Students-Designers' Professional Competencies Formation by Means of Folk Arts and Crafts

Sergey Mikhailovich Budkeev, Julia Vladimirovna Kiryushina, and Larisa Vladimirovna Shokorova

Altai State University, Altai region, Barnaul, RUSSIA

ABSTRACT
This article reviewed the structure of design activities, special aspects of the specialists' training in multi-disciplinary design environment, the formation process of their cultural and professional competences, necessary for artistic, creative and research activities in the field of design. It identified the components of the national indigenous culture in the formation of the design of objects, problem of continuity in the development of different areas of the material and artistic culture. It substantiated the role of intersubject communications in the formation of professional competences of students-designers and the value of discipline “History of traditional culture” in the professional and artistic training of future designers. It characterized ways of making graphic design, with account of folk art traditions. It defined methods of integrated education in vocational and artistic activities. It proposed pedagogical conditions of future designers' professional competences formation based on acquiring scientific knowledge and specific technical skills.

KEYWORDS
Intersubject communications, integrative education, artistic and decorative activities, folk arts and crafts, design, design graphics

ARTICLE HISTORY
Received 3 May
Revised 13 July
Accepted 22 July

Introduction
Interinfluence Among Fields of Design and Arts and Crafts

Modern conditions of social development characterized by the globalization of social and cultural spheres cause the decrease of interest in the national culture and the loss of ability to perceive it, the depreciation of the scientific and cultural achievements of a people, they limit the ability of reproduction of national and spiritual values of Russian society. “Design has become a
phenomenon of XXI century's artistic culture. It aggressively bursted into our lives and has become one of the most popular and influential forms of design and artistic activity” [13, p. 5]. Folk arts and crafts gave way to new project structures of a developing society, in which disregard of traditions of forming objects in favour of functionality, constructive rationality and efficiency of products leads to unification and typification of products of machinofacture and even the needs of the people. V. V. Chizhikov notes: “... design, internally changing, brings into life modified forms, manifesting cultural patterns and norms of society, creating an eclectic remakes of traditional forms in “new wrappage” [17, p. 59]. Systemic problems clarify the need to address the issues of continuity in the development of material and artistic culture's different areas, specifics of the design works' artistic imagery formation.

The origin of design was in the depths of folk art culture, the substantive world of it was created on the basis of a manual art work. Demand for machine production's form making and replication of products aimed at mass consumption, has caused the self-determination of design as a special kind of objective artwork. Therefore, a fundamental principle of design as a form of artistic and design activity is the traditional folk art. Currently substantive human environment is considered not only as a means of ensuring the functional processes, but also as an individual sphere, connected with the peculiarities of personality and its originality. So, it is necessary in designing new forms to apply to the principles of folk art, which carry the unity of good and beauty, reveal plastic and ergonomic properties of the material, decorativeness, reflect spiritual basis of the world outlook and aesthetic needs of a person [22, p. 147].

**Formation of Professional Competency of Students-Designers**

Active transformations of modern society make changes in professional art education in the field of design. Formation of objective-spatial ambiance and its harmonization with the environment places new demands on the quality of training of future designers, aimed at the development of creative thinking and mastery of designing technology and form making of objective-spatial ambiance. The most important task of art education system becomes full-range training of a competent professional in the field of design, with universal integrity, able to solve social problems by incorporating the human in different cultural and historical environment (objective-spatial, communicational, visual and significant, etc.) [1, p. 23]. In this regard, priority in the training of future designers should be the formation of the students' general cultural and professional competencies, necessary for artistic, creative and research activities in the field of design.

The concept of competence is one of the key issues in today's research and educational practices. Competence is the ability and willingness to use knowledge, skills and personal qualities for professional implementation of tasks in a certain area, the manifestation of independence and creativity in solving the problems, a sense of responsibility for the results of activity [6, p. 32]. The concepts of competency and competence are dialectically interrelated. As B. T. Kenzhebekov defined: “Professional competence is a complex of integrated fundamental knowledge, summarized skills and abilities, his significant professional and personal qualities, a high level of adaptability, culture and mastership, creative approach to the organization of activity, willingness to continuous self-development” [9, p.178].
The most important components of designer's professional competence are:
- Motivational and axiological (professional motives and values);
- Cognitive (knowledge);
- Practical (skills);
- Individually-psychological (capacity);
- Personal (personal qualities).

