project method in the educational process

There are different points of view regarding the first instance of applying project method to the educational process. A detailed analysis of the history of the emergence and development of the project method was carried out by Knoll (1997). He noted that the first use of the project method could be observed at the end of the sixteenth century in the architectural schools of Europe. During the middle of the 17th and 18th centuries, the experience of using this method was transferred to America. During the 1770s-1880s, the project method gradually began to be used as a teaching method in pedagogical practice. The end of the nineteenth century was marked by the development of reformist pedagogy, which emphasized the individual and his needs as the main focus of education. Reformist pedagogy served as the basis for the further development of new democratic trends in education, the new goals of which were declared to be the nurturing of an independent, creative person. Representatives of positivism made a significant contribution to the theory of project method. They called for the use of experimental methods of cognition. For instance, O. Comte, H. Spencer paid considerable attention to issues of education, especially the natural sciences (Knoll, 1997).

At the beginning of the twentieth century, the project method is formed into a system science, its theory is systematized and conceptual provisions are detailed, it starts to be used in the field of applied sciences and in comprehensive education. Some researchers believe that this period is the beginning of the development of the theory of project method. The founders of project method theory in the modern sense are Dewey (1897); Kilpatrick (1963); and Dewey (1897), noted that the project execution should involve knowledge from different industries. He identified five stages of solving a problem: feeling its presence, identifying the problem, modeling the solution, formulating the possible consequences of a particular solution, and observing. Dewey paid great attention to the psychological side of personality, saying that without knowledge of personality psychology, it is impossible to effectively use the project method (Dewey, 1897). The student and follower of J. Dewey was W. Kilpatrick, who defined the essence of project technologies as a method of activity to solve a problem that arises in real life circumstances (Kilpatrick, 1963). Later, in the 20-30's, project method was implemented at school. Pupils who used project-based learning were free to choose the activities they wanted to engage in, and the learning materials. During the years 1915-1955, a new round of development of the project method took place, a new systematic approach to the project teaching method was formed, based on the ideas of the American scientist Dewey (1897). Starting from the 1960s, project technologies are gradually spreading to all areas of education and received a third wave of international distribution.

Today, project technologies do not lose their relevance and become further developed, are the subject of scientific research, and are being implemented in practice in more and more spheres of education, acting as a full-fledged component of it. The importance of using the project-based teaching method in modern education cannot be overstated. For instance, Heiter (2016), notes that student engagement, motivation, and achievement are the three main initiatives that influence educational success. It is the project method that helps to implement these tasks. For a long time, it was considered that the use of the project method is appropriate only in applied sciences and exact disciplines such as mathematics and physics. However, recent studies have shown that the use of project method in teaching creative disciplines can be just as successful.

Ravitz et al. (2012), note the possibility and importance of applying project method outside of technical and engineering sciences, saying that the scope of the method should be much wider. One of project method researchers was Piaget (1973). In his work "The child's conception of the world", he noted that a person is born with peculiar patterns in the brain. New information is added and adapted to existing patterns. So, if the patterns are not changed or if no new ones are created, the student will only understand the information within the existing patterns (Piaget, 1931). The project method is aimed at constructing new patterns that will allow students to develop their thinking and get a full, in-depth knowledge of the subject or phenomenon.

Kos (2018), notes that in the implementation of projects, students are involved in various processes, including research and problem solving, which is embodied in the final product (e.g., report, presentation, scientific article, creative room, artwork), demonstrating the depth of student learning that can be shared with others. Angelle (2018), proposes the following definition of a project method: a pedagogical method whereby a group of students has to solve a real problem by cooperating in finding, collecting and analyzing data, and the research process must be supported by a teacher acting as a learning facilitator and the result of such research is an artifact.

Describing the project method as being part of a progressive educational movement, Condliffe (2017), note that project method is more student-centered and based on a supportive education approach "deeper learning" through active exploration of real-world problems and challenges. The researchers note that the main goal of the project method is primarily to solve students' problems and develop ready-made solutions. Thus, Thomas & Thorne (2009), state that the project method should invite students to "knowledge construction". Students should be encouraged to be authors and producers of knowledge. For Krajcik & Shin (2014), the process of creating scientific artifacts is one of the ways in which students can build their own knowledge.

