

## The Development of Professional Competences for Future Designers and Technologists of Artistic-Industrial Enterprises

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**Abstract:** The problem of professional competence development among future designers and technologists is described in this study, the relevance of this problem is presented, analyzes the current staffing situation of artistic and industrial enterprises is analyzed. The presented methodology, in our view, most fully contributes to the formation of professional competencies in the re-created environment through an active involvement of undergraduate students in the artistic and creative activities. The performance indicator of this technique is the employment of graduates after graduation.

**Key words:** Future designers and technologists, professional competencies, educational environment, artistic and creative activity, artistic and industrial enterprises

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### INTRODUCTION

The modern production of art products is undergoing a new wave of “survival” in competitive market conditions. Due to this the requirements for higher education graduates are constantly increasing. If earlier producers had time and money for additional training of young professionals, now they need creative people, who have not only specific professional skills and knowledge but also the ability to adapt quickly in new conditions and the use of knowledge and skills in practice. It is well known that the term “competence” extends the understanding of this category and also involves the formation of personal qualities among students.

If we turn to the federal state educational standard for the preparation of bachelors according to the qualification 261400.62 “Technology of material artistic processing” and 072500.62 “Design. Graphic design”, we see that the key traits of a person in mastering any kind of activity should be the ability and the readiness to a particular activity (Andreev, 1988; Bermus, 2005). In our opinion, it is necessary to focus on two aspects of professional competence development: the development of readiness for professional work among future technologists and designers; the development of professional competences among future professionals through an active involvement in artistic and creative activity which is fundamental one in preparation.

**Analysis of the problem:** In the educational system and professional training of future specialists the concept of “qualification” is rejected and the transition to the notion of “competence” is performed which implies the possession of knowledge, abilities and skills, the ability to perform professional tasks, develop technological chains, the creative approach to problem solution, the ability to work in a team and be responsible for the taken decisions and the overall performance. On the basis of the stated facts the conclusion that the modern training of future professionals requires the search for new content of higher education is reasonable. The result of such an education should be a high level of professional competence development, at the application of which experts develop and organize a professional space (Elagina, 2008).

The analysis of current research on the issue shows that the practice of modern education is not enough oriented to the formation of competencies aimed at the definition of objectives, the projecting of professional activity goals and the ways of these objective achievement. Therefore, there is the need to search and implement new forms, situations, methods of training improving the quality of professional competency formation (Bermus, 2005).

There are numerous definitions of readiness in modern psychological and pedagogical studies. These definitions suggest that willingness is the condition for the successful implementation of professional activities

which shall be developed and perfected as by a man himself and the whole system of activities undertaken by education in general. The readiness for the professional activity shall be regarded as an integrated indicator of the entire educational process effectiveness on the development of a future expert and as a complex dynamic system that reflects the quality of vocational training in a high school and assuming the a graduate's compliance to the requirements of professional activity (Lymareva, 2013).

You cannot force a person to do work efficiently and creatively, if he has no motivation for this kind of activity. The motivation for professional activity begins with a professional vocation which is defined as the desire for a profession based on knowledge of a qualification purpose, the awareness of their capabilities, mastering it and the assessment of their potential professional skills as "a sense of qualification".

If a person will have the professional interests to his activity his work will be more successful. All this are the external expression of all that happens in the motivational sphere (motives, goals, meanings, emotions, aspirations, etc.). Professional interests appear when a man chooses a future profession or a qualification which means a selective activity in respect of a selected qualification (Zeer *et al.*, 2004).

During the training of future professionals a significant role is played by artistic and creative activity, which "penetrates" the entire period of study. Initially, the process of learning art samples made of different materials, the study of which assumes the analysis of artistic images, their relationship with a historical epoch, views, ideals, positive assessment and interiorization as personal beliefs. In this case, the influence of art on the formation of professional competencies during the process of professional training will be performed through the values of a creative personality, presented in an artistic image via an aesthetic evaluation of reality phenomena which ultimately promotes an active involvement in one's own artistic and creative activities.

#### **THE METHODS OF PROFESSIONAL COMPETENCE DEVELOPMENT AMONG FUTURE ENGINEERS AND DESIGNERS**

The level of future engineers and designers training must meet the requirements of employers, namely: a graduate should have professional knowledge, developed artistic and creative skills, technological, graphical and other activities; the skills of professional activity technology use, the result of development of which is the

professional adaptation that happens more quickly and efficiently and promotes an active life position development.

In order to develop the professional competence of future technologists and designers, we offer to introduce the following forms of educational process organization: the annual meetings with the representatives of the basic artistic production enterprises not only in the framework of scientific conferences but also in the process of training and consultations; the excursions to the base enterprises and special tours to the following museums LLC "Rosoruzhie"; LLC RA "Redi"; LLC "ARM-Komplekt"; LLC "KAMTSVET", etc. week subjects, master classes; scientific-practical conferences of students; decades of professions and qualifications; professional competitions, artistic and technical creativity; professional orientation program, profession fairs; the appointment of mentors for rapid adaptation and professional experience transfer. The simulation of working environment in the framework of an educational institution for practical skills development, where students learn to apply the theoretical knowledge in practice is also created here. The workshops are equipped with modern equipment which allow to recreate the conditions of real production and occupy the production areas comparable with a small production area (Lymareva, 2013).

