

DESIGN OF THE ONLINE COURSE “RESEARCH AS ART” AS A MEANS TO IMPROVE STUDENTS’ CREATIVE POTENTIAL

DESIGN DO CURSO ONLINE “PESQUISA COMO ARTE” COMO UM MEIO DE MELHORAR O POTENCIAL CRIATIVO DOS ESTUDANTES

DISEÑO DEL CURSO ONLINE “INVESTIGACIÓN COMO ARTE” COMO MEDIO PARA MEJORAR EL POTENCIAL CREATIVO DE LOS ESTUDIANTES

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ABSTRACT: The article introduces the possibilities of the online learning environment to maintain motivation and encouragement for students in their active research work. The comparison of research work with art allows us to suggest the main trends for activating students' creative potential in the university education process. It was established that the online environment allows you to collect different experiences and create conditions for the creative process. The structure of the online course was created by the implementation of MOOR (Massive Open Online Research) technology. It included information (lectures, books, articles), resources for interaction (forum, chat), collection of students' work to exchange experiences and collaborative work in the research area. The special section includes advice for managing the self-learning process for activating creative potential. The research approach based on the collection of data from the students' research area, such as articles, coursework and master's theses. The qualitative analysis includes thematic areas, students' professional area and their innovative developments. The design of the online environment based on the research approach allowed each student to be offered an individual thematic area according to professional interests, which had a positive impact on maintaining students' attention, motivation for active learning and skills to make creative decisions.

KEYWORDS: Online course. Approach. Student. Design. Research based learning.

RESUMO: O artigo introduz as possibilidades do ambiente de aprendizagem on-line para manter a motivação e o estímulo aos estudantes em seu trabalho ativo de pesquisa. A comparação do trabalho de pesquisa com a arte permite sugerir as principais tendências para a ativação do potencial criativo dos estudantes no processo de educação na universidade. Foi estabelecido que o ambiente online permite coletar diversas experiências e criar condições para o processo criativo. A estrutura do curso online foi criada pela implementação da tecnologia do MOOR (Massive Open Online Research). Ela incluiu informações (palestras, livros, artigos), recursos para a interação (fórum, bate-papo), coleta de trabalhos dos estudantes para troca de experiências e trabalho colaborativo na área de

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pesquisa. A seção especial inclui conselhos para o gerenciamento do processo de autoaprendizado para a ativação do potencial criativo. A abordagem de pesquisa baseada na coleta de dados da área de pesquisa dos estudantes, tais como artigos, trabalhos de curso e teses de mestrado. A análise qualitativa inclui áreas temáticas, área profissional dos estudantes e seus desenvolvimentos inovadores. O Design do ambiente online baseado na abordagem de pesquisa permitiu oferecer a cada um dos estudantes uma área temática individual de acordo com os interesses profissionais, o que teve um impacto positivo em manter a atenção dos estudantes, a motivação para a aprendizagem ativa e as habilidades para tomar decisões criativas.

PALAVRAS-CHAVE: Curso on-line. Abordagem. Estudante. Design. Aprendizado baseado em pesquisa.

RESUMEN: El artículo presenta las posibilidades del entorno de aprendizaje en línea para mantener la motivación y el estímulo de los estudiantes en su trabajo de investigación activo. La comparación del trabajo de investigación con el arte permitió sugerir las principales tendencias para la activación del potencial creativo de los estudiantes en el proceso educativo en la universidad. Se estableció que el entorno online permite recopilar experiencias diversas y crear condiciones para el proceso creativo. La estructura del curso en línea fue creada mediante la implementación de la tecnología de MOOR (Massive Open Online Research). Se incluyó información (conferencias, libros, artículos), recursos para la interacción (foro, chat), recopilación de trabajos de los estudiantes para el intercambio de experiencias y trabajos colaborativos en el área de investigación. La sección especial incluye consejos para la gestión del proceso de autoaprendizaje para la activación del potencial creativo. El enfoque de investigación basado en la recopilación de datos del campo de los trabajos de investigación de los estudiantes, como artículos, trabajos de curso y tesis de maestría. El análisis cualitativo incluye áreas temáticas de los temas, el campo profesional de los estudiantes y sus desarrollos innovadores. El diseño del entorno online basado en el enfoque de investigación permitió ofrecer cada una de las áreas temáticas individuales del estudiante de acuerdo con los intereses profesionales, lo que tuvo un impacto positivo en mantener la atención de los estudiantes, la motivación para el aprendizaje activo y la capacidad para tomar decisiones creativas.

