



Formation of health saving competence of future fitness trainers through the intensification of their research work

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ABSTRACT

The article discusses the activation of research work of students on the problems of health preservation as the basis for the formation of professional competence of future fitness trainers. The aim of the study is to scientifically substantiate one of the pedagogical conditions for the formation of health-preserving competence of future fitness trainers, which is the intensification of research work of students on health preservation problems. The experiment involved 600 students of 1 and 4 courses of study of the specialties 017 «Physical education and sport». The research methods: theoretical analysis of special and scientific literature, modeling, survey, pedagogical experiment and methods of mathematical statistics. As a result, it was revealed that not only the reorganization and improvement of higher education in Ukraine is required, but also a serious scientific and theoretical base to ensure the health-preserving competence of future fitness trainers in the process of professional training. One of the pedagogical conditions considered will help in the development of a new type of fitness trainer, ready for successful professional activity and scientific work in the field of pedagogical sciences, physical culture, sports and health.

Keywords: scientific research work, fitness trainers, health-preserving competence, students.

INTRODUCTION

The urgency of the research problem is confirmed by the fact that the health competence of future fitness trainers is an integral part of their professional competence and is characterized by the presence of deep knowledge in the field of health, awareness, clear and unquestionable belief in the value of human health and in behavior that corresponds to the ability of a person to plan and implement their lives in a beneficial way for the health and safety of the person and his social environment.

The formation of health preservation competence of future fitness trainers is an integral and important component of professional training, which is integrally allocated in the course of educational activity and cognition, has essential properties and signs of process of education, therefore serves as a subject of objective scientific research. Undoubtedly, in order to effectively solve the problem of forming the health competence of future fitness trainers, it is necessary to create appropriate pedagogical conditions in the educational process of the educational institution. They should be perceived as a set of opportunities, technologies and means of

organizing the educational process in higher education, which ensure the effectiveness and efficiency of this process.

The issue of creating special pedagogical conditions for the formation of health preservation competence of future fitness trainers has been studied by such scientists as (Malek et al., 2002; Vasilenko et al., 2018; Griban et al., 2018; Kononets et al., 2020; Kornosenko et al., 2021). The issues of formation of research competence of future physical education teachers were studied by (Kornosenko et al., 2020; Shkola et al., 2020; Zhamardiy et al., 2020; Kononets et al., 2021).

According to scientists, such conditions are: intensification of the content of training future teachers of physical culture through the introduction of disciplines of the variable block; development of professional interest of future physical education teachers in the introduction of sanative fitness technologies; ensuring the mastery of experience in implementing sanative fitness technologies in the process of internships; acquisition of a set of psychological and pedagogical, medical and biological, valeological knowledge, as well as knowledge of methods of teaching sanative gymnastics and fitness; formation of professional competence of future specialists in fitness and recreation with the use of information and communication technologies; formation of professional-motivational educational space; interaction of higher education institution and enterprises of the fitness services market; adaptability and flexibility of the educational process; providing feedback on the interaction of teachers and students, etc.

Despite the fact that the existing pedagogical conditions for the formation of health preservation competence of future fitness trainers have made a significant contribution to the process of professional training of students, we believe that this aspect of such activities in educational institutions is insufficiently covered in the field of professional pedagogical education.

The work will develop a scientific and theoretical base that will ensure the development of a structural and functional model of the formation of health-preserving competence of future fitness trainers in the process of their professional training. Moreover, the revealed pedagogical conditions as a conceptual tool similar to a fragment of pedagogical reality will serve as its semantic core.

MATERIALS AND METHODS

The aim of the study is to scientifically substantiate one of the pedagogical conditions for the formation of health-preserving competence of future fitness trainers, which is the intensification of research work of students on health preservation problems.

The experiment involved 600 students of 1 and 4 courses of study of the specialties 017 «Physical education and sport» in Municipal Establishment «Kharkiv Humanitarian Pedagogical Academy» of Kharkiv Regional Council and Poltava V. G. Korolenko National Pedagogical University.

