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Basic and Additional Fine and Graphic Arts Education in the Situation of the Bologna Process: Problems and Solutions

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Abstract

The article examines a three-cycle higher education system transition due to Russia's accession to the Bologna process. The transition-period problems and solutions are explored by the example of the Faculty of Arts and Graphics at the Moscow State Pedagogical University. Different levels of education are compared: bachelor's and specialist's programs for pedagogical and graphic design, as well as master's degrees, *Fine art in the continuous art education* and *Art education in the information space*. The outcomes and prospects of implementing additional educational programs to increase students' occupation mobility are explored. The role of information technology in core and additional higher education is examined. The educational capacity of a blended learning model, self-directed learning visualization and formalization tasks are revealed.

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1. Introduction

The transition to a three-cycle higher education system according to the Bologna process is undoubtedly one of the global trends. Although Russia acceded to the Bologna process in 2003, there are a number of reasons why reforming is going rather painfully. The main reason is a contradiction between command-administrative management system and the idea of the Bologna process appealing for academic mobility of students and teachers alike. Strict planning of the educational process and formal implementation of the European Credit Transfer System

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results in the situation when a student within the same faculty has “to close” the difference in academic requirements, if they want to change their major.

Higher education in Russia has been changing very rapidly since 2010. The educational process planning system and teachers’ workload have been reorganized, from the one based on the amount of academic hours to the system based on units of credits. New enhanced sets of Federal State Educational Standards have been developed and implemented. Accordingly, the main educational programs have to be renewed or replaced by new ones annually. Groups of students are taught through 5- or 6-year specialist’s and 4- or 5-year bachelor’s programs at the same time, then both groups can proceed to master’s degrees. This is a rather unique situation that helps to examine the transition process, identify problems and plan solutions.

2. Objectives, methodology and research design

The aim of the research is to find out what approach to setting educational process works best in the new context.

The research is focused on teaching Information Technology, Web Design and Infographics to students of the Faculty of Arts and Graphics at the Moscow State Pedagogical University from 2010 to 2015.

It was carried out in three aspects:

- characteristics and learning outcomes of specialists and bachelors by comparing dissertations of Computer Graphics and Design chairs in Fine art and Graphic Design
- applications of modern educational technologies in master’s degrees *Fine art in the continuous art education* and *Art education in the information space* for Pedagogy
- uses of additional retraining programs to raise graduates’ occupation mobility of Design Theories and Teaching Principles graduates as an example

3. Discussion of the research outcomes

3.1. Fine art and Graphic Design students’ outcomes in Inforgraphics and Web Design

A Fine Art teacher can create e-textbooks for himself and his colleagues’ lessons on his own if he has mastered modern information technology and computer graphics. Mathematics and IT, Infographics, Computer Graphics, ICT in Class and optional Web Design subjects were on the curriculum before. When the transition to bachelor’s program took place, the total number of hours shrank, nevertheless IT in Education and Computer Graphics subjects are still on the curriculum. A student has to choose his own educational path under the new context, so the number of optional subjects has increased and includes Infographics and Web Design now.

Infographics is about visual and easy-to-analyze ways to present information, data and knowledge. A means of getting the end product of infographics is computer graphics that enables you to combine text boxes, images, pictures, maps, tables, diagrams and other information objects (Rossijskij sajt Infografiki, 2009).

Information Graphics students solve the task of creating visual aids for secondary school students on Drawing, Painting, Composition and other school subjects. Rough drafts are prepared during the performing of practical task, then electronic versions are created. It is necessary to define what kind of data should be visualized: special, chronological, quantitative, or combined. Then you have to choose a color scheme, fonts and size according to the target audience. The way objects are located, text and graphics balance should agree with visual perception and composition rules (Yatsyuk, 2004).

While students are performing the final infographic projects, the teacher helps and consults them about choosing graphic editors and appropriate techniques as the modern computer graphics provides a wide range of ways to create and edit graphic objects. The possibilities infographics provides has been recently used in web design too.