Motivational and axiological sphere gives the art-project activities impelling power and meaning to specific objectives and actions. The most valuable ones are professional motifs that are deliberate need in the knowledge and development of different kinds of art for the effective implementation of professional work in the field of design.

Professional competency, acting as a means of professional activities, aimed at solving a number of problems, in particular, to the acquiring of knowledge which is systematic, deliberate and inter-disciplinary. Leading for mastery of professional competency is the knowledge of the works of world and national fine and decorative arts, architecture and design, folk art theory, the specifics of its artistic and figurative language, the basics of academic drawing and graphics design, the features of graphic pictorial means.

An essential component of a designer's professional competency are the skills that are defined as a complex of techniques to ensure a person's ability to accomplish a task. The specifics of this competency requires mastery of such skills as a sketch and a demonstrational image of objects and environment in closed and open spaces, art designing, the mastery of artistic means complex (form making, composition, coloring), qualified execution of design projects by graphics and computer technology, use of theoretical knowledge in the field of various arts. Qualitative making of design project depends on the of practical skills of the idea realization and professional mastering of art-graphic activity in practice.

Individually-psychological component of professional designer's activity is the ability to independently acquire new knowledge and skills, the ability to evaluate the results of the work, development of artistic personality, awareness of past experience, the conscious nature of self-organized activities aimed at the planned concrete results.

The personal component is the realization of their abilities and opportunities by future designers, the desire to engage in artistic and design activity, the satisfaction from professional work.

**The Role of Intersubject Communications in The Formation of Students-Designers’ Professional Competencies**

Integration of Sciences is “the convergence of sciences and scientific disciplines, incorporating them and their methods into a single entity, erasing boundaries among them. At that, not any drawing together of Sciences leads to integration, but only one that produces a complete picture of knowledge” [4, p. 42]. Design activities have integrative structure as includes various kinds of activities, subordinated to common purpose and being a solution of a number of specific tasks: the development of perception, imagination and thinking, getting theoretical knowledge in the humanities, social and economic sciences, the acquisition of practical skills in artistic and project activities. The structure of
the design activity is determined by the integrated nature of its constituent parts - painting, constructing, design, etc. “With the help of multifeature intersubject communications the objectives of education can be solved qualitatively, on a new level, as well as development and education of students; a groundwork for an integrated approach can be done for education and didactic condition of educational process' increase efficiency” [18, p.11].

Intersubject communications in the framework of the curriculum are the first step towards integrative education, the most important characteristic of which are methods of semantic grouping and semantic interrelation of educational material. Such semantic groups are common leading topics of special disciplines (plastic anatomy, drawing, painting, composition, sculpture, design, form making, etc.). Common in studying of these disciplines are the concepts of “image” and “imagery”, “subject”, “idea”, “style”, “composition”, “color”, “tone”. Mastering the techniques of knowledge transfer from one specific discipline to the process of mastering the other one brings into the analytic-synthetic and practical work of students a focus and consecution in solving both common and private educational and creative tasks, increases the activity of independent work of students, provides better organization of mental activity.

Integration does not reject the differentiation of disciplines and does not presupposes the creation of new interdisciplinary courses, also does not excludes the specificity and autonomy of the individual parts of the whole. Multiplicity of integrative connections leads to different forms of integration: integrated lessons, integrated school subject, an integrated curriculum, integrated learning and practical activity, etc. The integrative approach to education is a complex of tasks, content, forms, methods, techniques, tools in the study of the interconnected material of interrelated disciplines to create a system of knowledge in a particular area, influencing the formation of a holistic world view of students. The entirety of integrative education, built on the consistency and ordering of intersubject communications, as a result, will form systematic knowledge and skills of students as professional competence, allowing future designers to solve complex manifold problems in a project activity.