The experiment ran from November 2019 to July 2021. The study covered two stages of scientific and pedagogical research: theoretical (November 2019 - February 2020) and diagnostic and experimental (March 2020 - July 2021).

Among the research methods used. in the experiment are as follows:

- 1) theoretical - theoretical analysis of special and scientific literature - to form the theoretical and methodological foundations of the study;
- 2) empirical - modeling, polling, pedagogical experiment, pedagogical observation - to identify the pedagogical conditions that students need to maintain health in the process of professional activity;
- 3) methods of mathematical statistics - for statistical processing of experimental research data.

RESULTS AND DISCUSSION

Analytical comprehension of the achievements of domestic and foreign scientists allowed to formulate the conclusion that the pedagogical conditions for the formation of health preservation competence of future fitness trainers in the process of professional training is a set of opportunities, technologies and means of organizing the educational process, which ensure the effectiveness and efficiency of the formation of health preservation competence of students. One of such pedagogical conditions we highlight the intensification of research work of students on health preservation issues.

Let's move on to the scientific substantiation of this pedagogical condition. Intensification of research work of students on legal issues based on the concept of «activation», which is interpreted by scientists as an incentive for activity, active action (Ilyin, 2000). Research work of students (RWOS) is such work of the student which reveals independent creative research of a theme; it is the highest form of independent educational cognition, because it takes the form of scientific prediction (the student himself sets a goal and seeks ways to solve it) (Pidkasystiy, 1972).

RWOS on health preservation issues in the process of their professional training solves a number of tasks: formation of scientific worldview, mastering the methodology and methods of scientific research; providing assistance to students in in-depth mastery of the specialty, achieving high professionalism; development of creative thinking and individual abilities of students in solving practical problems; instilling in students the

skills of independent research activities; development of initiative, ability to apply theoretical knowledge in their practical work, involvement of the most capable students in solving scientific problems that are essential for valeology and health preservation practice; the need for constant updating and improvement of valeological knowledge; expanding the theoretical horizons and scientific erudition of the future fitness trainer; creation and development of scientific schools, creative teams, education within the walls of higher educational establishments (HEE) the reserve of scientists, researchers, future researchers of health issues (Chornovol-Tkachenko, 2009).

The revitalization of RWOS on health preservation issues involves students in such traditional forms:

- 1) performance of research tasks (within a seminar or practical lesson, as an individual homework);
- 2) preparation of scientific reports, reports and abstracts on current health preservation issues (publication - in lectures, seminars and workshops);
- 3) writing and defending term papers, dissertations and master's theses;
- 4) preparation of scientific reports at various levels of the conference, articles for professional collections;
- 5) preparation of methodical developments on topical issues of future professional activity of a fitness trainer (booklets, brochures, presentations for valeological education, promotion of a healthy lifestyle).

Undoubtedly, the organization of RWOS on health preservation issues is based on the application of the project method in the classroom (a set of research, search, problem-solving methods, creative in nature), which is confirmed in the works of (Polat et al., 2001). This method allows to teach students - future fitness trainers to think independently, to find and solve problems, involving for achievement of the purpose of knowledge from various branches of medical and biological or valeological sciences, to predict the results and possible consequences of different solutions, to acquire the ability to establish cause-and-effect relationships, which especially contributes to the formation of health preservation competence of future fitness trainers (Novopysmennyi, 2016).

In our study, we use the definition formulated by (Kononets, 2016), and consider the method of projects as a way of work for the tandem «student-teacher», aimed at independent work of students (individual, pair, group), which they carry out over a period of time using a variety of information resources, and the formation of health preservation competence of future fitness trainers.

Understanding and generalization of the experience of using the project method allowed us to conclude that its main value is that it orients the student to create an information product, and not just to study a particular discipline (Kort et al., 2001; Maharg et al., 2002; Kononets et al., 2020). Students individually or in mini-groups for a certain period of time must perform cognitive, exploratory, research, technological work on a given topic. Their task is to get a new product (booklet, brochure, newsletter, educational event, scientific article, report, thesis, presentation, video, fitness competitions, festivals, recreational games, etc.), solving the problem of health preservation. It is advisable for students to implement online network projects that have the format of blogs (author's or thematic), groups (author's, thematic, regional, corporate), pages (author's, thematic, regional, corporate), events (one-time events). The focus of such projects can be direct (open) or indirect (hidden) (Litvinenko, 2003; Kurban, 2016).

