

**EdCW 2020****International Scientific and Practical Conference Education in a Changing World: Global  
Challenges and National Priorities****PROFESSIONAL COMPETENCIES FORMATION IN ART AND  
PEDAGOGICAL EDUCATION: A PROCESS APPROACH**

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(a) Yaroslav-the-Wise Novgorod State University, Veliky Novgorod, Russia, [Aleksey.Porovskiy@novsu.ru](mailto:Aleksey.Porovskiy@novsu.ru)**Abstract**

The article deals with the issues of the timely forming relevant professional competencies in art and pedagogical education. The author draws attention to the need to apply approaches, with the help of which it is possible not only to successfully form, but also to timely identify professional competencies, the demand for which may be caused by changes in the field of the graduate's professional activity which occur during training under bachelor's or master's programs. The importance of formulating the professional competencies and their indicators achievement in the context of the design of basic educational programs and educational-methodical complexes based on the state standard is noted. The article examines the process approach application in art and pedagogical education at the university, with the help of which it is possible to efficiently organize the process of identifying and forming relevant professional competencies. The author cites the results of surveys made by students, graduates, employers and teachers of the "Fine arts and additional education: arts and crafts" specialty at the Yaroslav-the-Wise Novgorod State University. The surveys were conducted from 2003 to 2009 and from 2012 to 2018. The author of the article offers some recommendations for optimizing the design process of the specialty's main educational program and work programs, taking into account the timely identification and formation of relevant professional competencies.

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## 1. Introduction

The implementation of the project large-scale tasks to increase the competitiveness of universities – a program of strategic academic leadership, will help achieve the national goals set by the president and increase the efficiency of higher education, without which it is impossible to achieve the ambitious goals of an economic breakthrough. At first glance, the relationship between the economy, education and civil society is not obvious (Pevzner et al., 2019). However, in the Decree of the President of the Russian Federation dated July 21, 2020 No. 474 “On the national development goals of the Russian Federation for the period up to 2030”, the national goal “Opportunities for self-realization and talents development” is directly related to education. Among the target indicators, there are quite traditional ones: Russia’s joining the top ten countries in the world in terms of the general education quality, ensuring its presence among the world’s leading countries in terms of research and development, and others. However, it is also said that it is important “... to form an effective system for identifying, supporting and developing the abilities and talents of children and youth, based on the principles of justice, universality and aimed at self-determination and professional orientation of all students”, where “identification” is, perhaps, the keyword for us (Decree of the President of the Russian Federation, 2020). In the context of implementing projects aimed at “breakthrough” changes, the need for new, relevant competencies increases as a result of the emergence of new graduates’ professional activity fields. Therefore, timely identification of these competencies is necessary.

There are various development programs for schoolchildren, secondary specialized education students and students in the framework of additional education within the country, for example, “Quantorium” and “Sirius”. The creation of projects in higher education continues, for example, the Technical School in Veliky Novgorod. What is the purpose of creating new projects if education reforms have been continuing for more than twenty years: the entry of Russian education into the Bologna process, the creation of a multi-level system, repeated changes in educational standards and constant educational programs updating? This is often explained by the fact that “classical” higher education is rather conservative and does not keep pace with the changes taking place in the professional environment of university graduates due to new reality challenges.

The remarkable thing is that earlier the transition from the qualification model of a specialist to a competence-based one was explained by the need to flexibly respond to modern challenges and form relevant competencies. What prevents modern higher education and a university from adequately responding to changes in requirements for a graduate and forming relevant competencies in this regard? This issue is also important for the teacher education specialties.

## 2. Problem Statement

The main problem of the research is to find a solution to the question of whether a higher educational institution or university can respond to modern challenges, timely identify and qualitatively form relevant professional competencies, in art and pedagogical education in particular.

The need to solve this problem is due to the following circumstances:

- changes in the graduates' professional activity related to modern challenges caused by the "breakthrough" national projects implementation;
- an increase in the modern society's demand for highly educated specialists with well-formed relevant professional competencies;
- the students and graduates' need for relevant professional competencies, allowing them to expand the field of their professional activities.

### **3. Research Questions**

In the course of the study, we have searched for answers to the following questions:

- 3.1. What approaches are used in higher education to form competencies successfully?
- 3.2. Which of these trips is the most effective?
- 3.3. Can a university today identify and qualitatively form relevant professional competencies driven by modern challenges in art and pedagogical education, in particular?

### **4. Purpose of the Study**

The purpose of the study is to identify the most productive approach to teaching as a part of art and pedagogical education, which ensures the high quality of graduates training, the formation of relevant professional competencies and their creative potential development.