PALABRAS CLAVE: Curso en línea. Enfoque. Estudiante. Diseño. Aprendizaje basado en la investigación.

Introduction

Research work and art may seem opposite directions in subject fields of university at first sight. Research work is based on logic, when art on feeling. Yet they are have close relations in some aspects. According to modern researches “both are looking for the essence of things and both need creativity and perseverance” (MATTHIJS; TONE, 2017). In any field such as mathematics, engineering, physics or humanities somebody needs to produce creative decisions for improvement the knowledge. According to Scheffer`s works “creative thinking

is the core business of scientists” not less than for other fields. Author states that “segregation of arts and sciences is [...] unnatural and unfortunate” and offers to team up for searching new ways for teaching originality (SCHEFFER, 2014). Before the algorithm will implement to the practice it is important to create it in details. Such work always needs in innovative approach and ability to live frameworks for searching new ways to improve computer program, mechanism or technology (KAYUMOVA; DYGANOVA; BATYRSHINA, 2019).

The development of multimedia resources has allowed developing new ways in education. Nowadays many universities offer a great number of online content. The one of the largest online education platforms ‘Coursera’ offers wide range of courses from leading Universities through over the world for students who learn any subject: Computer science, Chemistry, Engineering, Physics, Languages and Arts include design and even music.

The free development of the individual is relevant on a global scale and characterizes the main trends in the development of world consciousness (SMYSLOVA; KHABIBULLINA, 2016). Some of modern researchers highlight the importance of intercultural interaction in the process of personal development (NURGAYANOVA; BATYRSHINA; AHMETOVA, 2015). The particular importance in this context is the task of education an “individual capable of artistic and creative re-comprehension and the development of the surrounding world in accordance with the laws of beauty” (AKHMETSHINA; KADYJROVA, 2017).

Researchers claims that effective learning in music performance through synchronous online teaching is possible because of providing quality musical instructions, eliminating various barriers such as socio-economic status or geographical location, offering deeply reflection by instructors of teaching process (APARICIO; BACAO; OLIVEIRA, 2016).

Methods

This research was conducted following a practice-oriented approach by the means of research-learning methods. It was based on the main principles such as: self-education, self-actualization and creative self-realization of the individual. The use of this approach especially important in the art education where a person is a main priority and the way of adopted the meaning of art is a most individual part of personal formation needs critical thinking and depends of different life conditions includes sociality and locations, personal experience, aesthetic needs, views and beliefs. Only online learning format of study allows to realize these conditions in the most appropriate way (ROSENBERG, 2001).

To implement this technology in the online environment the structure of online course “Research as Art” was developed. It included the base of the informative materials such as lectures, books and articles were divided into several subject areas; section of students research works included the bank of articles written by them, course works and thesis; also there were description and comments of the plan for research work and forum for online discussion about actual research problems. This resource collects huge massive of student`s works for exchanging of experience and collaborate work in research area. Special section includes advises for manage of self-learning process for activization of creative potential.

During the learning process student should read lectures and additional materials include examples of research works and to complete the practical assignments for creation own research work. The course “Research as Art” consists of five modules:

1. Introduction to research work and selection of the main topic.
2. Collection of the materials and literature review.
3. Generalization of the obtained data and finding gaps.
4. Creating innovative methods and testing it.
5. Completing results of the research work and presentation of it.

The students` movement from one module to the next can follow after the completing the previous practical assignments only. Each of them can manage the timing of modules completing according the own way. The period of completing the course reflects only students` personal abilities and learning needs.

