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EXPERIMENTAL VERIFICATION OF THE EFFECTIVENESS OF LEARNING IN INFORMATION-EDUCATIONAL ENVIRONMENT IMPLEMENTATION

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Abstract. *The article is devoted to the methods of experimental verification of the effectiveness of professional information and educational environment implementation. All the mentioned methods were tested by the author. The author's development of the variant of internal motivation questionnaire of R.Rayan (based on the adaptation of V. Klimchuk and O. Muzyka) should be noted. In addition, there are given the quantitative results of the experiment and conclusions based on this data.*

Keywords: *information and education environment, questionnaire, pedagogical experiment, survey, motivation.*

Pedagogical experiment was conducted, and the results of it were processed, synthesized and summarized based on the works of V. Sivashinska, I. Zhurlova, A. Zdravomyslov, M. Gorshkov, D. Campbell etc.

The term "experiment" which comes from the Latin word "experimentum" (experience) explains the concept of a research strategy that provides targeted monitoring of certain process changes in the conditions of certain characteristics and the conditions of its occurrence. The prerequisites are planned essence of the experiment and control of its flow, the influence of the experimenter or facilitator on the object or objects isolated from the unregulated effects and fixing changes in a certain way. The study enabled the experiment to be performed with the aim of testing the hypothesis of a causal relationship between a variable and altered states of the object.

The experiment is one of the main methods of gathering information in science. The concept of pedagogical experiment is traditionally interpreted as a special type of learning process, which organizes educational events for observation under controlled conditions [5].

In this study, pedagogical experiment is understood as the system of pedagogical conditions and pedagogical activity components needed to be designed and run in the creation and formation of professional information and educational environment of a higher education institution. With the help of the experiment we verified the feasibility and correctness of the hypothesis, as pedagogical experiment is to create conditions to test the effectiveness of methods and instruments introduced in the educational process and to determine the conditions of certain educational problems.

The specific features of pedagogical experiment that define its essence are: changes to the educational process, according to the hypothesis of the study and according to his plan; creating the most favorable conditions and such that the complete character of the experiment will identify target aspects of the educational process; gathering complete information, processing and drawing conclusions based on the data analysis.

So *the aim of the article* is to introduce the experiment conducted; to describe the factors of verification of pedagogical effectiveness; to highlight the specifics of the experiment on verifying the effectiveness of learning in information-educational environment implementation.

Experimental research base was chosen to be Petro Mohyla Black Sea National University, Mykolayiv State Agrarian University and Hryhorii Skovoroda Kharkiv National Pedagogical University.

Experimental work in higher education institutions met the conditions necessary for a proper, adequate and full pedagogical experiment: starting conditions were clearly observed; the hypothesis and the expected results of the work were formulated; it was defined what was implemented to the situation of education; results and their correspondence to the hypothesis were found.

According to the survey results, diagnosis, survey and control were defined factors of influence of information and education environment as a base for building a learning process, and moreover, was outlined the level of modern information technology tools for students and academics.

Preliminary survey was based on the author's questionnaire developed to determine the level of modern information facilities and degree of interest in studies based on partially constructed or fully functional information technology environment. The results of a survey of 415 students and 54 university professors showed that 82% of respondents use Internet tools, multimedia and digital libraries to prepare for classes or individual tasks, but in the classroom during the study such materials are used by only 25%.

This contrast shows the need for the widespread introduction of ICT in the classroom and after-classes work and the need for special seminars for teachers on teaching based on professional information and educational environment, electronic design of manuals and textbooks, restructuring of the educational process with the purpose of bringing to it modern technical means and tools online.

Study tests used in the experiment are used in the teaching practice. Psychological and educational tests and questionnaires in the structure of the experiment are science-based and have a high degree of confidence: method of expert estimates by B. Grabovetski [2]; technique for diagnosing human motives of T. Badoev [1]; technique of studying vocational teacher motivation of C. Zamfir modified by Rean A. [6]; internal motivation questionnaire of R. Rayan (in the author's adaptation based on the adaptation of V. Klimchuk and O. Muzyka) [3].

Ukrainian version of the questionnaire of post-experimental internal motivation of authors V. Klimchuk and O. Muzyka was earlier checked according to its reliability and the results were quite high. The conducted study gives reason to use its author's version in the experimental work for the diagnosis of the parameters of situational intrinsic motivation related to the implementation of educational activities in the given conditions, and in the particular study – to determine the level of motivation in teaching students based on professional information and educational environment.