Using electronic textbooks enables to make any course more interesting and engaging for secondary school students. The simplest and most popular with teachers piece of software to create presentations is PowerPoint that enables you to make a multimedia aid of your own. Web technologies also have great potential for teaching.

Despite the fact that web industry moves towards narrow specialization (graphic designer, web page layout specialist, web programmer, seo optimization specialist and so on), creating an educational resource as a simple

website is still an important skill for a teacher. For that reason Art and Graphic Design students are still interested in Web Design optional subject and often use this technology when it comes to doing their qualification theses.

Creating electronic educational resources should clearly be based on pedagogical design principles where the key idea is “the importance of the course content, style, sequence and different ways of presenting the material” (Tikhomirova, 2008; Uvarov, 2003).

We are going to examine the creating of electronic educational resources from visual information layout point of view that is “the ways to present the content” to optimize a learning process.

Usability, the quality of being easy to use, that was introduced to web design by Jacob Nielsen et al. (2007), is discussed in many publications. Each web designer has to be aware of the main usability principles when it comes to choosing the color scheme, navigation tab format, writing the texts and selecting the images. Creation educational web-resources shall conform to the usability rules; the same principle can help to create electronic educational resources using PowerPoint.

Susan Weinschenk (2009) reveals a new concept Neuro Web Design in her book by the same name. This principle is based on “neuromarketing” taken from motivation research, decision making and neuropsychology. Let us give an example. The subconscious mind is smarter and faster than the conscious. The principles of presenting information are easy for subconscious to recognize, that is why presentation consistency is so important. Fonts, typography, headings, links are all should be selected according to this theory. A well made-up web page gives a user greater opportunity to focus on educational information itself and improves system availability.

The knowledge of the Design Theories and Teaching Principles students acquire help teachers-to-be to build the content of electronic educational resources while the Computer Graphics and Design makes it easier to create an intuitive web-design and usability-friendly final product.

For example, Fine Art students created the following products focused on electronic educational resources: “Teaching computer graphics to secondary school students”, “Incredible Space”, “Decorative composition basics. An educational resource for primary school” qualification theses in 2011 and 2012.

The first bachelor graduates in 2014 (Pedagogical education) created E-Learning Resource “Sumi-e. Album” with interactive elements, sound effects and background music in the framework of the topic “Creative thinking for kids based on Japanese art”.

3.2. Outcomes of teaching digital painting to students by the example of qualification theses

Using digital technology in arts is a rather popular topic for students’ works, but it is in 2011 that the issue of teaching digital painting to students appeared for the first time.

Maria Borisova’s qualification thesis is focused on digital painting as a modern art cultural phenomenon.

This special technique enables to create digital paintings on the screen of a tablet using digital ink and a special computer program without postprocessing pictures or using photos as a source. Digital painting is a part of digital computer art, and as any technique it has its special features. Maria describes some of the advantages and disadvantages of digital painting.

A series of three landscapes was created in the process and three video lessons for students on digital painting were shot.

A pedagogical experiment in the seven-year secondary school was carried out in two parts: first the group lessons on digital painting were taught in the computer lab without using tablets, then five individual optional lessons with tablets were given. The author was able to examine in detail the first steps learner makes, trying to use a graphic editor as the means of creating an artwork and see the way child learns how to use a tablet.

The main and doubtless conclusion Maria Borisova arrived at in her paper was that students who are interested in digital art could do a great progress for teaching digital painting and drawing. A methodology experience gained through that work at Moscow State Pedagogical University will enable us to make teaching this subject more careful, steady and fruitful.

Three years later, in 2014, one of the bachelors’ qualification theses was titled “Digital painting with PaintToolSai program”. The practical part of the thesis is a video lesson showing the creation process of a self-portrait using PaintToolSai program and the technology is described in detail in the written part.