The improvement of the creative potential was based on the next principles:

Selection of the main topic according to own professional experience as well as area of personal interests;

- Looking into the essence of the problem;
- Keeping openness to diverse experiences;
- Using solitude for collection of creative ideas;
- Moving through frameworks.

Results and discussion

For the research work we collected the data from the experimental education process at Kazan Federal University. Bachelor and master students who study in teacher education program took part in it (Table 1).

Table 1 – Bachelor and master students who study in teacher education in Kazan Federal University in 2018-2019

Level of study	Bachelor/Master program	Total number of students	Number of students		Number of students	
			Ful-time	Part-time	Males	Females
II	Bachelor	9	1	8	-	9
III	Bachelor	9	-	9	1	8
IV	Bachelor	12	-	12	1	11
I	Master	2	2	-	0	2
II	Master	2	2	-	-	2
Total number		34	5	27	2	32

Source: Developed by the authors

In the framework of experiment they learnt the course “Research as Art” based on the online learning environment on the platform of KFU. The design of the course was based on the MOOR technology.

The data were collection from the online resource include students research works such as articles, course works and master's thesis. Students’ works were evaluated on a tenth point scale according to their creativeness. The most creative works received 10 marks, when works without creative results could receive 0 mark (Table 2).

Table 2 – Assessment of creativeness of students’ research works in 2018-2019

Level of study	Bachelor/Master program	Total number of students	Number of students		Summ of assesments of creativeness	
			Ful-time	Part-time	Ful-time (%)	Part-time (%)
II	Bachelor	9	1	8	8 (88,8)	52 (57,7)
III	Bachelor	9	-	9	8 (88,8)	76 (84,4)
IV	Bachelor	12	-	12	9 (75)	96 (80)
I	Master	2	2	-	20 (100)	-
II	Master	2	2	-	20 (100)	-
Total number		34	5	27	45 (90)	224 (82,9)

Source: Developed by the authors

The qualitative analysis of these data includes the forms of students’ creative work such as online resource (OR), educational program (EP), set of methods (SoM), learning guidance (LG) (Table 3).

Table 3 – Types of the students' creative works in 2018-2019

Level of study	Bachelor/Master program	Total number of students	Number of forms of creative works			
			OR (%)	EP (%)	SoM (%)	LG (%)
II	Bachelor	9	-	-	3 (33,3)	6 (66,6)
III	Bachelor	9	3 (33,3)	4 (44,4)	1 (11,1)	1 (11,1)
IV	Bachelor	12	5 (41,6)	5 (41,6)	2 (16,6)	-
I	Master	2	1 (50)	-	1 (50)	-
II	Master	2	1 (50)	1 (50)	-	-
Total number		34	10 (29,4)	10 (29,4)	7 (20,5)	7 (20,5)

Source: Developed by the authors

The analysis of the works allowed us to state that students of the final level as well as master students can demonstrate more creative research works. If in the first works students can design very low creative works such as set of methods or learning guidance, students from high level and especially master students demonstrated free choice in the selection of appropriate forms in their research study.

The importance of research work significantly increases in modern university reality. According to the works of Ribéreau-Gayon and d'Avray (2018), the QS World University Rankings mostly reflects the quality of research work than the process and results of teaching. In this context the most important question of how should any academics transform excellence in research into education methods become increase.

The mind of researcher who has richly variegated and dynamic practice stimulates wide thinking including knowledge in the boarder of disciplines. In this context becomes clear that the concept of 'discipline' should be recognized as too narrow for naming of the field of research-learning practice dynamically forming and transforming (RAMIREZ-MONTOYA; MENA; RODRIGUEZ-ARROYO, 2017). Based on this position researchers stated that design of modern course should allow flexible and diverse approach for study process where student will select by themselves only the way of studying and the timing such as offer the technology of MOOR for online learning (NAERT MOOCS, 2015).

Despite the fact that creative process in science is remarkably different than in humanities, especially with arts where the creation is an integrated part of education, the teaming up could point the new ways for teaching originality (PERLA; AGRATI; VINCI THE, 2019; GIBSON; IFENTHALER; ORLIC OPEN, 2016).

