

EFFICIENCY OF THE MODEL OF FORMATION AND DEVELOPMENT OF READINESS FOR PEDAGOGICAL DESIGN IN THE CONDITIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES

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ABSTRACT

The article considered the practical acceptability and effectiveness of the developed model of formation and development of readiness for pedagogical design in the conditions of information and communication technologies.

Keywords: Model of formation and development of readiness for pedagogical design, information and communication technologies, efficiency, professional development.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

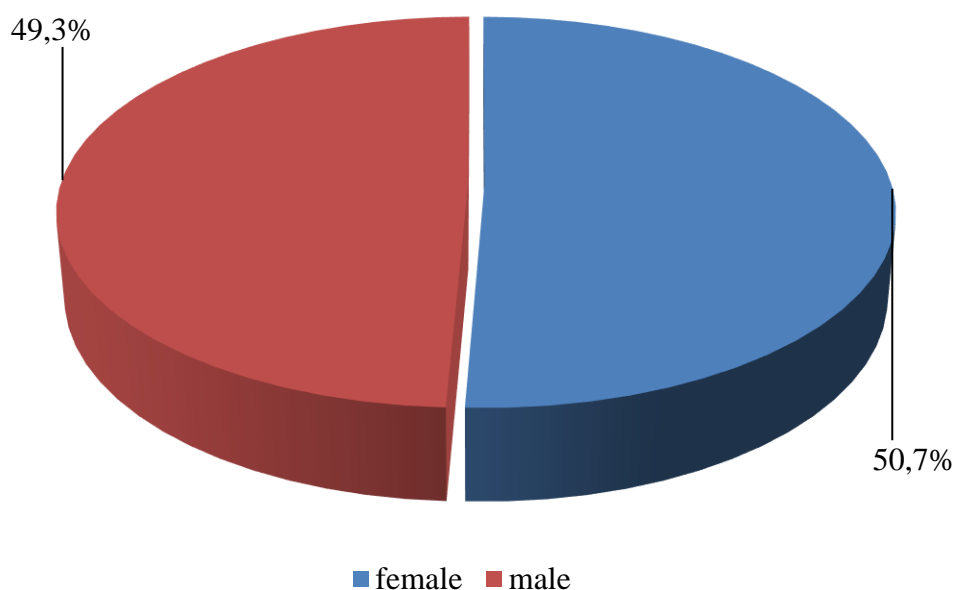
Analysis of the scientific literature on the problem shows that the concept of model is widely used in modern science [1, 2, 3]. A model is a subject, sign or imaginary system that reflects or imitates the principles of internal organization or functioning, certain properties, features and characteristics of the object of study (the original) [3].

In accordance with the purpose and objectives of the study, an empirical test of the prepared model of formation and development of readiness for pedagogical design in the conditions of information and communication technologies was organized and carried out.

Empirical testing of the model was carried out for 8 weeks training teachers on the basis of the leading scientific-methodological center for organization of retraining and advanced training of pedagogical and managerial staff in the higher education system, taking into account their isolation from the main place of work.

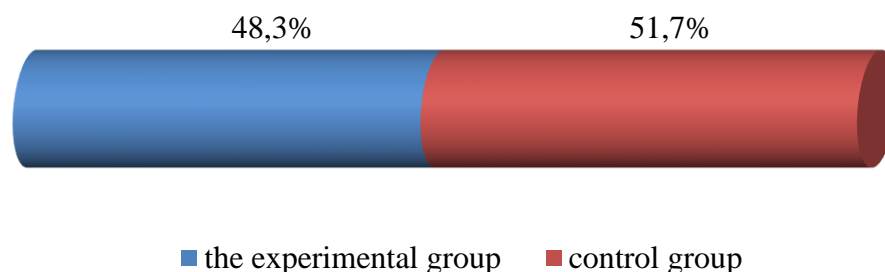
During the empirical test, a prepared model of formation and development of readiness for pedagogical design in the conditions of information and communication technologies and a specially designed training module "Development and support of electronic information educational resources" as a content component in the process of teachers' professional development was introduced.

The empirical test of the model involved 294 people aged 24 to 35 years (the average age was 29.4 years), both female and male (women-149 people / 50.7%; men-145 people / 49.3%), engaged in pedagogical activity (experience of pedagogical activity from 1 year to 9 years) in higher educational institutions (rice. 1):



Rice. 1 Characteristics of the sample empirical verification of the effectiveness of the prepared model of formation and development of readiness for pedagogical design in the context of information and communication technologies by gender (n=294)

For objective comparison, studying the effectiveness of the prepared model, the entire sample of the study was divided into two groups (rice. 2):



Rice. 2 Quantitative characteristics of experimental and control groups (n=294)

- experimental group-142 people (48.3%);
- control group-152 people (51.7%).