By providing a non-conflict transition for students, the overcoming of obstacles and difficulties in the process of "introduction" in a qualification the use of various forms and methods is offered: the organization of psycho-pedagogical training aimed at the development of professionally significant qualities, the need for constant self-improvement, the professional development of their personality and confident professional behavior on the labor market; individual interviews, consultations; organizing and conducting of lectures, hours of communication, conferences and extracurricular educational affairs, aimed at a professional culture of students development, the transfer of professional environment values and norms; the meetings with curators, teachers, the representatives of the basic enterprises on the topics of readiness for the professional activity of students; the organization and conduct of pedagogical councils, teaching unions for the purpose of a student's personality better understanding and choosing the right path for further work with them; the productive contacts with relevant enterprises and workshops; the meetings with the representatives of the basic enterprises to hold speeches among students and their parents; the development of a program within which

students could obtain student working places for practical training and future employment according to their qualification (Krylova, 2014).

To increase the intensity in the artistic and creative activity, we used the following methods: the analysis of works of art which analyzed the samples of world artistic culture from the perspective of a product imagery, the concept of beauty, the information of age, country and style. During the analysis of works of art produced an ideal, the value attitude to art, culture, the tolerance to national peculiarities of art and culture are developed. Under this method, we determined the method of artistic analysis for the works of art. In this method, the analysis takes place from the perspective of a professional possessing certain knowledge in the field of artistic creativity (knowledge of composition laws, the means of artistic expression and the ways of these means proper use to transfer the imagery and the laws of color science, etc.) to allow an individual to project himself as a creator, to promote self-affirmation and self-esteem. The method of role-playing games. This method is used in the learning process during the creation of a group product. The point is in the freedom of choice of an individual role for a certain professional and an active involvement in the process of a product development. Students choosing a professional orientation (artist-designer, artist-constructor, technologist, master) define themselves in the activities, the responsibility in respect of work, self-control, self-education is increased. The interaction of groups occurs on the basis of general and personal attitudes, aspirations for self-realization in the creative process, projecting himself as a professional. The method of reflection is based on the identity of oneself, of his activities with the creators of works of art and the approval in artistic and creative activities. The method of professional design is in projecting of a person's professional future. Hence, the deliberate inclusion of a

person in professional activity (Hutorskoy, 2002). The aspiration to self-improvement and professional growth is activated. A professional value system, the need to master the skills of professional artistic and creative activities are activated. The method of self-appraisal allows to reveal the inner value potential of an individual, to analyze the behavior, actions, the assessment of their own creative abilities, powers, capabilities, the level of culture and so on. The method of an ideal projecting involves the analysis of his own life projecting (the sphere of hobbies, education, vitality). The process of artistic and creative activities helps to broaden the horizons, to establish contacts in a professional field (Kasatova, 2010).

**The results of professional competence development process among future technologists and designers:**

The performed study showed that some students worked actively in the classroom, doing research in their professional field, performed practical tasks in training workshops with creative passion, the other group was passive, their interests did not coincide with the professional field. After the implementation of the abovementioned method of professional competence development among students analyzed their own knowledge, skills and transferred them to a professional field, analyzed their own artistic and creative, professional activities, argued the adoption of certain decisions, analyzed the results of operations. Even at this level, students designed and simulated professional activities, looked for some forms, means of a goal achievement and determined the methods of work.

During the period of technique implementation the number of students who are afraid of failure in professional activity reduced. This is due to the fact that once they experienced all tasks many times. All the requirements of production and the environment were familiar to them. The results are shown in Table 1.

Table 1: The results of professional competence development technique implementation

Components				
Interest (motivation) for professional activity		The need for a professional activity		
Levels	Motivation criteria	Self-appraisal criteria	Self development criteria	Interest rate
Low	For students the professional activity was not and did not become a major one, most desired just to get a general education, an indifferent attitude	Students had low efficiency, unconscious, partial desire to realize their ideas, thoughts and abilities	For students the readiness for self-expression manifests itself in the realization of their ideas, feelings, thoughts, desires, as well as in the determination of their life status	6 men. 18%
Average	Students have an unstable, situational interest, an unconscious aspiration and an attraction to profession	Surface awareness of professional capability expression and manifestation in the future	Students represent the realization of their identity through the acquisition of knowledge and skills	15 men. 46%
High	Students clearly see the object and content of practice, they actively operate the acquired knowledge, skills and abilities, they have a stable motivation, needs, aptitudes, interests and the desire to engage in professional activities	Students have a pronounced own activity, the manifestation of personality and a professional start	Students are initiative, self-confident have high achievement motivation and the awareness of inner need to know yourself, They see self-realization through professional activities	12 men. 36%

## **CONCLUSION**

According to the data on the employment of graduates of 33 and 26 people were employed according to their profile. Thus, we believe that this technique is most relevant in this regard and its further development and improvement is possible in the framework of higher educational institution educational process.

## **REFERENCES**

- Andreev, V.I., 1988. *Dialectics of Education and Self-Education of a Creative Personality: Fundamentals of Creative Pedagogy*. Publishing House of Kazan University, Kazan, Russia, Pages: 238.
- Bermus, A.G., 2005. Challenges and prospects for the implementation of a competence approach in education. *Internet Mag.*
- Elagina, L.V., 2008. Vocational culture and professional competencies of an expert: From the analysis of relationship to the practice of development. *Vocational Educ.*, 5: 34-41.
- Kasatova, G.A., 2010. Pedagogical conditions of valuable orientations development among the future engineers in the process of artistic and creative activities. *Bull. Univ.*, 11: 52-54.
- Krylova, M.N., 2014. Optimal organization of training as the condition of professional competence development. *Prospec. Sci. Educ.*, 1: 107-111.
- Lymareva, Y.V., 2013. The innovative technique of bachelors-designers preparation. *Innov. Bull. Region*, 4: 46-50.
- Zeer, E.F., A.M. Pavlova and N.O. Sadovnikova, 2004. *Professional Orientology: Theory and Practice: College Textbook*. Business Book Publisher, Ekaterinburg, Russia, pp: 124-130.