Darling-Hammond et al. (2010), note that projects should have a variety of alternatives and methods for decision-making and should lead students to a certain conflict in approaches to solving the problem, to the struggle of conflicting ideas. Kwietniewski (2017), defines project method as a teaching method in which students gain knowledge and skills, working for an extended period of time to explore and respond to real, interesting and complex questions, problems or

challenges. Project-based learning for Kokotsaki et al. (2016), is a studentcentered form of learning based on three principles of constructionism: learning depends on the context, students take an active part in the learning process, and they achieve their goals through social interaction and knowledge sharing. Marx et al. (2004), describe the process of applying project method as follows: students must find opportunities to solve real-world problems by setting and refining tasks, designing and conducting research, collecting, analyzing, and interpreting information and data, producing conclusions and reporting results.

The uniqueness of project-based learning is the creation of a final product, a specific artifact that represents new knowledge. The obtained results, knowledge, and solutions to the problem under study are often presented in the form of presentations using video materials, photos, sketches, layouts, and other artifacts. The influence of the project method on the formation of students' independence and motivation for learning is noted by Bell (2010). He emphasizes that through goal setting, planning, and organization, students develop collaborative skills through social learning and become internally motivated by being encouraged to use the element of choice while learning at their level. It should be noted that the project method and other approaches focused on the student's personality were initially met with resistance and criticism from those who emphasize the importance of developing knowledge about specific content in traditional subject areas. However, project method and other methodological approaches that emphasize deeper learning and development of skills necessary for success not only during the educational process, but also in later life are becoming more popular.

There is disagreement among researchers on the use of project method in education as to what level of independence a teacher should allow. For instance, Morales et al. (2013), argue that students should have full autonomy when posing a question, collecting data, in a study, while others, such as Selmer et al. (2014), argue that a less radical approach should be taken: students should of course bear most of the responsibility for learning, but the teacher should set them a clear task, although difficult, and monitor its implementation. Another issue is whether it is appropriate to involve non-students in projects. This possibility is discussed by Newman et al. (2015), noting that the implementation of the project should involve going beyond the classroom and involving other members of society. In our opinion, this type of project implementation should be used in education process. An example is the presentation of information and creative projects that may be of interest to ordinary citizens.

An important issue is the level of students' independence at each stage of education and project implementation. Most researchers note the need for a teacher to create a kind of "scaffolding", which should help students at early stages of learning. The assistance that the teacher provides in the implementation of the project, should decrease in volume over time, becoming more invisible. As the student gains more knowledge and experience, the "scaffolding" is gradually removed, and at the end of the educational process the student must be able to act completely independently. However, each of the students should have their own level of assistance, because the initial amount of knowledge and experience of students is different. The use of the "scaffolding" technique in the implementation of projects allows forming methods and forms of support specific to each student at a particular stage of project implementation.

Condliffe (2017), point out that in order to adapt scaffolding to a student's knowledge or skill level, the teacher must continually evaluate it. Holmes & Hwang (2016), also talk about the importance of timely support and the importance of timely removal of "scaffolding", emphasizing that the teacher should mitigate student's cognitive overload by helping them. The use of "scaffolding" requires significant attention of the teacher to how and to what extent he provides assistance to the student. Each student has their own level of competence and potential opportunities, so the teacher should build a separate type of interaction with each individual student.

The typification of possible teacher roles in the implementation of projects, proposed by Thompson & Mus (2018), is interesting. In particular, they highlighted the following teacher roles: facilitators – provide indirect assistance; help by debating with students, applying constructive criticism; collaborators – provide direct assistance, ensure joint work on the project, and are actually co-authors; provocateurs – challenge the student by organizing the research, take him out of his comfort zone – from the area of known skills and knowledge; mentors provide significant assistance to students and take a diverse part in the project; advocates defend the students' strengths, cover up the weak points, and act as advocates during the preparation and defense of the project; releasers – provide full autonomy to students in the project; guides – "lead" the project, provide assistance, but not at the expense of its independent implementation; resource teachers – have a large stock of knowledge and experience, offer them to students as the project is being implemented.