Integration mechanism is implemented through the following stages of training activities:

- I stage – in-subject generalization and systematization, aimed at creating common knowledge and skills;
- II stage - interdisciplinary transfer of the knowledge and formed skills;
- III stage - the creative use of the knowledge and skills by students, acquired in their own professional activity, leading to getting new knowledge and methods of action. Transfer should not be carried out mechanically, for example, using any of the concepts of one subject in the study of the other a development of it can happen, the injection of it into the system of other concepts, using it in the construction of theories, explaining the facts of artistic and design activity. Solving design problems in the process of integrated education, the convergence of scientific and artistic knowledge, required for the professional activity of student-designer takes place, as well as selection of significant for concrete situation scientific, technical and artistic methods.

*The Meaning of Discipline «History of Traditional Culture” In an Integrated Education*
Acquisition of discipline “History of Traditional Culture” in the professional and artistic training of future designers is aimed at developing students’ system of scientific knowledge in the field of global, national and regional art, idea of contemporary artistic and cultural space as an integral components of professional competence. The study of this discipline contributes not only in raising the necessary level of theoretical knowledge of the humanities, but also quality of visually perceived artistic and aesthetic values, modeling a picture of the world [2, p. 18]. Formation of the future designer's professional competency by the means of discipline “History of Traditional Culture” is a professional study of specific stylistic features of folk art objects, as well as the ability to independently interpret them in practical activities. “These skills are necessary for educative relationship to the history of the peoples, an understanding of their common historical destiny. This will undoubtedly facilitate the entry of young people into a modern multi-ethnic, multicultural Russian society” [19, p. 32].

Contents of discipline “History of Traditional Culture” is inextricably intertwined with the actual concept of “discarnate cultural heritage”, which includes:

- Verbal traditions and expression forms, including language as a repository of the discarnate cultural heritage;
- Performing arts;
- Social practices, rituals and festive events;
- Knowledge and practices concerning nature and the universe;
- The knowledge and skills associated with traditional crafts.

This discarnate cultural heritage, transmitted from generation to generation, creates a sense of identity and continuity, thus contributing in respect for cultural diversity and human creativity [10, p. 245-246].

Integration of discipline “History of Traditional Culture” with other disciplines of the curriculum of students-designers includes a number of conditions:

- Objects of study should coincide or to be close enough. Designing of substantive objects, students have to make a selection of artistic material for various types of folk art. It conduces the development of sustainable concept of objective beauty and aesthetic ideal in folk art, becoming a world view and aesthetic views, that is keynote of the traditional art culture. Consequently, the study objects of discipline “History of Traditional Culture” and special disciplines (“Form making”, “Design”, etc.) are inherently close. In integrated educational disciplines are used the same or similar methods. Common methods of research in the study of discipline “History of Traditional Culture” and special disciplines include:
  - Ascent from the abstract to the concrete;
  - The method of analogies;
  - Methods of empirical analysis, synthesis and generalization, contrastive-comparative based on the principle of historicism;
  - Analytic and design activity methods.

Thus, the development of discipline “History of Traditional Culture” in the professional and artistic training of students-designers will not only contribute in mastery of narrow professional material, but also form a developed culture of
perception, reflecting the extent of the valuable content of the individual, which is a priority of the education system.