At the same time, training of teachers of the experimental group was carried out taking into account the prepared model, and teachers of the control group were not involved in this process.

In order to objectively monitor the dynamics of changes in the level of readiness of teachers in the course of professional development, based on the analysis of theoretical and methodological foundations of pedagogical design in the context of information and communication technologies in pedagogical science performed in the first Chapter of the dissertation research, a special diagnostic tools:

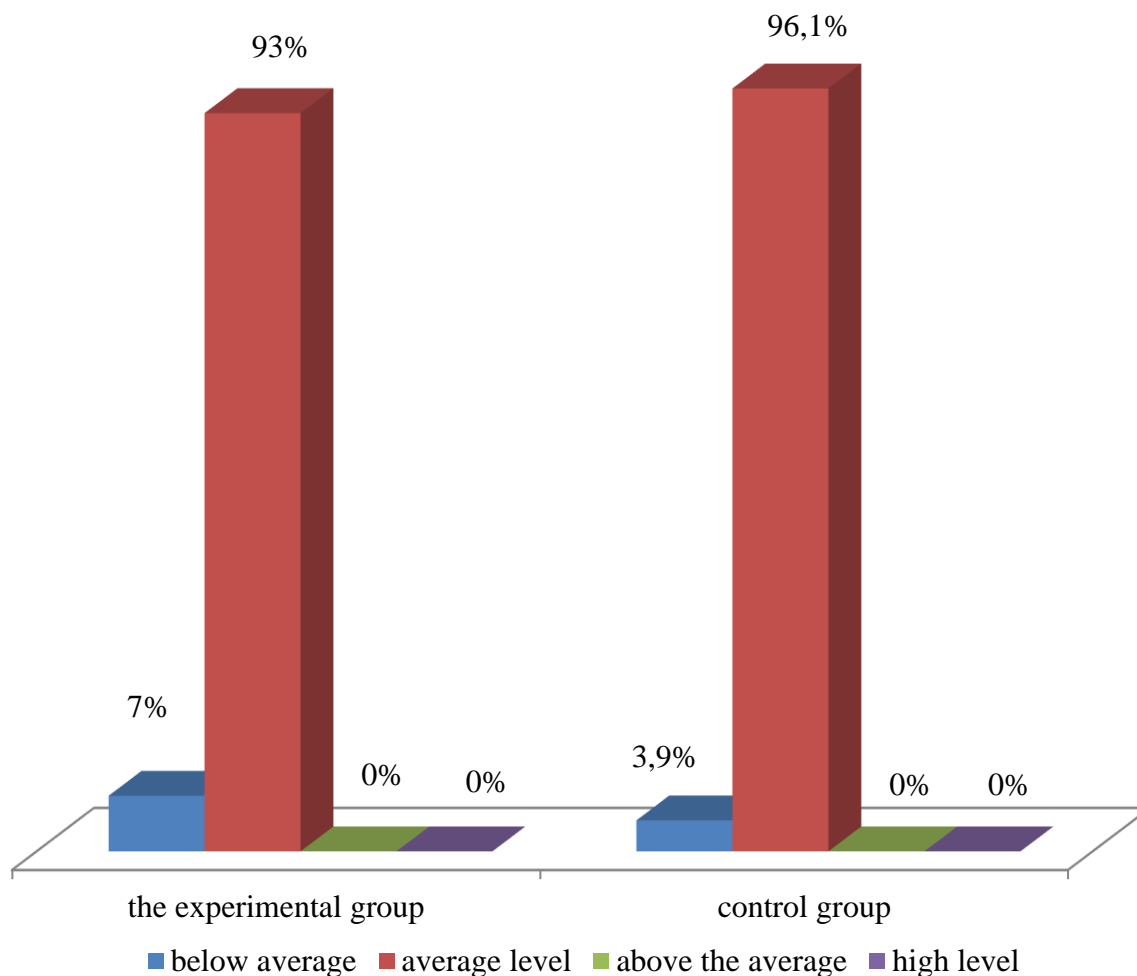
- self-assessment questionnaire of readiness for pedagogical design in the context of information and communication technologies-consisting of 20 relevant questions and three answers to each question;
- observation form to assess the level of readiness of the teacher for pedagogical design in the conditions of information and communication technologies-consisting of 20 characteristics for evaluation and three evaluation options for each characteristic.