3.3. *The process of creating electronic educational resources by students of specialty "Design"*

A member of the Russian Academy of Education Alexander Tikhonov argues that “electronic educational resources are not an idea to promote but should be taken as a given” (EOR kak vazhnejshee sredstvo obucheniya, 2009). The necessity of using them at university is conditioned by the changes taking place these days. Specifically, a transition to a two-cycle “bachelor-master” higher education system makes students spend less time in class and more time outside the class learning independently. Additional education cannot manage without specifically organized digital content.

A modern attitude to using electronic educational resources implies both direct and distant interaction between all the participants in educational process.

Although there are many electronic educational resources on different subjects, creating new resources will never stop being topical due to a snowball effect in gaining knowledge, its accessibility and necessity of structuring and selection, and least but not last, teachers’ desire to put pedagogical objectives above information ones.

Let us consider the electronic educational resource creation by the two examples of design and development of Website Design and Information Graphics educational resources from Graphic Design students’ qualification theses.

Every project begins with identification of the target audience and a range of objectives to achieve. You have to find the main didactic aim of the resource in terms of the relevant subjects. Website Design resource should cover all the essential knowledge you need to develop original design plans, so a number of didactic materials on creation technology, styles and new trends in web design were collected and structured. Information Graphics resource was created to introduce students to a rapidly developing design and journalism area, the history of information graphics, classification and creation techniques.

Both resources were based on web technology without paper version as the areas are developing constantly and rapidly.

The next step was a creation of the website structure with index pages and their interconnections. Then we looked for the appropriate design concept adjusted for usability principles, an intuitive and emotional web design.

Different scripts and galleries were used for the layout of Website Design resource as it contained large amounts of data and didn’t allow content editing. A feature of the Infographics resource was in fact its technological simplicity permitting easy code editing and information update.

Therefore, two educational resources were created, very different indeed in terms of the amount of data presented but equally useful for teaching the subjects mentioned.

The first bachelor’s Design students are going to graduate in June 2015 and that makes it impossible to include their qualification theses in this paper.

If we examine numerous electronic educational resources created every year on the faculty, we can draw several conclusions. Depending on the target audiences, primarily their age, different techniques are used. For example, short video lessons on different topics for primary and secondary students are created; larger resources with a greater amount of text, graphic, audio and video data are used for high school and university students. Usability and the ways visual information is presented are focused on. Electronic educational resources are created and applied in core and additional educational programs and focused on specific courses.

3.4. *The ways of implementing master’s programs using modern educational technology*

There are two Pedagogy master’s programs at the Faculty of Arts and Graphics at the Moscow State Pedagogical University: Art education in the information space that has been taught since 2011 and Fine art in the continuous art education since 2011. That makes it possible to examine characteristics of the educational process and ways to optimize it.

First, masters have already graduated with a bachelor’s degree, gained some professional experience while masters’ programs are supposed to be taken in the daytime.

Second, modern masters have high information literacy level, can find and analyze any theoretical issue and also are able to acquire new information technology.

The two points above do not mean that all the traditional lectures and practical courses may be completely replaced by distant teaching. There appear to be some changes in the lesson format: a teacher can focus on

theoretical issues, “plot a vector” for independent studying and set the tasks, then provide tutorials and consultations, discuss progress distantly. As we can see, the situation leads us to using blended learning, combining both in-class and outside-of-class sessions. This approach enables better time management, adjustment of the rate and personalized material and gives an opportunity to use classroom activities and different technologies (What is Blended Learning? 2013; Blended Learning is the Future of Education, 2011).

A well-known and time-tested distant teaching method via email assumes individual teacher-student correspondence but rather time consuming. There was professional development training in the Moscow State Pedagogical University on modern educational technologies using distant and electronic teaching where teachers were taught how to use LMS Moodle for blended learning (Smirnov, 2012).

LMS stands for Learning Management System, Moodle stands for Modular Object-Oriented Dynamic Learning Environment. Moodle was created by professor Martin Dougiamas (Australia).