**Methods**

**Folk Art Traditions in Future Designers’ Training of Artistic and Graphic Design**

Students-designers’ training of artistic and graphic design should be based on the fundamental principles of academic drawing system, “aimed at training of professional artist with a high level of graphic literacy of drawing culture” [5, p. 415]. Academic drawing helps to know and learn the reality in various types of spatial and plastic arts, promotes the mastery of creative methods of work in artistic activity, develops artistic taste, professional perception and creative thinking, provides the skills compositional thinking, creates a spatial vision of objects, etc. [7, p. 12]. But at the same time training should not be limited to basic knowledge of drawing, painting and composition, but should be associated with the specific of graphics in concrete kinds of design. Project graphics (special drawing) is one of the main components of students-designers’ training. The contradictions between the requirements of the academic school of fine arts and narrowly focused specific objectives of future designers’ vocational education reveal discrepancies between the actual and the desired state of the results on the quality of design projects. Future expert in the field of design should first solve the structural and creative tasks, but at the same time to be master of decorative painting or sketching making design of substantive environment products. The development of new design solutions based on natural material gives the future designers’ creative search solidity and large scale. “The transition to future work, to the search for a decorative form is possible only through the ability to see the logic of the geometric design and a structure of composition” [20, p. 12].

The main objective of project graphics is to create artistic image through the transformation of realistic objects. Creating images is the result of the thinking process through the perception of real objects or their graphic images. Analysis of the object, its structure, shape, spatial position allows to highlight the most important elements that form the basis of the depicted object or phenomenon to create expressive artistic image [8, p. 12]. To draw an image that exists in the imagination, the student must have the ability to realize any form in a variety of positions and to represent it in the right perspective. This requires a clear imagination of an object, its parts, shapes and designs, that is, knowledge of nature. In the process of graphic activity on the basis of careful selection and study of individual facts generalized image appears as total, directly derived from observations, drawings and sketches. Artistic generalization is a way of the necessary imaginative transformation of the reality reflected by artist, it emanates from the principle - from simple to complex [16, p. 74]. Plastic expressiveness of the image and its decorativeness form the basis of original and demonstrative results of projection in all kinds of design. “Decorativeness is a tool of artistic and creative thinking, the characteristic feature of which is the creation of a special composition model, which is used to identify the internal coherence of the product, proportionality and ordering of all its details and forms” [8, p. 157].
In the process of substantive environment design revealing their conditional decorative qualities is made on the following areas:
- Through the plastic of volumes interaction;
- Through identification of form making and decorative qualities of the material;
- Through a combination of expressive graphic means and working methods;
- Through the integration of acquired knowledge from different fields of knowledge.

High importance in art-project graphics has interpretation of realistic objects that turns external impressions into “figurative language” of inner world of individual person. On the one hand, it identifies a secondary allegorical meaning, and on the other – it is aimed at finding its own meaning. In both cases - it is a generalization of the various aspects of knowledge, creativity, and attitude toward them. Interpretation is concerned with understanding, explanation and exploration of significant relationships in cognitive objects, the meanings of language, sense and methods [11, p. 203].

Stylization is a specific process of formation in artistic and creative activity, based on creative processing, modification of objects and environmental phenomena of reality by artistic generalization in accordance with national traditions and material. Stylistic interpretation is a selection of particular expression quality specifics, associated with identifying style. Historical interpretation is related to the analogy of particular culture and time. The psychological interpretation is based on the individual style of activity and emotional experience. In the process of project graphics training, interpretation, as a way of the future designer's professional competence formation, is evolved in the understanding of language, the formation of specialized graphic design and, at the same time, individual style of activity [15, p. 19].

Great importance in the formation of professional competence in design education is given to the use of computer technology, aimed at developing the ability to navigate in an environment of modern advertising, communication, manufacturing technologies and competently represent the ideas, projects and the results of creative process in accordance with modern requirements. Computer graphics allows you to create a special graphic information environment with special tools. In Corel Draw, Adobe Illustrator, Adobe Photoshop, you can do the following actions: copying elements, rapid transformation, formatting, creating a texture (marble, wood, metal, etc.), duplicating rapport of ornament, making mirror images of graphic elements, zoom sketches, and so on. [21, p. 408]. Development of the technical capabilities of software and hardware allows to shorten laborious manufacturing of traditional folk ornaments by certain stages of production automation, without leading to a decrease of the final product’s artistic value. The use of computer technology in the manufacturing of objective-spatial environment products, in particular the national arts and crafts, is not a process that displaces manual labor, but contributes to its improvement and effective functioning.