To study the professional teaching staff motivation and their desire to achieve good results in professional activities in interdependence with the possibility of teaching in professional information and education environment of C. Zamfir in the modification of A. Rean, which is based on the concept of internal and external motivation. Motivation complex of a teacher influences the level satisfaction of their own profession. Factors of external motivation are the desire to meet the non-professional needs (prestige, reward, money, etc.). This type of motivation is divided into positive and negative, the first of which stems from the desire to meet the social prestige and respect of colleagues and the

other is the attempt to meet the need for self-protection, avoid punishment and criticism from students, colleagues and administration.

Teachers were asked to read and answer the questions that reveal the essence of professional motives and determine their significance assessment on a five point scale, as shown in Tab. 1.1.

Tab. 1.1. The grounds of professional motives of teaching staff

| Statement | Very slightly | Slightly enough | Neither much nor little degree | Largely enough | Very largely |
|---|---------------|-----------------|--------------------------------|----------------|--------------|
| Earnings | 1 | 2 | 3 | 4 | 5 |
| Desire for career growth | | | | | |
| Desire to avoid criticism of managers and colleagues | | | | | |
| Desire to avoid possible penalties and trouble | | | | | |
| Need to achieve social prestige and respect of others | | | | | |
| Enjoyment of the process and outcome of labor | | | | | |
| Possibility of the most complete self-fulfillment | | | | | |

Indicators of internal motivation (IM), external positive (EPM) and external negative (ENM) motivation were counted in accordance with the keys in the formula 1.1.:

$$\begin{aligned}
 IM &= \frac{p.6 + p.7}{2} \\
 EPM &= \frac{p.1 + p.2 + p.5}{3} \\
 ENM &= \frac{p.3 + p.4}{2}
 \end{aligned}
 \tag{1.1}$$

Based on the results there was determined a motivational complex of a personality as the ratio between the three types of motivation: IM, ENM and EPM. The favorable career motivational systems are classified as two types of combinations: IM>EPM>ENM and IM=EPM>ENM. The least favorable

motivational type of the complex is ENM>EPM>IM. Between these complexes there are also some intermediate motivational systems.

Participation in this phase of the experiment was performed by 22 teachers of professional disciplines. They answered questions of the methodic in two stages: before undergoing a cycle of seminars and webinars on teaching in modern information and education environment and after it. Answers to the questionnaire on two stages, as well as indicators of internal, external positive and negative external incentives were provided. In the first poll there was revealed the average intrinsic motivation of teachers during and after training activities, which is $81/22=3.7$.

Once teachers have participated in seminars and webinars "Education in today's information-educational environment" in the second phase there was found a significant increase in intrinsic motivation to $91/22=4.14$, confirming the need for faculty professional departments detailed and deep information on the use of modern information technology tools in education, instruction and practical training in their use in teaching various subjects, informing them of the specific principles and methods of learning based on information and educational environment.

After this phase of the experiment, 16 participants found the overall change of their personality motivational complex, which is a reflection of relations between internal and external motivation. This figure is high, although it may be valid only for a short time after the course.

Conclusions. To consolidate the results it is recommended to conduct regular trainings and webinars with teachers and students to discuss issues of computerization education, media education and pedagogically correct use of information and technical means of education that will improve the professional competence of staff, their motivation for creative educational activities in modern conditions, and students' level of computing competence for educational needs.

Tests used in the pedagogical experiment (method of expert estimates by B. Grabovetski; technique for diagnosing human motives of T. Badoev; technique of studying vocational teacher motivation of C. Zamfir; and author's adaptation of internal motivation questionnaire of R. Rayan) proved to be appropriate and productive in defining and understanding the level of learning in information-educational environment implementation effectiveness both in the student and teachers aspect.

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GRAPHIC ORGANIZERS AS A MEANS FOR DEVELOPING CREATIVE THINKING IN THE PROCESS OF TEACHING WRITING

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***Abstract.** The article deals with the usage of a graphic organizer as a visual representation of knowledge. In a variety of formats dependent upon the task, graphic organizers facilitate students' learning by helping them identify areas of focus within a broad topic. A number of different variations of graphic organizers is observed in the article. Also, a step-by-step instruction of using graphic organizer for developing writing skills through visualization is presented.*

***Keywords:** graphic organizer, visualization, learning theory, meaningful learning.*

Written assignments, such as descriptive paragraph or subsequent essay, are usually among the assignments students must complete while taking school-leaving exam, state exam, any kind of international exams (IELTS, TOEFL). Most students, especially learners of English as a foreign language (EFL), have