The establishment of student scientific societies or scientific circles (problem groups) in the HEE will help to intensify the RWOS on health preservation problems. The management of such societies or problem groups is carried out by teachers of departments, employees of scientific structural divisions, postgraduate students. Organizational support for the activities of a scientific society or problem group may be provided by a coordinator from among students (most often it is a senior or PhD-student). Its main functions are participation in the conclusion of the work plan of the scientific society, control over its implementation, keeping the necessary records, etc. The main forms of work are: direct implementation of search and research work; search and review of scientific literature (active participation of HEE librarians); participation of future fitness trainers in competitions, contests and exhibitions of student research papers (including national and international); approbation of research results in the form of reports, abstracts and articles; active participation in the organization of student scientific conferences, seminars, Internet conferences, webinars, etc. (Proshkin, 2010).

Creation of student scientific societies, scientific circles, problem groups will provide activity of future fitness trainers within the state budget (departmental) scientific works; scientific cooperation with leading scientific institutions, health complexes, fitness centers and public authorities; participation in holding scientific conferences, round tables, seminars, symposiums, Olympiads, competitions, participation in other scientific events of the HEE, the community of departments of valeology of various HEEs (regional, national level); appropriate level of preparation and publication of scientific and scientific-methodical works of students in co-authorship with HEE teachers, scientists, practicing fitness trainers; favorable conditions for the preparation of dissertations by teachers and PhD-students (Kononets et al., 2021).

Leaders of student scientific societies and teachers who are actively engaged with students in research work, it is advisable to acquaint future fitness trainers with the logic (algorithm) of scientific research:

- 1) Defining the topic, problem, purpose, object, subject and objectives of the study.
- 2) Drawing up a research plan and the first version of the plan for the implementation of the scientific work.

- 3) Compiling a list of literature on the research problem.
- 4) Definition of the general technique and methods of research, base of research.
- 5) Study of the theory and history of the issue, analysis of basic concepts (concepts on which the study is based).
- 6) Studying the experience of solving this problem in practice.
- 7) Collection of ascertaining material.
- 8) Analysis and generalization of the obtained results and construction on their basis of the hypothesis-assumption about a possible way to solve the outlined problem.
- 9) Development of methods for testing hypotheses.
- 10) Conducting experimental work (pilot (trial) and molding experiments, research work).
- 11) Conducting control sections.
- 12) Analysis and generalization of the obtained results, formulation of the theoretical substantiation of the conducted research.
- 13) Development of practical recommendations.
- 14) Design and literary editing of the text of the scientific work.

An effective way to activate the RWOS on health preservation issues is to organize and hold a «Library Day» for future fitness trainers. The position of the librarian from Pennsylvania J. Valenza seems to us to be correct, emphasizing that now the librarian acquires a new status - a teacher-librarian (Valenza, 2010). Close cooperation of students with HEE librarians will help to intensify RWOS, will orient future fitness trainers to work with scientific literature, will acquaint with a powerful library resource, available domestic and foreign electronic libraries and repositories, will acquaint students with bibliographic reviews on valeological subjects, will provide exhibitions and educational activities on health issues, will ensure the participation of future fitness trainers in the project activities of the library (for example, the project «Mobile Health Library on the way to the villager», «How to lead a healthy lifestyle», «Valeological readings», «Sunday School of Health», «Fitness at Home», etc.).

A modern HEE librarian will definitely be able to: help students understand that when they are in the library, they have powerful tools to find answers to a variety of questions, and this toolkit goes beyond one major search engine, it grants access to high-quality databases, e-books, blogs, chats, scientific journals, newspapers, wikis, primary sources and media of all kinds; it can help future fitness trainers can effectively access the materials they need, using traditional print resources and electronic libraries, as well as those partnerships; this should help students to research and critically evaluate information; to teach students strategies for effective search and finding the data they need, to teach them the methods and tricks of search, special techniques that give them a special search power; it also can provide ability for future fitness trainers to gain knowledge from the information they have gathered, help them analyze, summarize and find meaning for further use, problem solving and decision making (Kononets et al., 2021).