To facilitate the procedure of processing and interpretation of the results obtained, the keys to the Toolkit are prepared, taking into account the previously allocated gradations of the level of readiness of the teacher for pedagogical design in the conditions of information and communication technologies.

In addition, in order to expand the diagnostic range, the possibilities of application in pedagogical practice, the prepared tools provide the appropriate scales: motivational component of teacher readiness; cognitive component of teacher readiness; information and communication component of teacher readiness; individual psychological component of teacher readiness.

Interpretation of the obtained results taking into account these scales makes it possible to investigate the structural components of the teacher's readiness for pedagogical design in the conditions of information and communication technologies, to identify possible difficulties, individual problematic issues, to adjust the development process, thereby increasing the effectiveness of training in General.

With the help of the prepared tools, three surveys of the entire sample of the study (n=294) were carried out: the first survey was conducted before the beginning of teacher training; the second survey was conducted after the second intermediate control of teachers' progress; the third survey was conducted after the final control of teachers' progress.



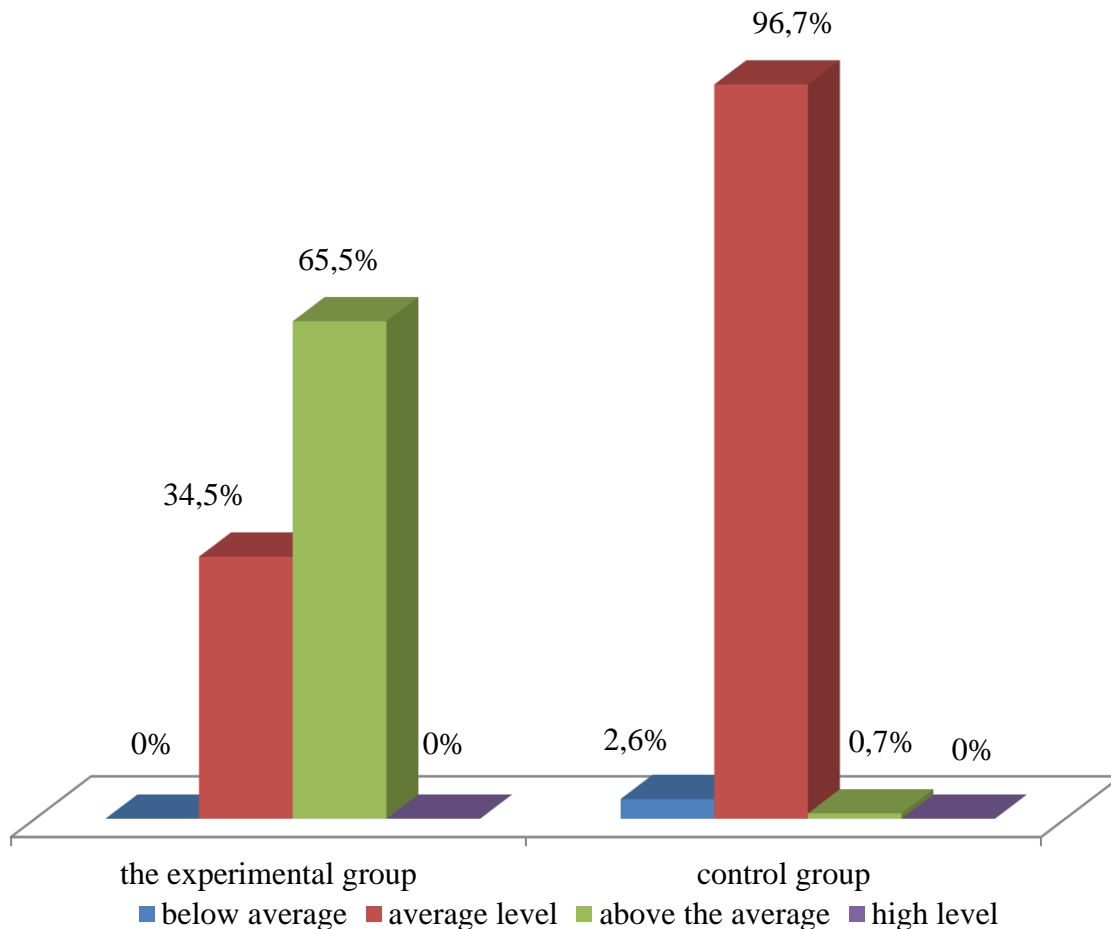
Rice. 3 The results of the analysis of the frequency encountered of the trait in comparison groups prior to the increase teacher qualifications (n=294)

Thus, the results of the survey of the sample before the beginning of professional development (n=294) show that in both experimental (n=142) and control (n=152) groups, most teachers have an average level of readiness for pedagogical design (experimental group-93% / 132 people, control group-96.1% / 146 people). The remaining respondents have a lower average level of readiness for pedagogical design, in:

- experimental group-7% (10 people);
- control group-3.9% (6 people).