Training Methods Factored in Professional Activities of Design Students
"The current practice of design education is based on the specialized training, caused by a variety of design genres (industrial, architectural, graphic, landscape, art, environmental, etc.) and its social and cultural nature" [14, p. 43]. Specificity of design training requires inducting in it some special techniques of professional education. “The method and the technique used in design work help to achieve the project purpose, to solve special designer's functional-spatial, technological and artistic problems, to find the best sequence of operations required to obtain the desired result” [3, p.190]. The feature of design method and methodology is the simultaneous focus both on the pragmatic and the artistic results during the project activities, and the hierarchy of the relevant settings and ways to achieve them can be changed in the process. This means that the method and the technique of designer are to contain elements, synthesizing the engineer-technician and art creativity capabilities, which outfit determines the specificity of professional work.

On the setting stage of training the most effective method is propaedeutic, supporting to remove the contradiction between the narrowness and the “specialty” of modern design work training, covering the spectrum of special theoretical and practical disciplines, providing theoretical knowledge and practical skills of graphic design language and compositional shaping. The method of integrated training synthesizes knowledge, obtained by students in the study of the discipline complex, provides an opportunity to acquire those universal techniques of artistic design project activity, which further allow students to adapt for solving design project problems in its variety of complexity. The method of creating problem-based situations will expand the context of a student task, remove it beyond stereotyped solutions in order to find a non-standard resolution of the situation. Suchlike training is directed to the individual creative mastering of the profession and also to the development of creative design project thinking and professional independence. This method orients students to rethink already existing ideas and to generate the new ones [24, p. 1502]. Design training methods include heuristic methods of invention, the project method, as well as a number of techniques and methods similar to the methods used in various kinds of artistic and scientific creativity. In the process of professional formation design student included in a variety of meaningful activities for the purpose of formation his professionally important qualities. Therefore, elaboration of designer professional competent training methodology, using integration means, should be considered in the following aspects:

- Forming the diagnostic learning purposes and the expected result;
- Selecting and structuring the educational material;
- Choosing the optimal methods, forms and means of teaching and learning activities, distributing the time allotted to perform various tasks, forming the required levels of material under study assimilation;
- Defining the quality control and measurement procedures of the study program.

**Pedagogical Conditions of Formation Future Designers' Professional Competencies**

The most effective pedagogical conditions of formation future designer's professional competence are:
- Orientation of the educational process of the design students on formation and development of motivational and evaluative, cognitive, practical, individual psychological and personal components of professional activity;
- Use the conception of personal training in the educational process to prepare the creative person specialist;
- Construct the educational content on the basis of the complementarity of disciplines, unity of purposes, objectives and requirements;
- Use the interdisciplinary connections, playing a critical part in enhancing the practical, scientific and theoretical students' training and in the future professional activity of a specialist;
- Organizing the process of students' self-education, providing the formation of cognitive activity motivation, self-improvement and self-development;
- Use the modern educational technologies aimed at the formation of the information competency, expanding organization forms of independent work.

Results

Formation of professional competence and the ability to use it in a professional activity in order to achieve qualitative and relevant results is one of the main problems of the future designers' education. It will provide a training of competitive, in-demand specialist able to realize his potential in the new socio-cultural conditions, to create highly artistic samples of spiritual and material culture, to master traditional and modern tools, methods and technologies of realization of object environment's artistic-imaginative design products [22, p. 2185]. Professional competence of the designer is formed by means of special courses aimed at obtaining a system of scientific knowledge in global, national and regional art and mastery of art-graphic activity.

Training of the future designers, based on folk art traditions will help to find a compromise between the modern trends of unification and typification of substantive environment, and the values of national culture, reflecting the spiritual basis of philosophy and worldview. Integrative education of students-designers and intersubject communications of disciplines in the curriculum transform the learning process, make it more focused and effective.

