

## Formation of media competence based on organization of project activities of future teachers within blended learning

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### ABSTRACT

The article is devoted to the problem of formation of media competence which is based on organization of project activities of future teachers within blended learning. Rapid development of digital technologies, expansion of wide public access to the content of various types (professional, educational, and entertainment) leads to the attraction of young people to social networks and Internet media resources. Application of modern media in education makes it possible to prepare highly qualified teachers who can solve professional problems effectively. Thus, the role of developing media competence of future teachers in the information society is increasing. The presented paper reveals the process formation of media competence based on organization of project activities of future teachers within blended learning which include creating educational media products. The results of experimental work of formation of media competence based on organization of project activities of future teachers within blended learning in control and experimental groups reveal that in the experimental group the level of media competence of future teachers is higher than in the control group, that proves the effectiveness of experimental work.

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## 1. INTRODUCTION

Rapid development of information and communication technologies, expansion of wide public access to the content of various types (professional, educational, and entertainment) leads to the attraction of many young people to social networks and Internet media resources. Using potentiality of modern media in education makes it possible to prepare highly qualified teachers who are able to solve professional problems effectively. In this regard, the role of developing media competence of future teachers in the information society is increasing [1]–[6].

This study investigated the problem of formation of media competence which is based on organization of project activities of future teachers within blended learning is actual nowadays. Various studies show [7]–[12] that blended learning promotes development of students' teamwork and their communication skills. There are various types of project activities in which students can demonstrate and develop abilities such as working in team, building relationships with classmates, finding like-minded people, demonstrating qualities of initiative and leadership. Project activities of future teachers contribute to the

formation of their media competence during the process of their work on the project. They are setting goals, defining tasks, planning, forecasting and monitoring project work. Students have opportunity to analyze their own actions critically and to develop options for correcting problem areas. Interaction between teachers and students during project work has the nature of advisory work and the main activities are carried out by project groups [13]–[16].

## 2. METHOD

The main and the most effective method of formation of media competence of future teachers by means of blended learning is project one. It can be revealed in mini-projects which are designed for several classes, during which students are given the task to create a specific media product (it could be a web quest, a photo exhibition, a quiz, and a presentation), which will be presented by the project participants to other students in class [17]–[21]. It can be also larger-scale projects, which can be lasted during the entire academic year. Students are faced with larger-scale tasks within the process of completing such large projects. Project participants (students pedagogical of faculties) have the opportunity to conduct lessons at schools during pedagogical practice, to organize large-scale photo exhibitions on various topics, to conduct various educational events at university, to organize various social significant events, as well as to improve their skills by attending to educational webinars and visiting master classes. Proposed project method is effective in gaining experience by the students in various fields of activity and to develop their competitiveness.

Analysis of works [22]–[27] reveals that it is recommended to use case method during project activities while organizing teamwork of students. Application of case method reveals presence of educational problem-situational phenomena within the educational process. It requires from the students to be prepared for the diverse communicative activities because professional activity of graduates includes presence of the constant communicative situations.

Our study suggests that use of this method contributes to the development of skills in analyzing situations, choosing the optimal or alternative ways to solve a problem situation especially while organizing blended learning. Solving of different situational problems allows the students to develop practical technology for making management decisions in problem situations of various kinds (strategic, tactical). It should be taken into account that situational tasks should be presented in a variety of contents. Narrow-focused situation can be used only in specialized programs within this method. Analysis of simulated situations which are closely related to the future professional activities of students makes it possible to experience a possible situation in practice and be ready to respond to it quickly in the future [28]–[33].

Teacher plays an important role in project activities of the students and is a participant in them. He/she advises, guides, and works not only with the entire team at once, but also with each of its members separately. Teacher strives not only to help the students to develop and to implement the project. Teacher also pursues higher and larger goals such as revealing of the creative potential of each student and improving their project literacy. The main goal of the project method in higher educational institutions is to prepare students for their future professional activities, to ensure the development of competitive skills and abilities, which are necessary for graduates while looking for a job in the labor market. The pedagogical result of the project is the activity itself. In addition, the project is not only an effective method of training but also acquiring professionally significant skills [34]–[39].

## 3. RESULTS AND DISCUSSION

Experimental research was conducted at Southern Federal University” (Rostov-on-Don) in 2022–2023. 107 students of 1st and 2nd year students of Institute of Philology, Journalism and Intercultural Communication of the Specialty Pedagogical education were involved in the study. The age of the students ranged from 17 to 19 years. The total number of students was 107 (54 participants were in experimental group, control group included 53 participants). Education of future teachers in control group was realized according to the standard curriculum.

### 3.1. Process of formation of media competence

Realization of experimental work in experimental group included process of formation of media competence based on organization of project activities of future teachers within blended learning. It included countermeasures which assisted to break through difficulties of project activities of future teachers within blended learning. We offered to follow recommendations while implementing project activity for the efficient work. First, it was necessary to answer the following questions: i) What is the goal of the project? ii)

What exactly needs to be implemented? iii) What is the deadline for completing of project work? iv) How many team members are there? and v) Which participant is responsible and for what? Then it was necessary:

- To set the goal of the project
- To make a list of the tasks that needed to be solved
- To draw up plan of activities,
- To select a technology for solving problems
- To implement the project
- To present the results after conducting self-analysis

Following these recommendations would provide a complete understanding of the tasks of the work and would allow to determine the sequence of the tasks which could be solved more effectively.