Almost no research has been devoted to the specifics of using the project method when educating future music teachers. Some scientists worked to determine the specifics of using the project method in teaching music and other creative disciplines, but such studies did not contain a pedagogical component. For example, Barret (2011), noted that all methods of education should be used in teaching music: theory, practice and research should complement each other in the study of musical disciplines. When getting an education in most disciplines, there are objective indicators that can be measured and used to evaluate the student, including mathematics, reading, writing, and speech. Hanna (2007), discusses this, noting that these disciplines are taught and evaluated as cognitive areas of activity. Conversely, it is especially difficult to give an objective assessment of students' success in such disciplines as music, since the assessment of learning results includes a subjective assessment of specific artistic processes (Wendell, 2010; Robinson, 2015). Taking this into account, the use of the project method when educating music teachers gets another advantage - its use can help in an objective assessment of students' learning success.

Thus, a lot of research has been devoted to studying the implementation of project method in education. However, there is very little research on the use of the project method in teaching creative subjects, particularly music. Applying project method to the education process of future teachers is almost not considered at all. Therefore, it is necessary to further study the problems of applying the project method in this area, when educating future music teachers in particular.

Using the project method in teaching future teachers

The use of the project method when educating future teachers is especially important. After all, in the future they will be able to implement project method in their teaching practice. The entire learning period can be presented as a project. When planning a curriculum, acting as a facilitator during the educational process, the teacher is the performer of a large project for teaching and educating students. A modern teacher must meet many requirements, both in the professional field and as a person (Korthagen et al., 2006; Niemi, 2002). The teacher must not only have a methodical, managerial culture, have a certain psychodiagnostics competence, but also be a creative person, have high moral qualities, focus on the development of cooperation between students and create conditions for their creativity. Students need to inspired to form and maintain the need for creative thinking, innovation, and expression of their individuality. It is important to develop students' strategic thinking-the ability to set both short-term and long-term goals and achieve them. At the same time, the teacher must remain an authority for the student, be able to cooperate with students in the group, sharing their knowledge and experience. The implementation of the project method provides for a creative tandem between the student and the teacher, the result of which will be partnership, trust, increasing the authority of the teacher and cognitive activity on the part of the student.

A music teacher must understand the specifics of musical art, have knowledge of the basic laws of music, the features of using music in educational work, and have pedagogical competence. The education process for future music teachers using the project method be divided into phases, which will be accompanied by the implementation of projects that differ in type, number of participants, deadlines, tasks, activities, views of the final result. The project model can be represented as a step-by-step implementation scheme for its individual tasks (Figure 1). The evaluation procedure is important, which should take place after each of the implemented stages in order to make timely adjustments to the project, and to get feedback from student.



Figure 1. Step-by-step scheme for the implementation of project tasks (if pplicable for the content and type of the project)

As the student acquires the skills needed to complete the task and begins to comprehend the necessary material, the teacher must provide less support and transfer more responsibility to the student. The higher level of the student allows him to work independently. If the teacher incorrectly assessed the level of student's competence, and assigned too complex a task, there is a risk of insufficient understanding of the project issues, its essence, and what goals should be achieved. It is appropriate to form groups of students of different levels of competence. After all, explaining the material to each other, students learn it better. Students have the opportunity to reach the highest level by working with students who have more experience, teachers, or by involving professionals in the field in which the project is being implemented.

Interaction is an essential condition for successful implementation of project method. Group work of students is important – joint search for ways to solve the problem, the ability to negotiate, distribute responsibilities and responsibilities in the group are of the essence. These skills will be very useful if applied to future work with children. When choosing a project topic, the teacher should give students a certain independence, outlining only the desired field of discipline and the desired types of projects. The teacher should help identify the problem that needs to be solved. The identification of alternatives and their evaluation should be carried out by students. Projects do not necessarily have to be implemented within a specific course, they can be interdisciplinary, implemented as an elective, the subject of the project does not always have to be within the curriculum.

Getting new knowledge, students should build on existing ones, carry out their synthesis, attracting experience. The purpose of using the project method is to create a need to search for new knowledge. An important factor is that the project method allows using theoretical knowledge that may not have been implemented in practice before, and form a demand for new information. During the implementation of the project, students should be able to apply the knowledge obtained in related disciplines. For example, when implementing a project in the framework of the subject "music pedagogy", use the knowledge of the discipline "analysis of a musical work", "history of music education". During the project, students gain practical skills to solve specific tasks, learn to search for information, necessary materials, and work with specialized literature. The role of the teacher at this stage is to coordinate such a search, share experience and knowledge in time.