The author of the study suggests that teaching as a part of art and pedagogical education will be more productive if it is carried out on the basis of implementing the process approach principles, which allow to flexibly respond to changes in the demand for actual professional competencies.

### **5. Research Methods**

Competence and process approaches are the methodological basis of this study. The competence approach is not only fundamental to education in the 21st century, but it is still used quite often within art and pedagogical education research (Mishina & Yavgildina, 2015). Competence and modular approaches are the methodological basis of modern professional standards. However, certain contradictions, initially inherent in the competence approach structure, are still evident when applying this approach from the standpoint of the graduates' training quality.

This is due to the fact that the assessment object, when applying this approach, is the educational result expressed by a set of competency groups.

In higher education there was already a long-term practice of managing the educational process according to its final result, which was described by the knowledge, skills and abilities necessary for successful professional activity. And, if the way to assess the quality of a graduate's training is to check the final product to make a conclusion about its compliance with the required criteria, this approach is an "expensive" way, since quality is assessed after the educational service is provided. Today, during 4–5

years of a specialist's training, as a result of intensive innovative processes, significant changes have been taking place in the economic, social, cultural and aesthetic environment of a modern person, which are reflected in a graduate's professional activity. For example, not so long ago, in the sphere of professional interests of an art and pedagogical education graduate, new directions of activity related to the society informatization have appeared for the fine arts and art culture. These changes required the urgent formation of new professional competencies, and it took time to understand and formulate these competencies.

The problem of the competencies formation quality in higher education has existed for several years. Solving this problem, researchers use different approaches besides competence (Piskun et al., 2016), this is a technological approach (Ilyashenko, 2018); environmental approach (Manzheley, 2016); systematic approach (Irina, 2013); axiological approach (Grebennikov et al., 2016); activity approach (Galustyan, 2017) and others.

One of the approaches applicable not only to the final product assessment, but also to the study of the educational process leading parameters, which ultimately ensure the quality of the educational result – the specified competencies formation is the process approach. The choice of this approach is not unexpected. A lot of materials have been published on the process approach as applied to production processes (Deming, 2012). A rare enterprise is unaware of the “Deming Cycle” (Hackman & Wageman, 1995).

In education, the ideology of the process approach began to be transferred to the higher education system, starting from the level of university management, as the basis of the quality management system (Luizzi, 2000; Pozdneev et al., 2016). Later, the process approach began to be applied to the competencies formation.

To explain the advantages of the process approach, in relation to a specialty teaching, it is necessary to briefly describe the basic principles of the process approach as a pedagogical phenomenon.

The presence of an objective dependence between the “output” result and the “input” state with the obligatory presence of controlled process characteristics.

The applicant's knowledge, assessed within entrance examinations or the USE, are considered as the initial indicators for the studying process at a university.

Formed competencies and the qualification acquired by students at the university will be the result of the process. In the course of the learning process, it is necessary to measure and control the following characteristics: the level of knowledge obtained by students in certain disciplines, the content of the educational program and academic and methodological complex, the teachers' qualifications, the university's resources and other parameters.

The state, university teachers and employers play major roles in the training of a qualified specialist, their requirements are the key ones at the process entrance. The parties concerned and the learning outcomes consumers are also students, graduates, applicants and even their parents.

As long as the purpose of the process approach is to increase the organization's functioning effectiveness, in relation to a university, it means an increase in the process output effectiveness – an increase in the concerned parties' satisfaction.

Each discipline of the curriculum is a link in the chain of the graduates preparing process and has an extensive network of “suppliers”– academic disciplines which precede its study, and “consumers”– the processes of the specialty graduates’ professional activity.

The advantage of the process approach is the continuity of the educational process management, which is provided at the interface between individual processes within the process system, with their combination and interaction (Porovskiy, 2008). Let us describe the competencies formation process from the process approach point of view.

The first step of the marketing stage in identifying relevant competencies is a questionnaire which covers the main respondents – employers, graduates and teachers. For this, polls are conducted among the groups of respondents: heads of specialized organizations where the graduates work, heads of other organizations falling into the field of graduates’ professional activity; the fourth and fifth (graduation) courses students, graduates and university teachers.

Based on the questionnaires results, concerned parties surveys, actual competencies and their components are determined, as well as the degree of customer’s satisfaction with the results of training in the certain competencies formation. That is, competencies or groups of competencies, which the “consumers” of the learning process results are short of (“consumers” dissatisfaction), are identified.

The next step is to define training modules, on the basis of which it is possible to make changes in the competencies formation process.