The design of online course "Research as Art" was based on research approach which allowed to improve creative potential of students. Main principles of this approach highlighted the importance of free personal professional development (SMITH, 2019).

According to professional experience and personal interests students can select the topic of the research work by themselves. During the process of collection diverse experiences include ideas from professional field and research works students can analyze methods and approaches. Online format of learning process allows to think deep in solitude without any interfering factors which can establish some frameworks for imagination. Resisting to norms, even ignoring them if it needs, destroying sometimes previous results for construction something new could be the set of successful methods for creative process.

To implement these principles in the online environment the structure of online course "Research as Art" was developed. The content of lectures of this course included the rules and principles of research work. This section had the role mostly as introduction to research work at all. In addition some lectures explained the rules for different parts of research project. The bank of books and articles was important to collect in one resource the huge numbers of useful information. Each enrolled student could participate in online discussion with any other participants by such resources as forum or chat for making decisions for actual research problems. Also students could use the resource such as the bank of students works for taking the previous experience and collaborate in projects.

The most important part of the course was module number 4. In this part each student must offer some innovation. But it might be quite incorrectly to think about all previous activities as not matter. Studying lectures, collection of materials and data analysis is an important background for development of creative potential as it's basis. Depends of quality of research work on first steps, clearly understanding of the gaps in research field and professional practice each student can make new ideas. The meaning of these ideas will be as important as the level of quality of first steps research work mostly than nature skills to imagine something only by fantasy. Yet online environment could offer comfortable conditions for exiting from mind borders and creation new ways.

It could be necessary to state some limitations in this process. They can take place in the case when student cannot receive clear instructions from the teacher describing the frames and rules of the work. Another case might be when student can not find by himself some gaps in the theoretical analysis in comparison with professional practice.

Summary

The application of the case-method is a complex and structured process in which a significant role is played by the levels of preparedness of the teacher and students to the activities within the case-method.

The case-method promotes the development of critical thinking and motivates students to study a specific topic in detail. This method also helps students stimulate conversation between student and teacher. This is the most active method of learning, allowing the best way to reveal the talent of students. A large number of teachers use the case-method to improve the ability to learn. This teaching method is an alternative to the class-lesson system of education in the classroom. The case-method is a powerful tool that connects the learning environment and the real world.

Conclusions

Based on the research work were concluded that for activation of students' creative potential in education process in university the main trends must be:

Selection of the main topic according to own professional experience as well as area of personal interests;

- Looking into the essence of the problem;
- Keeping openness to diverse experiences;
- Using solitude for collection of creative ideas;
- Moving through frameworks.

By the means of comparing online education technologies it can be stated that the most effective way of study for the realization principles of research approach by the means of technology of MOOR (massive open online research). This technology allows to keep an attention and interest of students and offers them to improve their creative potential in the most comfortable way.

During the study online course “Research as Art” based on MOOR each student become a researcher. In this way, they can see examples of the teacher's research work and other students for studying. They also can choose the subject and do own research in the framework of the online course. The analysis of data allowed authors to conclude that this

way will be very effective in the process of preparation of teachers in different subject areas if the design of an online course will include next parts:

- the base of the informative materials such as lectures, books and articles have divided into several subject areas;
- collection of students research works including articles, course works and theses;
- advise for manage of self-learning process for activization of creative potential;
- forum and chat for discussion about actual problems and collaboration.

The improvement of creative potential in learning process based on the selection of the topic of the research work according to the personal interests, careful study of the theoretical materials and comparing ideas of other authors with real professional practice. Yet most productive part of activization creative skills is the fourth module where students must offer own innovation. The conditions of online format of learning process can give some possibilities for thinking deeper in solitude without any interfering factors which can establish some frameworks for imagination. The creation of new knowledge sometimes needs in resisting to norms, destroying sometimes previous results for construction something new. High quality experience collection based on autonomous thinking and brave ambitious could be the set of successful methods for creative process.

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