Cluster Model of Designing Competencies of a Future Vocational School Teacher

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Abstract: The article explains the multidimensional nature of a vocational school teacher’s work in the process of exercising complex professional functions related to education, training and development of learners’ competitive personality. The cluster model of designing competencies for future teachers of vocational education in the field of image and style design is presented, which allows providing rationale for educational modules in major educational programs, as well as implementing adequate pedagogical technologies. Validation of the competency-based structure of the cluster model led to the conclusion that designing competencies are the multi-dimensional educational outcome of professional training of a future Bachelor of Vocational Education.

Key words: Teacher’s designing activities • Cluster model of designing competencies of a teacher in the field of image and style design • Multidimensional vocational pedagogical competencies

INTRODUCTION

Education and training of a future vocational education teacher is associated with development of professional competencies that include knowledge, general skills, interests and capabilities. The nature, framework and characteristics of formed academic and professional achievements are important to validate the modern vocational training system. Highly specialized core skills and abilities have been replaced by complex, integrative, multidimensional competencies. Referring to the global educational practices, the authors of the Russian education modernization strategy argue that competences have integrative nature and, therefore, represent the innovative vector of educational practice development. Currently the competency-based approach acquires more holistic structure. This is due to the fact that knowledge, skills and capabilities in combination with behavioral and motivational aspects are included as components into general multidimensional model of educational outcomes [1].

Referral to the category of "multidimensionality" in philosophical, psychological and pedagogical studies indicates the formation of demand for more adequate and volumetric description of reflected reality. Researchers found that particular manifestations of the multidimensionality phenomenon in human life depend on types of activities. Multidimensionality is exercised differently in various professional fields. In creative work it shows itself mostly as the ability to integrate (synthesize) different trends, objects and phenomena, approaches and attitudes, technologies and methods. The integration results in discoveries, development of high-technology manufacturing, unique works of art, etc. However, people tend to simplify their activities. This phenomenon is demonstrated in the article by A.V. Yalalov entitled "Multidimensional pedagogical competences"[2]. When projecting a multidimensional field of activity upon a specific plane, a person switches to a two-dimensional or one-dimensional reality, in which it is enough to have linear thinking. A person with linear thinking considers a problem unilaterally and gets a
fragmental solution. However, pedagogical activities are inherently multidimensional and multifunctional in the process of exercising complex pedagogical functions associated with training, education and development of competitive personality of students. The modern professional environment of a teacher is multidimensional and it challenges him/her with the task of "finding him/herself" simultaneously in different types of professional activities and different social communities. Functions of teachers change from normative to technological, designing, innovative and searching activities. As noted by researchers, pedagogical reality is "diverse, multi-layered and multi-dimensional, which requires a different language to describe it and different approaches to model it" [3]. A teacher is often confronted with complex issues. He/she has to consider a problem from multiple perspectives, at different angles, taking into account various factors. Such problems can be solved with development of non-linear thinking, which forms only when both cerebral hemispheres are simultaneously engaged. Combination of two types of thinking – left-brain and right-brain – forms nonlinear thinking, in which logics is supported by intuition and vice versa [2, p. 48]. The development of these processes requires an appropriate technology of professional training.

Professional training of future teachers, analyzed in the context of the competency-based approach, represents a complex system of functions and types of professional activities, upon which a general property of the system – formation of innovative self-enhancement abilities of future teachers – is projected. Future graduates of major educational programs in the field of “Vocational Education” should meet the requirements applicable to vocational education system. Meanwhile, new goals and objectives should not be achieved by means of expanded vocational training, but through the focus of academic disciplines on development of students' abilities in designing, creative endeavour and ongoing expansion of their knowledge base. Designing activities of students, in our opinion, represents a set of analytical, searching, constructive, computational, graphic, practical, creative and other types of activities carried out by students on their own to solve professionally relevant issues in various subject fields. This fact allows us to conclude that designing is associated with main professional activities of a future vocational education teacher and designing competences are common or mobile professional pedagogical competences. The Federal State Educational Standard in the field of "Vocational Education" defines main types of professional activities of a Bachelor of Vocational Education: educational and designing, organizational and technological and job training [4]. From the list above it is evident that the authors of FSES associate designing process with pedagogical activities. However, the analysis of demand in the labor market showed that employers provide rationale for inclusion of designing in other professional activities of future workers and specialists. For example, artistic and designing activities are relevant for design teachers. This type of designing activity, as well as designing in the field of design project execution technology constitute a significant part in general professional training of a future design teacher. Designing, which accompanies professional’s activities in various fields of work, provides their mobility, adaptability and flexibility.

As A.V. Khutorskoy correctly noted, education exists only when it is designed and as long as it is designed, therefore, we should specify the theoretical foundations of the model structure for professional and pedagogical designing competencies [5]. Systemic, structured approach is the most effective tool for creating multidimensionality. Systemic consistency allows addressing an issue broadly, while structural consistency provides the depth of analysis and the integrity of both helps develop a holistic model. The idea of ??clusters in presenting the multidimensional model of designing competencies is rather modern and innovative. It allows us to effectively recognize in the stream of information the "related" objects that can be reasonably grouped into one cluster to validate training modules of educational programs, as well as pedagogical technologies for their formation and development [6].