Undoubtedly, the use of modern interactive computer technologies (ICT) will contribute to the intensification of RWOS on health preservation issues. Nowadays, the involvement of students in the discussion of problematic issues on a healthy lifestyle while participating in various Internet communities, groups on social networks, thematic blogs, forums and chats of valeological portals is becoming relevant, enabling future fitness trainers to become active participants in the discussion and decide on their own research topic, to join existing research projects on health preservation issues.

It will be advisable to actively involve future fitness trainers in webinars as a special format of online communication, which is limited in time, dedicated to a predetermined range of issues within a given topic, which fully reproduces the atmosphere of the seminar. The advantages of using the webinar are obvious, because students are actively involved in the process of acquiring knowledge, can see and listen to the tutor, ask him questions and immediately receive explanations and clarify points that are incomprehensible to them. In addition, at the end of the webinar, students receive a record that can be used to consolidate the information obtained on the subject (Kononets, 2016). Examples of such webinars can be found on various sites, for example naurok.com.ua, <https://www.uastandart.fitness/news>, as well as among the videos on Youtube. Finding healthy lifestyle webinars greatly simplifies the following resource: <https://www.trn.ua/trainings/>.

In the process of activating the RWOS on health preservation problems, it is advisable to apply the methods of encouragement and motivation to students, identified in the research of O. Momot, namely: economic, creative, resource and status.

Economic methods, according to researchers, are the most realistic low-cost one-time actions that perform a more psychological task and may be useful for some time. They do not oblige the leadership of the HEE to anything, but, as practice shows, they are quite effective incentives for active participation in RWOS. Such methods can be: a prize for a student for a prize in a competition, for participation in international seminars, conferences, etc.; a valuable gift; trade union permit to the sanatorium-dispensary; payment for the pool or gym; excursions and other types of leisure (subscription to theater, cinema, club); payment for literature at the expense of the HEE; recommendation for admission to graduate school; assisting management in obtaining a grant for a significant scientific or social project; providing financial assistance; improvement of living

conditions in the dormitory, etc.

Creative ways are ways to motivate future fitness trainers that promote their educational, professional, career growth. Such methods are quite effective in working with active students, creative individuals, with a clear health position, a strong desire to increase the level of their health competence and focus on successful future professional activities of a fitness trainer, in particular, to continue research in the field of pedagogy, physical culture and sports (master's, PhD program). Such ways can be: a friendly conversation of the dean (head of the department, a leading scientist of the university, rector, a famous successful fitness trainer, etc.), oral praise with a positive assessment of a certain scientific work, task, project; encouragement to active work and cooperation with teachers of the department, practicing fitness trainers; assistance in nominating for a prestigious competition; sending students to various seminars and scientific-practical conferences with the delegation of the right to present their HEE; opportunity to represent HEE, graduating department, faculty at outstanding and important events (seminars, conferences, symposia, exhibitions), including international; involvement in co-authorship in scientific publications with the supervisor, other teachers of the department, in the preparation of textbooks, manuals, health preserving education activities, activities for valeological education of the population; involvement in work in fitness centers, etc.

Resource methods are nominated as ways to motivate future fitness trainers to save their time or allocate it more efficiently. The use of these methods is determined by employment (if the student works, especially in the specialty), social activities, work in student government, etc. Such methods are: individual training schedule; additional time off (during the semester or year); the possibility of an early session.

Status methods are designed to increase the role of the student in the staff of the graduating department, faculty, HEE, to prepare for the future professional activity of a fitness trainer. Such methods are: public praise at a meeting of the department, faculty council, student council, rector's office; submission for a diploma; giving thanks in the order; placing a photo on a stand such as «Best Students»; placement of information and photos on the official website of the faculty, university; participation in the competition «Student of the Year», etc. (Momot, 2016).