LMS Moodle is written in PHP programming language and translated into dozens of languages and used for teaching in more than 150 countries. Moodle has become so popular because it is written in open source code and easy to use.

The key object of the system is a learning course. Resources used could be presented as hyperlinks, books, comments, pages and files. The elements of the course are glossary, task, lecture, workshop, test and forum.

A teacher can put an educational content and make it available for all the students, check their progress through tests and tasks, organize learning and researching teamwork using forums.

What makes the platform especially appropriate for masters is using hyperlinks and books. Unlike secondary students and even bachelors, masters are able to work through larger amounts of information on their own, so a teacher can focus on presenting the answers through texts and files. This approach was proved effective with courses on Information technology for professionals and Web management in an educational space.

3.5. Characteristics of implementation of additional educational programs

The implementation of professional retraining programs aimed at obtaining the necessary competence to perform a new type of professional activity, the acquisition of new skills promotes professional mobility of graduates.

For several years at the Faculty of Arts and Graphics at the Moscow State Pedagogical University students were trained in additional educational programs Teacher (to the main specialty Designer) and Web designer (to the main specialty Teacher of Fine Arts). In 2012, there were nine people who received additional education. In 2013, the number of students who took the program of additional education increased to twenty-four; they all successfully passed their qualifying theses.

The idea of these additional educational programs emerged at the Department of Computer Graphics and Design in 2007. The Department annually graduates qualified graphic designers demanded by the labor market. But they are unable to transfer their knowledge, because of the lack of pedagogical education. A four-year program of additional professional education Teacher (for Design students) was developed and licensed. Experience has shown that four years is a too long period to wait, so we have developed a three-year and one-year programs.

During the training, educational activities are of great importance for the organization of teaching practice. Lyceum 1533 (Information Technology) became the base for practice where students met the interested attitude and qualified support. The result was a report of practice and methodological developments. The lessons and the preparation for it was the basis for the choice of the theme of final qualifying work. In most cases, it is the development of electronic educational resources for schoolchildren. Typical topics: "Basics of Typography", "Typographic Design", "Identification Marks".

But there were complex topics. For example, “Alternative methods of creating images in the creative activity of pupils starting grade”, “Methods of organization of project activities of art students”.

The proof of the effectiveness of training for additional educational programs, *Teacher*, was that one of the graduates was invited as a teacher to the Lyceum of IT where she has successfully worked to this day.

Additional professional educational program *Web Designer* was intended for students of pedagogical specialty, Teacher of Fine Arts. It was also originally designed for four years, and then adapted for three-year and one-year programs. Subject websites often resonated with the basic educational program, for example, the Website of the

artist-teacher, the website, The education System of Finland. Among the graduates of the *Web Designer* there are those whose area of activity corresponds to additional education.

Thus, the experience of the implementation of additional educational programs at the Faculty of Arts and Graphics of Moscow State Pedagogical University can be considered successful.

In the academic year 2014/2015 an additional professional retraining program "Theory and methods of teaching of design" with a training period of nine months was open. It allows students to obtain the qualification of a Teacher of Design. Among the listeners there were students and practitioners of other educational institutions with no formal pedagogical training.

In organizing the activities there are difficulties due to the engagement of students and teachers in the basic educational process. Fortunately, listeners have the same high level of information literacy as undergraduates as well as high motivation, which makes it possible to successfully use a model of blended learning in further education.

3.6. The importance of using information technology for basic and additional education

Over the past five years the level of applicants has increased in terms of information and cognitive activity and the ability to use information and communication technologies, in accordance with the requirements of the standard for the results of mastering the basic educational program (Federal state educational standards of secondary (full) general education, 2012).

Students are able to master the possibilities of modern computer technology, to find and analyze information sources.