Special attention should be paid to developing project presentation skills. Music pedagogy involves the implementation of creative projects, or projects closely related to creativity, therefore, their presentation must be original, interesting, and at the same time informative and pedagogically effective. The success of a project presentation depends on four factors: its design, content, the actual presentation and the impact on the audience it had. Each of these components should be evaluated accordingly. When evaluating the project, an important element to consider is the public utility of the project and the impact of the presentation on the audience. In other words, whether the implementation of the project is interesting for others (students or individuals outside the group), or whether feedback from the audience has been established, emotional contact has been established, and what reaction and emotions the presentation provoked. If possible, it is necessary to evaluate the project not only by one teacher, but also to attach to the evaluation a jury – a group of people who are experts in their field. You should also apply the element of self-evaluation of projects by students. This will allow them to take a more critical look at the content of the project, learn to objectively and fully analyze project research in future teaching work. Among the evaluation criteria, the following can be distinguished:

- Relevance of the topic;
- Work planning, distribution of responsibilities within the group;
- Creative approach to implementation;
- Presentation progress (how the project is presented);
- Presentation of project results;
- The importance to society, and receiving feedback;
- Compliance with the curriculum, how much theoretical knowledge is used;
- Economic efficiency the cost of implementing the project.

Passing through all stages of design, students learn to independently supervise the progress of the project, forming project competencies. Working as a music teacher in the future, students will have appropriate theoretical knowledge and practical skills. It is appropriate to use project technologies in teaching specific pedagogical disciplines, psychology, and pedagogy (Htay et al., 2018; Alizadehsalehi & Yitmen, 2016; Gómez-Pablos et al., 2017). Students must learn to solve certain pedagogical tasks that will arise during their work at school. It will be convenient to try to implement a project during the teaching practice of students at school. To do this, of course, it would be appropriate to calculate time necessary for the project implementation, because the practice does not last long. The best option is to offer students projects whose implementation does not exceed 2 weeks and the theme of which is already more or less familiar to children. Before students-teachers will lead the implementation of projects by the pupils, they must repeatedly participate in the preparation of their own project, both individually and as part of a group.

Despite the fact that the positive qualities of the project method are obvious, not all teachers are supporters of it. Indeed, the implementation of the project method (not formal, but as complete as possible) has a number of difficulties. For example, not all teachers are ready to use them in the educational process. Among the main concerns are the lack of proper knowledge about the features of the project method, uncertainty about the effectiveness of the assessment that students will receive for their performance. Projects also take a long time to complete (especially for long-term projects), and there is a risk that unbalanced use of training hours for their preparation will lead to a reduction in time spent on other topics. The solution to this problem is to implement projects that meet the curriculum, and cover a topic that is interdisciplinary in nature. The problem with using the project method can be the complexity of organizing work and managing the group. Students themselves may not want to participate in the project work, being proponents of more traditional learning. Some may have difficulty adapting to the project method.

Insufficient attention on the part of students, suspension from classes, unwillingness to participate in them, conflicts within the group implementing the project – all these negative aspects must be considered and be able to work with them. Within the group, there should be established rules and principles of work, rules that cannot be violated. These rules should be set by students themselves, using teacher's directions. Special attention should be paid to organizing the work of a group of students. After all, in any group there are both active students and more passive ones who take the place of an observer during the implementation of group projects. The solution to this problem may be to transfer or separate roles within the project. For example, the presentation of the project results could be done not by a single speaker, but by means of distributing reports to two or three students; the transfer of the role of the project organizer, who interacts with the teacher, from student to student during its implementation. Each of the students should try to play an active role at all stages of the project implementation - in choosing a topic, searching for information, analyzing and systematizing it, developing a creative solution, preparing a presentation and conducting it. Let's look at examples of several projects that can be implemented as part of future music teachers' education process.

- 1. "Music of my life"
 - Project type: informational.

Number of participants: individual project.

Time for implementation: short-term, 1-2 weeks.

The result of the activities of: essay, presentation, using audio and video materials.

