Design Education. New Approaches in New Conditions

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Abstract. Everything embraced by the contemporary educational content, requires a high-class professional design. Specialized graphics, infographics, typographics, and pictograms – all new forms of information transfer and educational technologies depend on the design quality. Russia’s university environment always strived to occupy leading positions in applying newest forms of training highly skilled specialists. The objective of the given article is to activate the efforts of the educational society to work out a fundamentally new content of training to make the exchange of knowledge and scientific cooperation on the leading world university platforms efficient and effective. The necessity of searches for efficient mechanisms of implementing projects of the country’s strategic development demonstrates that specialists in high priority lines of design are not simply wanted, they are vitally needed. Efforts should be focused on training specialists in media design, web design, digital image and augmented reality design, motion design, communication technology design, 3D technology design, modeling and moulage design, document design, etc.

Experiments in visual technologies made it possible to formulate main modes and methods of creating a digital educational content. Technologies of motion design made it possible to present the composition fundamentals didactic material in a concise form. This project was worked out by the Chair of Design and History of Art of the Ufa State Petroleum Technological University and appeared unexpendable when the education process became online. Such projects were few at the disposal of the teaching staff but particularly these ones were the most effective in the pandemic period.

1. Introduction

The problems related to the transition to new design training forms and methods in the education system of Russia were defined in the article “Project education in design. Innovations or traditions?” issued in 2020. Transition difficulties were obvious; it seemed that an unhurried detailed scientific discussion, working out new tools, relevant to project tasks, reorganizing educational methodics, and creating a required technological basis and scientific laboratories for effective mastering necessary competences would give an opportunity to make a new system of training young specialists and to implement a gradual evolutionary transition to newer educational technologies.

So far the given article deals with the design education – everyone who is involved in this branch of knowledge, realizes perfectly well how it is difficult to organize the training process within the scope of programs of the design education at the contemporary level. The requirements specify studios for mastering academic disciplines, studios for working with forms (sculpture, model, and moulage), design studios, a specialized graphic station, and, according to the Federal State Educational Standard 3++, in order to train design magisters it is necessary to have a gallery in possession of the institution. To a considerable extent, everything was managed on the base of the Institute of the Business
Ecosystems and Creative Industries – the largest division of the Ufa State Petroleum Technological University. It seemed that it was the right time to systematize approaches to methods and practices of training students and to test and adopt newest digital content tools, and to organize interrelations of different disciplines. Design is an area of a permanent search and renewal. In this process of endless experimenting, there is almost nothing solid and unshakeable. All the scientific society, which is in this or other way associated with creative disciplines, is accustomed to the necessity of renewal, analyzing most actual problems of the present day, and adopting newest programs, forms, and methods of education.

The force majeure broke all usual scenarios of educational processes and painfully influenced the creative programs of education in particular. Specialists in plastic arts (sculpture, modeling, moulage) were panic-stricken. Teachers of design, academic disciplines, computer technologies, and production craftsmanship fundamentals were absolutely at a loss and tried to demonstrate at least something online. Nobody believed that their attempts would give a result. Nevertheless, striving to fit in the new circumstances, a custom to find irregular solutions, and profound knowledge of computer technologies made it possible to bring the educational process from that uncontrolled and chaotic state back to a kind of a systematic way. Actually, nobody was then ready to work remotely. Everyone who got accustomed to work in contact with students in studios, suffered from a deep stress, confusion, and disaffection. Active joint creative work was replaced with a generalized exposition of problems and tasks, an independent search was replaced with displaying specimens. Attempts to demonstrate methods, modes, and stages of work in visual kinds of practice caused a great deal of confusion and gave no good results. Discussions that were conducted by the teaching staff were hot but they did not come to a conclusion. Then, the world experience was considered, however, it appeared that the approaches to design education in the leading western educational institutions were so greatly different from those in Russia that it became clear, it was necessary to cardinaly revise programs of education and analyze goals and tasks of training professional designers.