### 3.2. Realization of experimental work

Experimental work involved project work of students. The development and implementation of projects was carried out within blended learning. It involved completing projects according to an individual curriculum for each group of students working on the project. The following topics were offered to students: i) online education: pros and cons; ii) does blended learning work? iii) the impact of educational psychology on higher education; iv) building cooperation in the classroom: how to do it; v) academic self-concept and self-efficacy; vi) learning together or alone: cooperative, competitive, and individualistic learning; vii) express your opinion on the following saying “be sincere; be brief; be seated.” (franklin delano roosevelt); viii) effective pedagogies give serious consideration to student voice; ix) effective pedagogies embed assessment for learning; x) learning by doing: success or failure; and xi) education diversity: does it affect learning?

Teachers conducted individual and/or group online and/ or face-to-face consultations. The result of the project activity should be the completion of one of the tasks by the choice of the students such as creating educational media products (multimedia presentations, videos, video blogs, media texts, and subject website). Students were given technical assignment for the implementation of the project, which included such sections as title of the project, focus on the project, explanatory notes, purpose, content of work of the project, expected results, methodological and practical value, application of it within the educational process, requirements for the results of work, reporting documentation, calendar plan, as well as the obligations of the team of participants for implementation within the educational process and supporting of the course. Project work of future teachers included:

- Choosing of the topic
- Creating a scenario for the use of digital technologies
- Description of available hardware and software at the educational institution and at home
- Evaluation of working conditions at classroom
- Identification of educational goals
- Selection of digital tools (video clips, presentations, music videos, and photographs) which can be used while studying the chosen topic
- Forecasting of possible difficulties while using digital technologies (for example, lack of Internet in the classroom) and ways to solve them (for example, pre-loading of content)
- Discussion of the designed scenario with the other students and teachers, identifying its strengths, weaknesses and potential new solutions

### 3.3. Outcomes

The purpose of the initial stage of the experiment was to determine the initial level of media competence of future teachers before the experimental work and after it. Levels of development of media competence are reflected in Table 1. We present the results of the experiment. Six experts of Southern Federal University having an academic degree of candidate of pedagogical sciences and having a high level of media competence took part in the work. Experts evaluated media products which were created by the student.

Table 1. Levels of development of media competence of future teachers

Level	Characteristic
Low level	Low level of ability and absence of willingness to use media resources; insufficient abilities and skills to create educational media products (multimedia presentations, videos, video blogs, and media texts)
Middle level	Middle level of ability and willingness to use media resources; basic abilities and skills to create educational media products (multimedia presentations, videos, video blogs, and media texts)
High level	Ability and high willingness to use media resources; basic and specific abilities and skills to create educational media products (multimedia presentations, videos, video blogs, and media texts)

The expert assessment of the media product was carried out according to criteria, which included content, structure and navigation of the media product, script and communication with the user, interface, functionality, visualization, sound design, interactivity, ergonomics and the overall impression of the presentation. We carried out Z-standardization procedure after receiving expert assessments of determining the level intervals, which made it possible to designate the following levels. Assessment score of media products is reflected in Table 2. The results of practical implementation of formation of media competence based on organization of project activities of future teachers within blended learning was carried out in the form of an analysis based on Likert scale. The results of assessment of the media product of future teachers at various stages of the experiment are revealed in Table 3.

Table 2. Assessment score of media products

Level	Score (points)
Low level	0-7
Middle level	8-17
High level	18-22

Table 3. Expert assessment of the media product of future teachers at various stages of the experiment

Level	Control group		Experimental group	
	Beginning (%)	End (%)	Beginning (%)	End (%)
Low level	39.6	35.8	42.6	3.7
Middle level	47.2	52.8	48.1	25.9
High level	13.2	11.4	9.3	70.4

Thus, our study demonstrates that: i) High level of assessment (70.4% of respondents) became predominant at the experimental group at finale stage of the experiment. The presented media products by the students of experimental group received high marks from experts according to all criteria. Media products were meaningful, structured, simple and understandable in application. The level of their interactivity, ergonomics, visualization and sound design was rated as high. Media products received high marks according to the most of the criteria and made favorable overall impression on the experts. The average level of evaluation of media products decreased from 48.1% of respondents to 25.9% at the experimental group noticeably. The number of students whose presentations were rated as low by the experts decreased significantly. It was 3.7% of respondents after the experiment. ii) Middle level of assessment of the media products (52.8% of respondents) remained predominant at the control group at finale stage of the experiment. The presented media products by the students of control group were meaningful, but had shortcomings within various indicators. A low level of evaluation of the media product was showed 35.8% by respondents of control group. The presentations of these students did not receive high marks from the experts for any criterion. High quality of presentations was shown only by 11.4% of students of the control group. It did not change significantly compared to the proportion of respondents with a low level at the beginning stage of the experiment (13.2% of respondents). The results of experimental work of formation of media competence based on organization of project activities of future teachers within blended learning in control and experimental groups revealed that the level of media competence of future teachers at the experimental group is higher than at the control group, that proves the effectiveness of experimental work.

#### 4. CONCLUSION

Recent observations suggest that application of modern media in education makes it possible to prepare highly qualified teachers who can solve professional problems effectively. Thus, the role of developing media competence of future teachers in the information society is increasing. Media competence of future teachers is professional quality, which is revealed in ability and readiness to select media resources and information, to analyze it critically, to evaluate it, to create media products in various types and forms, and to use them in educational purposes. Our findings provide conclusive evidence that the most effective method of formation of media competence of future teachers by means of blended learning is project one. This method can be revealed withing creating media product for educational such as web quest, photo exhibition, quiz, and presentation. Student projects were evaluated by the expert within selected criteria such as content of the media product (relevance of the topic, novelty of content, originality, uniqueness, focus on educational objectives and the target audience); interface of media products (easiness and clarity of interaction, accessibility of tasks); functionality (ability to perform these functions quickly and reliably);

overall impression (harmonious combination of content, structure and navigation, multimedia communication language, interface, functionality, visual and audio, interactivity) and application of various advanced technologies that make the media product relevant, modern, interesting for its target audience.




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