*The purpose of identifying the graduate’s relevant competencies is to include competencies, which will provide them with maximum opportunities for self-realization, competitiveness and the best result in professional activity in new conditions, in the graduate’s competence model.*

“Productivity” is one of the important characteristics of the process approach. This is due to the fact that productivity is not set initially, as efficiency or effectiveness, it is part of the substantive principles, the logic of the process approach itself. In other words, this approach is used to identify the necessary competencies, indicators of their achievement, the reasons for the insufficient competencies formation or their absence, and further elimination of these reasons ensures the improvement of the entire teaching process.

The process approach allows us to flexibly respond to various challenges, to make changes in the educational process, to achieve a new result, compared to the one planned at the beginning of the learning process.

To achieve the objectives of the research, the following methods have been used: theoretical analysis of philosophical, art history, pedagogical literature on research issues, analysis of the universities’ current experience; observation; questionnaire method and generalization of the empirical research results.

## **6. Findings**

The author of the article has repeatedly conducted studies, the purpose of which was to identify the reason for the insufficient professional competencies formation of art and pedagogical education graduates in a particular field, as well as to identify relevant competencies which are declared as necessary by consumers of the learning process results, but are short of by graduates or students. The

research has been carried out as part of the learning process in the Novgorod State University “Fine arts and additional education: arts and crafts” specialty and has been based on the process approach methodology.

The purpose of one of the studies carried out at the NovSU Department of Fine Arts and Teaching Methods was to identify the relevant professional competencies of future fine arts teachers, the lack of which has been noted among the consumer groups concerned. The research was carried out in 2003–2009. As a result of the consumer groups concerned (teachers of the fine arts of the city and region, heads of specialized and non-core organizations, senior students, etc.) surveys, a lack of professional competencies related to project activities in the field of graphic design and the use of modern computer technologies have been identified.

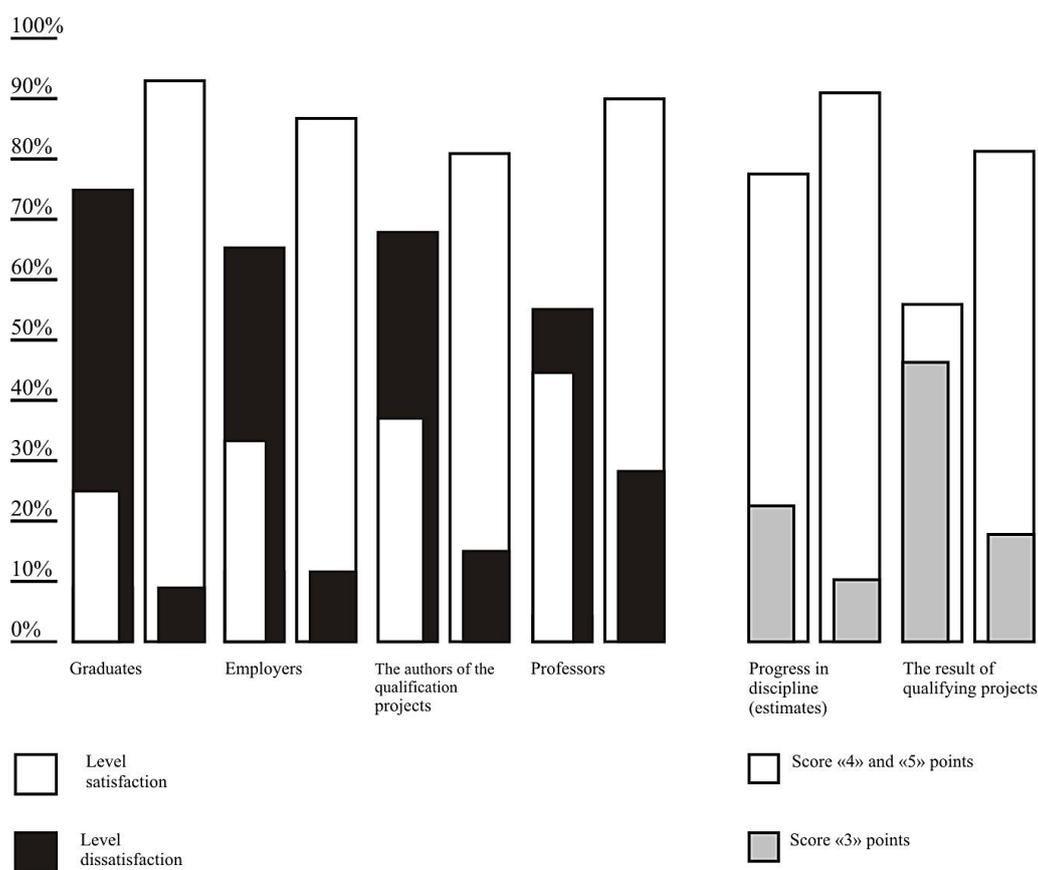
These professional competencies have been identified as relevant, the demand for them has not been identified previously. The new competencies have been designated as “professional competencies in the field of computer graphic design technologies” (PC in the field of).