Task: the student must present a research on the musical direction, artist, or musical composition that they like. Describe what emotions arise while listening to / performing this music; the history of "getting to know" this music. The expected result of the implementation: the student gets the skills to prepare a brief information report or a small presentation, has the opportunity to be creative. The implementation of such a project significantly increases the student's motivation to study, because working on material that is undoubtedly interesting for him, he gets the skills to use project technologies.

- 2. "History of musical art of the region", "Modern musical preferences of local residents"
 - Project type: research.

Number of participants: a group of up to 5-6 people, it is possible to attract the help of third-party experts, the public.

Time for implementation: long-term, up to 6-7 weeks.

Result of activity: presentation, report, scientific article.

Tasks: students should carry out research in the chosen field. The research may involve persons who are not students-experts, representatives of the creative intellectuals, ordinary citizens. It is appropriate to use archival materials or conduct sociological surveys or questionnaires. The expected result of implementation: the student gets the skills of scientific work, because the project requires fundamental research, analysis of a significant amount of materials and the use of scientific methods. When assigning responsibilities in the project, each student should be encouraged to take one of the sub-themes for analysis and develop it independently, and then synthesize it into a complete study during group work.

3. Creative evening

Project type: creative.

Number of participants: group (any number of individuals within one group of students).

Time for implementation: long-term, up to 6-7 weeks.

The result of the project: the creative room, concert, performance.

Task: students should prepare a creative number or creative numbers in the form of a performance, song concert, dance performance, musical ensemble numbers, etc. on a specific topic. The best practice will be using several types of musical creativity in one room. Such a project can be presented either for your own student group or students of other groups, or in the form of an open concert for the general public. Expected result from implementation: the student gets skills of creative work, interaction with other students during the preparation of the project.

4. "Lecture"

Project type: applied.

Number of participants: individual or group of 2-3 people.

Time for implementation: medium-term, 2-3 weeks.

Result of activity: oral report, possibly using audio and video materials.

Task: a student or a small group of students gets a topic to prepare a lecture for the rest of the group. The topic is part of the curriculum of the discipline being studied. Students completely replace the teacher for one lesson, present the topic, and answer questions from other students. When working in a group, the selected topic is divided into several parts and each of the students reports on their own topic. This type of project can also be implemented in preparation for teaching practice at school. In this case, students prepare material for teaching students and then present it at the lesson during the practice. A more complex task of such an applied project may be the development of a mini-course in a particular direction of musical art or music pedagogy. The expected result from the implementation: the student learns to independently make a lesson plan, search for and prepare material for it, teach students, and form pedagogical skills.

Conclusions

The research proves the importance of using the project method when educating future music teachers. The implementation of the project method solves two tasks simultaneously: first, it provides an opportunity for students – future teachers to show creativity and originality during training, motivates them to get an education; second, it forms project competencies, laying down knowledge about project training, which can be implemented in further pedagogical activities. The application of the project method opens up new opportunities for students, significantly increasing their professional level. We can identify the main bases for using project method when educating future music teachers:

- Creating "scaffolding" a system of support for students by the teacher, taking into account the initial level of their competence, potential opportunities, and complexity of the project.
- Providing an advantage to the autonomous work of a student or group.
- Attention to the organization of group work the distribution of roles in the case of a group project, the share of participation of each of the group members in the work.
- The importance of using already acquired knowledge and applying interdisciplinary connections while working on the project.
- Support for the creative component of project work.
- Emphasis on the usefulness of the project for the group or public utility.
- Attention to the proper presentation of the project: its design, establishing contact with the audience, informativeness, creativeness during the presentation.
- The project must be evaluated separately at each of its stages.
- When evaluating the project, it is necessary to involve students in selfassessment, if possible, to form an expert jury for evaluation, whose representatives are not members of the group.

The result of using the project method will be the harmonization of relations in the group, formation of pedagogical competence of future music teachers, the formation of pedagogical practice, the formation of skills for searching and analyzing information, increasing motivation, developing creative thinking, skills of objective self-assessment. Project methods are one of the most promising and effective methods of higher education, especially in the training of teachers from creative disciplines. Further research in this area will be relevant.

This paper is intended for teachers and students who will implement creative projects during the learning process.

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