As part of the experimental verification of the effectiveness of this pedagogical condition for the formation of health preservation competence of future fitness trainers - the intensification of research work of students on health problems - we carried out the following:

Developed an online platform «Research work of the future fitness trainer», on which the tasks of research character on various disciplines and branches of knowledge which teachers offered to students for performance within a seminar or practical employment, or as an individual homework during studying of concrete disciplines are placed (tasks such as «Develop a scenario of an educational game on mental fitness», «Find textbooks on recreational games in the library and make a brief analytical review», «Find materials on the Internet for writing a scientific article and create a website» How to write a scientific article», to prepare a round table «How Pilates affects the psycho-emotional state of women of different ages», to prepare speeches on «Scientific schools in valeological sciences», «Development of an individual system to improve scientific performance», «Planning the distribution of time», «Autotraining (relieving fatigue, stress, anxiety, overcoming insecurity)», «Mental Yoga», to prepare and conduct a student Internet conference «Development of valeological and sports science in Ukraine», «Information support of scientific research», etc.) (Fig. 1).

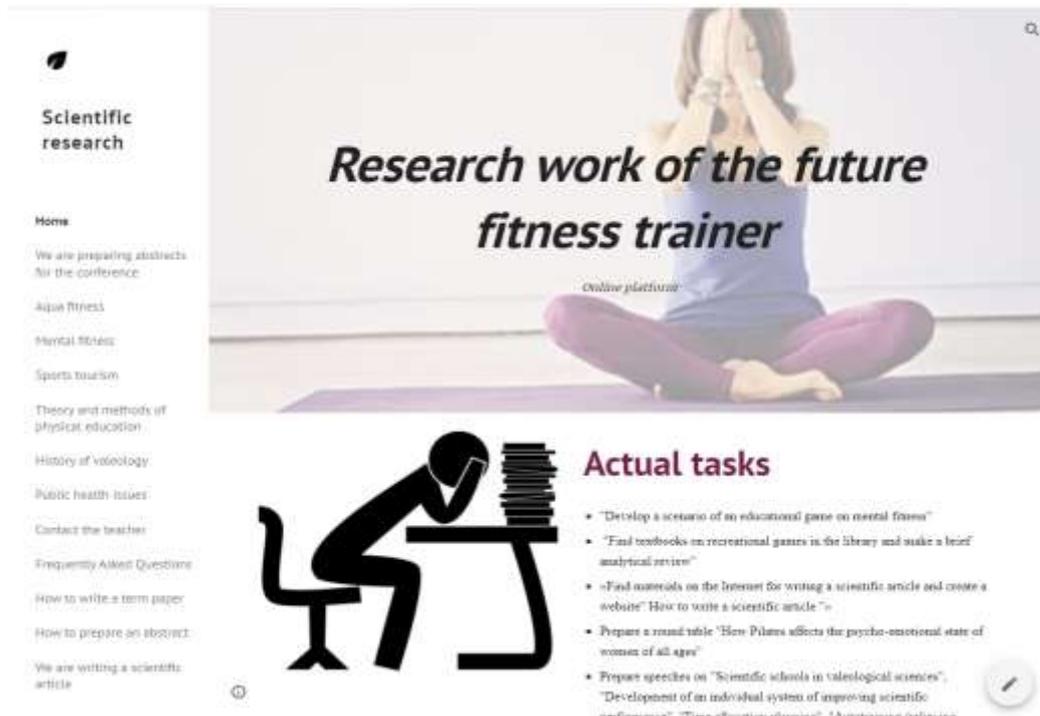


Fig. 1. Home page of the online platform «Research work of the future fitness trainer»

We conducted a series of practical seminars for future fitness trainers: «Research process», «Development of basic methods using scientific literature», «Bibliographic work. The concept of scientific literature», «Methods of working with the library funds of the regional scientific universal library», «Models in scientific research. ICT-based modeling» with the involvement of HEE librarians and scientists of Poltava National Pedagogical University named after V. G. Korolenko, University of Ucoopspilka «Poltava University of Economics and Trade» and Poltava State Medical University.