This distribution of the frequency of occurrence of the assessed trait gives grounds to assert a uniform distribution of the level of readiness for pedagogical design in comparison groups before the beginning of professional development (rice. 3).

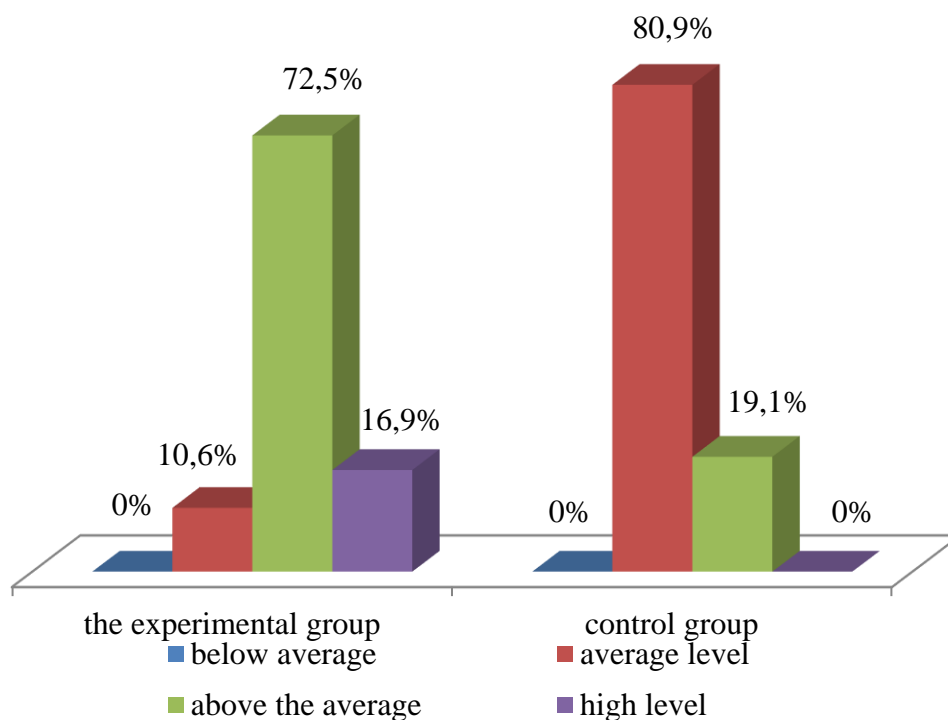
The results of the survey after the second intermediate control of teachers ' progress in the course of professional development showed changes in the frequency of the trait (rice. 4.)



Rice. 4 The results of the analysis on the frequency of the characteristic in the comparison groups after the second intermediate control of teachers' progress (n=294)

Thus, in the experimental group, the level of readiness for pedagogical design in the main staff of teachers (65.5% / 93 people) increased to above average. The average level fell to 34.5% (49 people). In the control group, these indicators remained virtually unchanged. Average level-96.7% (147 people), below average level-2.6% (4 people).

The final survey, after the last control of teachers' progress, illustrated significant positive changes (rice. 5).



Rice. 5 The results of the analysis on the frequency of the characteristic in the comparison groups after the final control of teachers' progress (n=294)

Thus, the number of teachers with a high level and above the average level of readiness for pedagogical design increased to 16.9% (24 people) and 72.5% (103 people). Accordingly, the number of teachers with an average level of readiness decreased to 10.6% (15 people). In the control group, the overall dynamics of indicators did not change. The prevailing number of teachers (80.9% / 123 people) remained at the average level of readiness, and only 19.1% (29 people) reached above the average level.

Thus, the analysis of the frequency of the characteristic allowed to reveal the positive dynamics of the level of readiness for pedagogical design in the teachers of the experimental group in comparison with the teachers of the control group. These positive changes are confirmed statistically (Spearman, $r=0.11$; $r=0.81$; $r=0.84$ at $p<0.050$). This confirms the practical effectiveness of the prepared model of formation and development of readiness for pedagogical design in the conditions of information and communication technologies and a specially designed training module "Development and support of electronic information educational resources".

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