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ORGANIZATION OF EXPERIMENTAL WORK ON THE DEVELOPMENT OF INFORMATION AND MANAGEMENT COMPETENCES OF THE FUTURE EDUCATION MANAGER

Zakirova Feruza Makhmudovna,
DSc, Professor, Tashkent University of Information Technologies named after Muhammad Al-Khwarizmi,
Тел:+998909822314

Abdullaeva Ozoda Safibullaevna
PhD, Professor of Namangan Engineering-Construction Institute,
E-mail: aspirantka.030@gmail.com, Tel: +998913549363

Abstract: This article discusses and analyzes the methods necessary to empirically test the level of development of information and management competencies of undergraduates, define control and experimental groups, present the results of the development of information and management competencies at the initial stage of experimental work.
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Key words: information and management competencies, experimental work, components of competency development

1.Introduction

This article is devoted to experimental work on the implementation of the process of development of information and management competencies, substantiated in the theoretical part of the study.

Experimental work consists of the following stages:

- ascertaining stage, which includes the formation of diagnostic tools, criteria and levels, as well as tools for evaluating the development of information and management competencies in accordance with the components of information and management competence (motivational and value, information technology, communicative, reflective); the composition of the control and experimental groups is determined and the rationale for their homogeneity is given; the level of development of information and management competencies is assessed at the initial stage of experimental work in control and experimental groups).

- a formative stage of the study aimed at implementing mechanisms for improving the technology for developing information and management competencies of magistrates;

- the control (analytical) stage, at which the final results of the study are analyzed, the results of experimental work are processed and structured, and conclusions are formulated.

Based on the works of scientists that we reviewed in this study [1-5], it can be assumed that in the conditions of modern education, the didactic tools of the innovative electronic management environment are necessary in the process of developing information and management competencies.

2. Material and Methods

We have singled out and substantiated four main components of the information and management competencies of future education managers: motivational and value, information technology, communicative, and reflective. Assessment of the development of information competence of students must be carried out component by component. For each of the components, the corresponding diagnostic tools were determined (Table 1).

Table 1. Diagnostic tools for experimental work

Components	Criteria and indicators	Research methods
Motivational-value	The level of The level of professional motivation, the desire for self-organization and self-education, reflection, the presence of personal and professional qualities; career growth and professional development.	Analysis of results educational, research, independent activities of future education managers, testing, questioning
Information technology	Availability of a set of skills and abilities in ICT activities; modern technologies of management activity; computer literacy; experience in the use and application of information technology in a particular information situation.	Analysis of results activities (complex skills and abilities of ICT activity) testing, questioning, observation
Communicative	The presence of practical communication skills in the conditions of modern information technologies; knowledge of technologies and programs for remote interaction (modern information systems); ability to work in programs related to management activities; skills of practical organization and control of the interaction of participants in this process.	Analysis of results educational, research, independent activities of future education managers, testing, questioning, observation
Reflective	Manifestation of awareness, analysis and objective assessment of their knowledge, skills, managerial experience; ability to design independently individual work; the presence of reflection in professional activities; striving for development and self-realization.	Analysis of results educational, research, independent activities of future education managers, testing, questioning, observation

Having decided on the criteria and methodology for assessing the development of information and management competencies of future education managers, it is necessary to pay attention to the formation of control and experimental groups, assessing the development of information and management competencies of future education managers at the initial stage of experimental work.

An unambiguous determination of the effectiveness of the developed structural-content model for the development of information and management competencies of future education managers is possible in terms of diagnosing changes in the level of its development in the experimental and control groups of the contingent (Table 2).

Diagnostic procedures (at the ascertaining stage) were carried out in 2020 among the future education managers of the Namangan Construction Engineering Institute.

In the course of experimental work, the following were subjected to analytical comparison:

- 1st and 2nd year undergraduates in the direction 5A350201 - Technology of animated films, (CG1 - 11 future education managers, EG1 - 9 future education managers) of the Tashkent University of Information Technologies named after Muhammad Al-Khwarizmi;
- 1st and 2nd year undergraduates in the direction 5A340201 - Construction of buildings and structures (by types of structures), (CG1 - 23 future education managers, EG1 - 19 future education managers) of the Namangan Construction Engineering Institute;
- 1st and 2nd year undergraduates in the direction 5A320201- Technology and equipment of mechanical engineering (in mechanical engineering) (CG3 - 15 future education managers, EG3 - 15 future education managers) of the Tashkent State Technical University named after Islam Karimov.