Discussion

Dissociation of specializations, types and trends in the multidisciplinary field of design reveals a discrepancy of the professional qualification of designers-graduates, who work for the purpose of the formation of object-spatial environment, taking into account the specifics of traditional folk art. As a consequence, there is a loss of priority of the Russian national culture in the field of design. The domestic design, operating by universal language in terms of technological design, creates new cultural senses which are often deprived of value orientations. The problem of national identity in the design is directly related to the problem of tradition and innovation in contemporary art. A system of relationships among essential design features is currently forming, and it regulates the development of concepts in the framework of activity: the artist of decorative art - the designer. Under this system, it implemented a brand new phenomenon - the interpenetration of arts and crafts and design [23, p. 148]. The development of modern design depends on the vocational training of
students-designers, so the study of the national traditional culture is the leading component of the professional competence of the future experts in the field of design.

Design of design-objects' new forms reveals the problem of lack of knowledge about the specifics, decoration and traditional purpose of substantive environment form making. Designing products of folk art have dependence on the stamps defined by a computer program. Lack of intersubject communications reveal the inability of students to move objectively sufficient knowledge, transiting to a new discipline or performing specific tasks in the creation of design-objects.

**Consequence**

Professional and artistic training of future designers is a complex process, including cognition and creativity in the unit form. Professional competence formation should be based on knowledge of the basic laws of graphic work, global, national and regional arts and crafts, advanced artistic perception and formed practical skills in projecting the products of substantive environment. The designer must not only solve the constructive and creative problems, be the master of decorative painting and express his idea and figurative solution of the future product through the conversion of realistic objects, but also know the specific stylistic features and the characteristic aspects of folk art and be able to interpret them independently in his own practical work. For this reason, future designer training must be an integrated education, based on the interdisciplinary connections. Continuity of disciplines, close relations between them will ensure the development of creative thinking, the forming of original formation skills on the basis of the past traditions, skills to turn an engineered form to a specific material, carrying the product in substantive culture in all stages of the creative process. Design objects projecting should be based on methodological principles taking into account the professional work of design students. They reveal the fundamental positions, which must be followed to obtain that universal techniques of artistic and project design activity, which in future will allow adapting for solve design project problems in their variety of complexity.

Thus, on the basis of the foregoing, it must be concluded that the socio-economic changes in society have led to significant changes in professional education in the field of design. Creating new forms of object-material culture in harmony with the environment places new demands on the quality of training of future designers. Genre diversity of design requires the introduction of special integrated methods of training students, aimed at the development of perception, imagination and thinking, theoretical knowledge in the humanities, social and economic sciences, the acquisition of practical skills in the art-project activities. The process of professional competence formation is correlated with the formation of worldview, values and ideals, causing civic stance of specialist that defines his relationship to the world. “Currently, there is strong interest among specialists in the areas of folk art, which aim to create perfect aesthetic and practical properties of the material environment objects. To a great extent, this interest is focused in the field of design, objects of which combine a complex of aesthetic, functional, ergonomic and technological properties” [12, p. 1942].
Folk arts and crafts, accumulating the values and norms of ethnic culture, are able to solve the problem of innovation in the design in the moment of creating new technologies of modern art objects design in accordance with social and technological development of society. In turn, material and artistic environment being created by designers, will preserve the traditional folk art as a value reference point of modern culture. Creative transformation of the objective world through the integration of traditional forms of art into modern design will form a new socio-cultural ideal corresponding to the requirements of time, will ensure the continuity of cultural and historical experience.

Disclosure statement
No potential conflict of interest was reported by the authors.

Notes on contributors
Sergey Mikhailovich Budkeev holds a PhD in science education and now is a professor at Altai State University, Altai region, Barnaul, Russia.

Julia Vladimirovna Kiryushina holds a PhD in science education and now is a professor at Altai State University, Altai region, Barnaul, Russia.

Larisa Vladimirovna Shokorova holds a PhD in science education and now is a professor at Altai State University, Altai region, Barnaul, Russia.

References