The team spirit and corporate solidarity, inherited from the old university education in Russia undoubtedly became a starting point for reorganization of education under the changed circumstances. Everyone wanted to discuss his or her successful or not experiences of remote teaching, suggest new approaches and solutions, show tools, and possible methods of interaction with students. Methods of teaching, which each member of the teaching staff possessed, helped many of us to prepare didactic material in a highly expressive and dynamic form. Despite insufficient technical equipment and lack of the on-line work experience, the new educational environment was created in a very short time. The result of these efforts can be assessed in two or three years but on the whole design education attained a success. The new circumstances made everybody concentrate and introduce really new methods and modes of teaching design under the conditions of that forced reorganization of the usual educational processes. It is possible to state that teaching society made a rapid transition from doubts and incredulity to searches for and creation of new methods.

2. Materials and methods
What to do and what teaching methods can give the necessary effect – are the problems that are tried to be solved by teachers of the larger part of special disciplines included in the creative programs of education as well as in others. “Talking head”, home library, sounds, and noises of home and town life, and other sudden slips – all of us found out what they were during the first period of isolation. There was no doubt about the content itself but its form, to be more exact, the presentation of it, required an urgent alteration. Design and its technologies are the most reliable way to make the educational content actual. The teaching staff of the Chair of Design and History of Art were lucky to have a long term opportunity of exchanging ideas, methods, and visual technologies with the colleagues and students from the Duale Hochschule (Ravensburg), the largest university in Germany. Their design projects were extremely interesting, and they stimulated to undertake creative searches in more important design trends. Motion and media design, educational games, videos and teasers, and digital images – all of these digital design trends were investigated and tested thanks to our colleagues.
from Ravensburg. Particularly these projects became a real breakthrough in the searches for new educational forms under pandemic circumstances. In 2007, the author of this article was invited to Belgium to take part in a scientific conference on digital technologies. The Russian delegation was invited to the KU Leuven – a university dealing with digital technologies. This visit was beyond our visit schedule that was why we were few to arrive there. The university trained IT specialists in working out software for education purposes. At that time it was an innovation institution; they worked out multi-objective educational contents for a wide range of teaching goals from inclusive education to preschool one as well as software for physical, psychological, and emotional personality development. Special skills development was of priority. Sports, music, mathematics, acting techniques, leisure, household management skills – for all kinds of activities they worked out applications in the form of quests and games. The engineering was perfect; and the young managers of the university spoke about it with pride. At the same time they pointed out the poor design of these applications and the lack of cooperation methods between designers and programmers. At present, judging by the level of the foreign educational content, there is a certain advance but up to now it can hardly compete with the game industry products showing a wonderful design of all styles and forms. The education in Russia must begin to actively work out digital educational software to successfully compete with foreign analogues. We lag very much behind in this area. However, an energetic approach to this problem can give a good result at a high level. We have many gifted programmers; and we preserved a high position in graphic and web design. Surely, it is realizable to create up-to-date educational software based on newest visual technologies. The events of 2020 influenced all spheres of life. Society, economy, and business changed. Many companies functioning under pandemic conditions discovered that remote work was no less effective. The structure of administration and management became more flexible; solution of problems took a shorter time. The customer’s content increased; it was necessary to apply tools of cooperation that were up-to-date and more flexible. Many companies began to plan to get rid of offices; and those working on the Internet unexpectedly got an increase of income. There were many changes to be analyzed and taken into account while training specialists in all branches of activities. Antonio Marras notices on the subject that it is necessary to consider the opinion of businessmen and employers, which criticize educational institutions for disregarding current demands of real economy and lack of contacts with it. Very often production facilities lag behind, and managers have a slightest idea of those rapid changes that take place in real branches of economy. Besides, the question is if business is ready to articulate actually large-scale project goals, leaving up-to-the-minute needs apart. The university science is always in a state of active search, and it is capable to meet demands of the time. It is particularly their large scientific experience that lets them grasp the value of project suggestions that can at first seem far from reality or odd because they are generated by very young persons, recent school students [20].