The teacher should formulate the tasks in order to avoid ambiguity, so they include specific references to sources of information and clearly defined end result. Only then you can use the tasks in blended learning. For Fine and Graphic Arts education it is important to use as much visual aids as possible, give many examples of the best student and professional works.

When it comes to the implementation of blended learning, it is necessary to consider the following.

First, it reduces the number of contact hours (lectures and tutorials) but increases the difficulty of preparation for classes.

Second, blended learning is not applicable to all subjects. The subjects that require immediate feedback are difficult to formalize, for example, drawing and painting. It is impossible to replace with distant sessions some theoretical subjects because they practice the skills of debate, public and scientific speech (e.g. the History of Art).

The way students see their own educational path has changed. They consciously chooses optional courses, additional education programs and master's programs for the next stage of learning. In general, motivation and independence of students have increased.

In the end, Fine and Graphic Arts education trends at the Pedagogical University are determined by the rapid progress in the field of educational technology and implementation of the modernization ideas of teacher education (10 Online Learning Trends to Watch in 2015, 2014).

4. Conclusion

First, it can be concluded that one of the main problems of higher education during the transition to the Bologna System is the fact that standards and curricula are constantly changing. Higher education in Russia has been changing very rapidly since 2010. It is because of the new enhanced sets of Federal State Educational Standards that the core educational programs has to be renewed or replaced by new ones annually. Groups of students are taught through 5- or 6-year specialist's and 4- or 5-year bachelor's programs at the same time, and then both groups can proceed to getting master's degrees.

Second, a comparison of the topics and performance of qualification theses that have been completed by students for the last four years shows that art-teachers-to-be often focus on creating electronic educational resources. The textbook-like programs they created include interactive elements, sound effects and background music. Considerable attention is given to usability and the ways visual information is presented. Depending on the target audiences, primarily their age, different techniques are used. For example, short video lessons on different topics for

primary and secondary students are created; larger resources with a greater amount of text, graphic, audio and video data are used for high school and university students.

The quality of bachelors' theses is equal to specialists' ones, judging by technological parameters. It should be noted, however, that methodological level of specialists' works is higher.

Third, students who continue their education as masters are mostly focused on theory and methodology of teaching. Being in-service students, it is difficult for them to attend lectures in the daytime and makes urgent the search of new ways of teaching activities.

As modern master's students have high information literacy level, can acquire new information and implement new technologies on their own, it is appropriate to use blended learning that combines in-class teaching and distance learning. A teacher gives theoretical material at overview lectures, "plot a vector" for independent studying and set the tasks, then provide tutorials and distant consultations.

Using learning management systems, for example LMS Moodle, a teacher can put content and make it available for all the students, check their progress through tests and tasks, organize learning and researching teamwork using forums. What makes the platform especially appropriate for masters is using hyperlinks and books. A teacher should focus on presenting the answers through texts and files.

Fourth, additional educational programs implementation would enable to enhance occupational mobility of students. When it comes to setting up courses, some issues appear because students and teachers are busy taking part in the main educational process. A high level of motivation and adequate information literacy skills allow using blended learning in additional education.

A teacher should formulate the tasks in order to avoid ambiguity, so they include specific references to sources of information and clearly defined end result. For Fine and Graphic Arts education it is important to use as many visual aids as possible, give many examples of the best student and professional works.

Fifth, using blended learning reduces the number of contact hours but increases lesson preparation workload.

Blended learning is not applicable to all subjects. The subjects that require immediate feedback are difficult to formalize, for example, drawing and painting. It is impossible to replace with distant sessions some theoretical subjects because they practice the skills of debate, public and scientific speech (e.g. the History of Art).

The promising solution is the use of modern educational technologies for subjects that are suitable for blended learning and additional educational programs for in-depth study of professional disciplines.

Last but not least, transition to a three-level higher education helps to change the way a student sees his/her own educational path. He/she consciously chooses optional courses, additional education programs and master's programs for the next stage of learning. In general, motivation and independence of students have increased.

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