We intensified the activity of students in the process of preparation of scientific reports, reports and abstracts on topical issues of a healthy lifestyle (students' speeches at lectures, seminars and practical classes), fitness technology, sports; abstracts of reports at various levels of the conference, articles for professional collections on pedagogical sciences, physical culture, sports and health.

We have improved the process of writing and defending of term papers, dissertations and master's theses by holding a master class «Course for 5+», the purpose of which was to demonstrate life hacks in the process of preparing and writing a term paper, as well as in the process of its defense.

We used the project method to prepare methodological materials on topical issues of the future professional activity of a fitness trainer (booklets, brochures, presentations, videos for valeological education, promotion of healthy lifestyles among students and pupils, people of different ages, etc.), which reflected the close cooperation of fitness teachers and teachers of computer science disciplines.

We have intensified the activities of student research groups, societies, scientific circles – schools of young scientists, in particular, the scientific circle «Physical Education and Health, Physical Therapy, Occupational Therapy with Sports Medicine and Physical Rehabilitation» and by applying economic, creative, resource and status ways to encourage and motivate students who began their activities by conducting interactive sessions «Methodology of scientific work», «The path of the scientist: 5 laws of successful speech», planning and conducting valeological events for schoolchildren and students, involving students in writing scientific papers, participating in competitions for scientific projects, etc.

We held a «Library Day» for future fitness trainers, within which students got acquainted with scientific and educational literature, well-known electronic libraries, exhibitions, projects, bibliographic reviews on health prevention issues.

We conducted a practical seminar «The use of modern ICT in research», The purpose of which was to acquaint future fitness trainers with the capabilities of computer technology, application packages and Internet services that help in finding scientific information, processing data, design scientific work, visualization of knowledge, presentation of research results.

In this way, the implementation of the principles of scientificity, clarity, fundamentalization in the formation of health competence of future fitness trainers in the process of professional training as an integral part of professional competence was ensured.

The pedagogical experiment to test the characterized pedagogical conditions involved identifying the level of

development of the ability of future fitness trainers to research work on health as one of the components of health preservation competence of students. 215 students were involved in the experiment of Poltava National Pedagogical University named after V. G. Korolenko, University of Ucoopspilka «Poltava University of Economics and Trade» and Poltava State Medical University, among which the control group (CG) was 106 people, and the experimental (EG) - 109.

The assessment of the degree of development of the ability of future fitness trainers to research work on health problems was carried out on the basis of the following criteria:

- 1) motivation for RWOS;
- 2) knowledge of the methodology of scientific research on health issues;
- 3) the ability to write abstracts for conferences;
- 4) the ability to write scientific articles, conduct independent research.

3 levels of development of ability of future fitness trainers to research work on health problems are defined - reproductive (low), search (average), creative (high).

The results of the conducted pedagogical experiment are presented in Table 1 and illustrated in Figure 2.

Table 1: Diagnostic data on the development of the ability of future fitness trainers to research work on health prevention issues

Criteria	Group	Level of development (statement stage)			Level of development (formative stage)		
		Reproductive	Search	Creative	Reproductive	Search	Creative
Motivation for RWOS	CG	49	39	18	45	42	19
		46.23%	36.79%	16.98%	42.45%	39.62%	17.92%
	EG	51	37	21	33	51	51
		46.79%	33.94%	19.27%	30.28%	46.79%	22.94%
Knowledge of the methodology of scientific research on health prevention issues	CG	47	38	21	41	42	23
		44.34%	35.85%	19.81%	38.68%	39.62%	21.70%
	EG	53	42	14	31	53	25
		48.62%	38.53%	12.84%	28.44%	48.62%	22.94%
Ability to write abstracts for conferences	CG	61	39	6	55	43	8
		57.55%	36.79%	5.66%	51.89%	40.57%	7.55%
	EG	66	35	8	43	45	21
		60.55%	32.11%	7.34%	39.45%	41.28%	19.27%
Ability to write scientific articles. conduct independent research	CG	82	19	5	76	22	8
		77.36%	17.92%	4.72%	71.70%	20.75%	7.55%
	EG	85	18	6	62	32	15
		77.98%	16.51%	5.50%	56.88%	29.36%	13.76%
Generalized data	CG	60	34	12	54	37	15
		56.60%	32.08%	11.32%	50.94%	34.91%	14.15%
	EG	64	33	12	42	45	22
		58.72%	30.28%	11.01%	38.35%	41.28%	20.18%