3. Discussions
As it was mentioned above, unexpectedly changed conditions of life – overall isolation – left little possibility to carefully and thoughtfully reform the system of the higher education. It was necessary to take decisions immediately and to apply remote teaching strategies and on-line interaction that were new for many persons. It was not a mere challenge – the situation required concentrating all technological and mental resources. The necessity of interactions in the Internet space suddenly disclosed that usual methods of knowledge exchange were archaic and frequently useless. Lecturing against the background of home interior with pets’ or family members’ unplanned participating in the process, practical training without any special equipment, laboratory works when only specifications and assignments are given – all that unreal pandemic atmosphere of 2020 would remain in the memory of those who had to work under these conditions and to work effectively. Indeed, no one in the education system of Russia was ready for new forms of interaction with students, management, and colleagues. Having experienced a high stress, the society as a whole coped
with it rather quickly. Nevertheless, the pandemic disaster let everybody see and deeply understand all the problems of our education – outdated technical facilities, on-line teaching problems, and impossibility of perceiving lecture content. Even most competent teachers faced difficulties with a camera before them instead of a live student audience. Flowery eloquence, deep knowledge, and many years of teaching experience failed to save the situation. Outdated technological facilities, bad sound, and static picture – no one, even a most diligent student could endure sitting before a computer or a smart phone screen for all the time while the lectures were going on. What that student could then learn from those lectures was lost in mystery. The professors being confident of their knowledge, competence, and the value of theoretical content, their laborious efforts to convey their information to students could even be compared with a heroic deed. Very often, the teaching staff understood the difficulty of knowledge transferring without any feedback. All of them tried to adapt themselves to new realias and find up-to-date means and aids for efficient work in the Internet space. They contributed a lot of time and their intellectual powers in preparing presentations, illustrative materials, and scenarios to make the teaching process more vivid and effective.

Thus, design becomes indispensable for all branches of knowledge nowadays. No doubts, in order to actively involve young people in educational processes, it is necessary to suggest such a level of imagery and design that would be able to compete with the game virtual reality, to which the Generation Z is accustomed. It is superfluous to remind that learning requires efforts, diligence, and persistence but educational environment must not be dull. No need to adapt the educational process to the aesthetics of their counterculture, it is necessary to suggest high quality, taste, and visual mastery. All of us can see how high quality design is becoming a most actual problem of today. Expressiveness, bright images, topicality, and active adoption of new technologies – these features make design attractive for everybody. The mentioned above does not exhaust the problem. Scientific researches in psychology of visual perception, for example, in T.I. Chernigovskaya’s works, state that the human brain processes visual images considerably faster than texts. There even exists a theory that verbal forms of information transfer will be replaced with pictograms, digital images, infographics, typographics, etc. All these are an idiom of design; and we have already mastered it.

Confidence in young designers’ works and their perception of principles and forms of contemporary education are a great help in searches for new forms and methods of knowledge transfer. Design education is rapidly becoming computerized and virtual. This flexibility and ability to change in no time show its power.

4. Results

Antonio Marras accentuates that a change in the frame of mind and the assessment of a situation and prospects has only recently started and it is not over. Now, modernization has grown urgent and it demands a strategic concord in the society. Values, world outlook, and political views being different, however, a common starting point can be seen. A universal opinion now is a problem of changing development vector, i.e. overcoming the abundant dependence on the raw material exports and turning to knowledge economy, knowledge-intensive productions, high technologies, and intensive innovations. Intellect, knowledge, and technologies become the most important economic assets [18].

Antonio Guterres, UN Secretary General, expressed deep concern about education problems in the world. He appealed to the world educational society to review and reorganize the system of education. According to experts, the acute problems, which face those who are to get education of any level, are at present growing critical. They appeal to specialist to develop the on-line education as soon as possible and apply newest technologies of digital, game, and design educational forms.

A good result of great creative work of the teaching staff and students of the Chair of Design and History of Art is a collection of motion and video projects, encompassing didactic ones, which were made during recent years. These projects were of big help in the on-line education period.

Certainly, it is necessary to involve students in searching new visual solutions for educational software: not only in graphic design and image systems but also in working out scenarios, optimal editing technologies, sound design, and general solution and style of educational software for the on-
line format. This is already a real new idiom of didactics and educational methods. To solve all these problems is necessary as soon as possible.

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