Components of the cluster model of designing competencies include: 1) main types of designing activity of a future vocational school teacher: pedagogical and designing, job training, artistic and designing, organizational and technological; 2) clusters of designing competences in the field of pedagogy and design: methodology and designing competencies; competencies in designing of professional and personal capabilities of future workers and professionals; artistic and designing competencies; project and technology competencies; 3) modules within the cluster framework that allow us to form multidimensional designing competencies: systemic activity, practice, technology and creativity modules (Fig. 1).
Fig. 1: Cluster model of designing competencies of a future design teacher.

Cluster Model Components Contain:

- Methodology and designing competencies (MDC) referred to as the ability of a teacher to design and construct training tools and technologies that form channels of communication between the pedagogical activities of a teacher and students' cognitive performance.

- Competencies in designing of professional and personal capabilities (DPPC) of future workers and specialists, referred to as the ability of a teacher to define interests and professional motives of students, create conditions for implementation of the trajectory of his/her personal and professional enhancement in educational settings of an educational institution.

- Artistic and designing competencies (ADC), i.e. the abilities in the field of artistic designing and composition modeling of design objects in the form of an artistic image - a prototype of a real design object.

- Project and technology competencies (PTC), which represent the abilities of a vocational education teacher in the field of design to search and implement optimal technologies of creating designer collections of hairstyles, garments and accessories, as well as techniques for consumer’s image and style optimization, taking into account physical, chemical and technological properties of materials, tools and equipment used for realization of artistic and designer ideas.

Implementation of modular principle in creation of the cluster model for designing competencies allows us to specify the focus of educational process in vocational training on formation and improvement of students’ capacity for self-designing in the settings of multilevel vocational education and, consequently, professional adaptability in life [7].

Competencies MDC, DPPC, ADC and PTC integrate cognitive aspect (competency + letter C), activity aspect as general skills (GS) and value aspect (V) generated in specialists, referred to as the ability of a teacher to the process of development of designing competencies. Cognitive aspect (knowledge and understanding), general skills and value aspect of competencies focus on mastering the theory and practice of designing activity by a future vocational education teacher.

We designed the contents of an invariant part of each competency cluster using technologies of context-depending teaching and vocational pedagogical orientation. The meaning of the competencies is as follows:

- MDC-C: 1) analysis, structuring, reduction, visualization of instructional information; 2) intellectual operations and methods of information analysis and synthesis; 3) mastering the method of instructional material content modeling; 4) semantic information acquisition, drawing conclusions;

- MDC - GS: 1) use of structuring, systematization and visualization techniques and work with instructional texts; 2) diagnostic construction of educational goals; 3) structural and logical analysis of
middle-east j. sci. res., 19 (1): 89-93, 2014

instructional information; 4) selection of a strategy and designing of a technology for development of learners’ competencies; 5) work with a variety of sources of instructional information; 6) creation of a system for analysis of educational and professional achievements;

- MDC - V: 1) mastering the constructs of educational activities; 2) pedagogical review of methods and techniques of development of education tools and understanding their impact on educational process efficiency;

- DPPC - C: 1) knowledge and understanding of motives behind selection of a profession and learners’ plans for life, 2) knowledge of main and additional vocational education programs; 3) knowledge and understanding of learners’ cognitive capabilities; 4) knowledge of techniques for designing educational routes [8];

- DPPC - GS: 1) designing of analytical tools; 2) constructing educational routes;

- DPPC - V: 1) selection of rational ways to design an individual trajectory of students’ professional and personal development;

- ADC - C: 1) a system of general knowledge about project designing; 2) specific signs in design planning;

- ADC - GS: 1) mastering general methods of artistic design; 2) mastering the techniques of modeling and designing objects of material and spatial environment;

- ADC - V: 1) evaluation of personal artistic capabilities and specific perception; 2) experience of critical thinking in personal creative work [9];

- PTC - C: 1) knowledge of technological planning of design objects; 2) diagnosis and prognosis of technological work; 3) types of sign and symbol-related activities (coding, schematization, modeling and substitution) [10]; 4) design technologies, methods and tools;

- PTC - GS: 1) mastering methods and techniques of selecting materials, tools and equipment for use while implementing hairstyling, make-up, wig and facial hair making technologies; 2) identification and selection of technological maneuvers for a customer's image optimization based on his/her individual (anthropomorphic, anthroposcopic, psychophysical, etc.) characteristics; 3) mastering ways of expert evaluation of technological processes and design objects.

- PTC- V: 1) selection of efficient forms and methodology components to teach design technologies; 2) self-evaluation of personal experience with organizing technological process; 3) commitment to undertake technical and content-related examination of technological processes and design objects.

CONCLUSIONS

The principle of multidimensionality in development of designing competencies indicates:

- Systemic activity-based construction of holistic educational process for development of vocational competencies of workers and specialists in the field of image and style design, including planning of vocational training diagnostic goals, selection and structural arrangement of instructional information, development of presentational forms of professional activity contents to learners, selection of methods and forms of vocational training, development of tools for evaluation of educational and vocational achievements [11];

- Variability of design contents in different types of vocational and pedagogical activities;

- Projection of multidimensional modeling and construction of professional and pedagogical activities of a vocational education teacher in the field of image and style design in educational results.

Resume: Thus, designing competencies of a future vocational education teacher represent a variety of vocational and pedagogical competencies that reflect the multidimensional educational outcomes of future vocational school teachers’ training, which determine his/her versatility, mobility, creativity and develop on the basis of structured associative memory, multiple focuses and non-linear thinking.

REFERENCES