The study of the data in Table 1 allows us to record the positive dynamics of changes in the levels of development of the ability of future fitness trainers to research work on health prevention issues: thus, the number of students who showed a reproductive level in CG decreased by 5.66%, while in EG decreased by 20.18%; the number of students who showed the search level in CG increased by 2.83%, while in EG increased by 11.01%; the number of students with a creative level in CG increased by 2.83%, while in EG increased by 9.17%.

The probability of the results of the experimental work and the reliability of the experimental data were determined using the Pearson criterion χ^2 ($\chi^2 = 8.56 > 7.81$). The results of the calculation confirmed the reliability of the experiment, which indicates the effectiveness of the introduction of a certain pedagogical condition, namely the intensification of research work of students on health preservation issues.

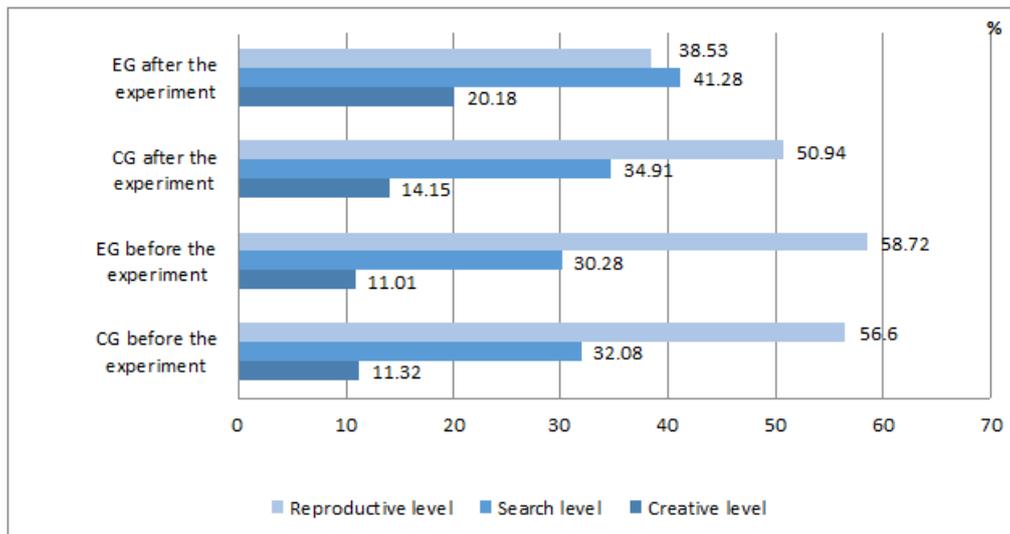


Fig.2: The results of a pedagogical experiment

CONCLUSION

The study allowed us to conclude that to achieve the effectiveness of the formation of health preservation competence of future fitness trainers requires not only the reorganization and improvement of higher education in Ukraine, but a thorough scientific and theoretical basis, which provides, in particular, the development of a structural and functional model of the formation of health preservation competence of future fitness trainers in the process of professional training, the semantic core of which is pedagogical conditions as a conceptual tool, analogous to a fragment of pedagogical reality. This model will deepen the knowledge about the properties and structure of professional training of future fitness trainers and their management. As one of the pedagogical conditions, the intensification of RWOS on health issues will be a step towards a new, high-quality, improved process of professional training of future fitness trainers, as well as the process of forming their professional competence, which will help in the development of a new type of fitness trainer, ready for successful professional activity and scientific work in the field of pedagogical sciences, physical culture, sports and health. Further scientific research and research will be devoted to the development of a structural and functional model of the formation of health competence of future fitness trainers in the process of professional training.

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