Further, it has been determined that the identified competencies are formed within the framework of the “Graphic design” teaching process. For the formation of relevant PC in the field of CGDT, the working program of the “Graphic Design” module has been designed, supplemented with new content, within the framework of the main educational program. During the process of mastering the discipline, the student developed professional competence, which consists *in the ability to demonstrate basic ideas about graphic design and apply them in artistic, creative and pedagogical activities using computer technologies based on the laws of artistic composition.*

Further, after completing the discipline teaching process, completion of studying and final qualification paper defense, the surveys of art and pedagogical education results consumers have been conducted. Integral indicators of satisfaction with the formed competencies before and after mastering the “Graphic Design” discipline with new content are presented in Figure 1. In general, the implementation of the process approach to the training of future fine arts teachers has been successful, the quality of the future fine arts teachers training has increased. Consumer satisfaction has increased across different groups from 23–25% to 75–93%. More than 200 people have taken part in the survey.

The purpose of the second study was to identify the reason for the insufficient graduates’ professional competences formation in the field of artistic composition in the visual arts.

Surveys held among the consumer groups of Yaroslav-the-Wise NovSU art and pedagogical education, including students, teachers and employers in 2012–2016, clarified the professional competencies (PC) of art and pedagogical education graduates, the lack of which is felt most acutely, including PCs formed during the artistic composition studying. 32 graduates and undergraduates of the “Fine arts and additional education: arts and crafts” specialty have taken part in the survey, 17 employers and 6 teachers of art and creative disciplines. The PC of the art and pedagogical education graduates and the indicators of their achievements have been determined. As a result of the process approach principles application to the model of the teaching artistic composition process, it has been found that the incomplete students’ PC formation depends on the insufficient elaboration of the “Composition” module due to the lack of teaching aids and academic and methodological complexes based on the general conceptual constructs and logical structure of the module theoretical content (Porovskiy, 2020).



**Figure 1.** Indicators of customer satisfaction before and after mastering the discipline

Based on the results of the study, from 2012 to 2016, the author has developed teaching aids and an educational and methodical complex for the “Composition” module. When developing the theoretical content, composition was considered as a scientific discipline based on categories, laws and principles of natural sciences. Accordance to this, the module conceptual construct has been structured, concepts and formulations have been clarified, and basic definitions have been given.

To identify changes in the training quality and the required PCs availability, the author conducted surveys among the same consumer groups from 2016 to 2018. 52 second- and fifth-year students at the age from 18 to 22, 12 employers and 6 teachers – final qualifying papers managers.

As the surveys have shown, competencies are fully developed among 45% of graduates, most of whom have defended their final qualifying papers with “excellent” marks. Competence in the field of composition is sufficiently formed in 55% of graduates, most of whom have defended their final qualifying papers with “good” marks.

According to the employers’ survey, the majority of respondents (83%) have answered that this specialty graduates working on them have a high level of creative development; a small number of respondents (13%) have mentioned that graduates show sufficient creative initiative both in teaching and artistic practice.

Therefore, both studies show that using the process approach really helps the university to

promptly respond to challenges: relevant competencies, the demand for which was not determined earlier, have been identified; control actions have made it possible to form professional competencies quickly and improve the quality of graduates' training.

The criteria for the process approach productivity applied to the future fine arts teachers' training can be the following: the professional competencies formation and the training process implementation in art and pedagogical education, a description of the necessary process resources and control actions.

## 7. Conclusion

The process approach probably has great potential for application in pedagogical education, as long as a pedagogical education feature is that a graduate must have universal and general professional pedagogical profile competencies and, at the same time, be competent in the subject knowledge area – mathematics, physics, fine arts, music, computer science or, for example, physical education (Martynyuk & Medvedeva, 2006). A pedagogical university graduate functions simultaneously in the field of pedagogical education and in the field of science – a taught discipline, changes in the development of which can occur really quickly due to global changes in society. So, in the late 90s, in a short period, it was necessary to form relevant competencies related to the digitalization acceleration and society's computerization. A fresh example – in 2020, as a result of a pandemic, there was a demand in education for the formation of competencies related to distance learning and remote work.

The process approach methodology helps to formulate and describe these competencies and indicators of their achievement, to design the formation process. The condition for the effectiveness of the process approach implementation applied to specialists' training is the presence of a university quality system and an integrated system of the educational process organization and management, based on the use of competence, modular and process approaches.

Based on the above research examples, it is possible to recommend the heads of departments and university teachers to use the process approach methodology to identify relevant professional competencies, describe, formulate and form PCs and indicators of their achievement, which is important for designing basic educational programs and educational and methodical complexes.

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