Table 2. The content of the criteria and levels of development of information and management competencies

Criteria/Levels	Low	Medium	High
Motivational-value	Low motivation in intellectual and creative development, professional activity for self-improvement	Ability and readiness simulate own ways activities; there is interest to some elements of information technology,	Increased motivation in intellectual and creative development, perfection of innovative activities, professional activity for self-improvement;
Information technology	Proficiency in standard programs, knowledge of the basic structure of a personal computer; ability to search for information on the web Internet,	Active use of standard programs in professional activities, the ability to work with modern information systems, work on the Internet	Using advanced features standard programs their adaptation to different needs, high security level in internet networks,
Communicative	Ability to interact with information technology is asynchronous, implicit, or non-existent.	Interaction using information technology and its organization based on visual aids, basic skills of synchronous and asynchronous communication	Site organization for online communication, free synchronous and asynchronous interaction from any access point
Reflective	Weakly expressed reflexive activity; low level of self-analysis activities	Independent understanding of the mistakes made, a critical attitude towards information in professional activities	Accumulation of useful professional experience, high analytical activity introspection, introspection

3. Result

The quantitative composition of the control group was 53 people, experimental - 49 people. Based on the description of the composition of the experimental and control groups, it can be noted that within the framework of the experimental work there are students in the direction of "Computer systems and their software (by networks and industries)". Despite the heterogeneity of educational areas, based on the qualification requirements for the state educational standard of all areas, information and management competencies should prevail.

The universal nature of the results of the diagnostics carried out is confirmed by the variety of areas of training students, the difference in learning conditions. Based on this, experimental (EG) and control groups (CG) were formed. The control groups are senior undergraduates who have already mastered the disciplines without actively using elements of the information system at the time of the experiment.

The experimental groups are first-year undergraduates who will master the disciplines using all the capabilities of the department's personnel management information system, the author's program and the corresponding program modules.

At the ascertaining stage, held in 2020, undergraduates of the 1st and 2nd year underwent comparative diagnostics, divided into groups within the framework of the experiment: the control group - CG1, CG2, CG3. In 2021, experimental groups - EG1, EG2, EG3 - underwent comparative diagnostics. Based on this, the diagnosis was carried out on the same stages of training of the control and experimental groups with a difference of 1 academic year, which, in

our opinion, made it possible to ensure the reliability and validity of the results obtained at the initial stage of the study.

Before passing the training of each of the groups, the results of the EG must be compared with the results of the CG at the beginning of the experiment, which will make it possible to determine the dynamics of changes in the components in the future. The results of a diagnostic study to determine the level of development of information management competencies for the control and experimental groups at the initial stage are discussed below.

The dynamics of the development of information and management competencies of future education managers is determined component by component, the results of a study of the initial level of development of all components of information and management competencies of future education managers, control and experimental groups by levels, at the ascertaining stage are presented in Figure 3.

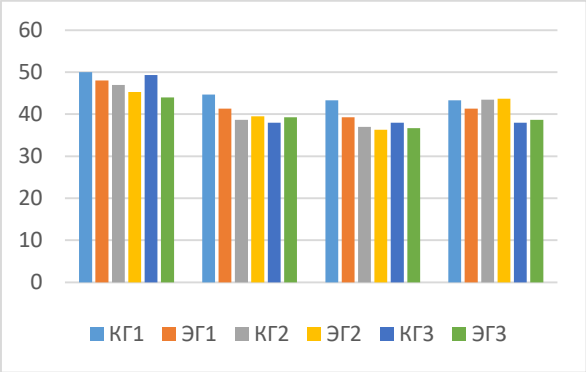

Fig.3. The average value of the development of the components of future education managers at the ascertaining stage of experimental work, in %

Acknowledgements:

When distributing the results of all groups according to the levels of development of competencies, the following conclusions can be drawn. In none of the groups is there a high level of development of the components of information and management competencies.

As we noted earlier, preparation in the magistracy for management activities requires a high level of formed components of information and management competencies.

The average indicator at the ascertaining stage is basically the same for the control and experimental groups, formed from the results future education managers who have some professional experience activity and motivation for learning. A high level of the motivational-personal component was shown by 19.9% in the control group and 16.7% in experimental.

At the same time, the results of the ascertaining stage of the information technology component showed that only 2.2% of masters have a high level in the experimental group and 4.3% in the control group.

The results of the ascertaining stage showed that only the second part future managers of education has a high level of formation of the components of information and management competencies.

Analysis of the results allows us to conclude that the components information and management competencies for conducting a productive managerial activities of future education managers are not developed at a sufficient level (high).

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