

Problems of implementing innovational educational technologies in the process of vocational training of future specialists in physical therapy in higher educational establishments in Ukraine

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Abstract:

The authors have analyzed the results of polls of teachers and students of higher educational establishments in Ukraine. The poll was held with the aim to study the level of implementation of innovational educational technologies in the educational process of training of future specialists in physical therapy oriented on work with athletes' health rehabilitation. A profound analysis of scientific and methodological literature concerning the level of implementation of innovational technologies in the process of training of specialists in physical therapy has been done; level of application (by teachers) of innovational technologies in the organization of educational process of future specialists in physical therapy has been determined; the level of formation of professional competence of future specialists in physical therapy has been determined. The aim of the article was to characterize features of implementation of innovational educational technologies in the process of professional training of future specialists in physical therapy in higher educational establishment of Ukraine. Implementation of educational innovations (modern information technologies and computer means of education; Moodle environment; innovational interactive forms and methods of educational process) in the educational process of training of future specialists in physical therapy whose professional activity will be aimed at athletes' health rehabilitation can solve such problems as dissemination of educational and methodological documentation concerning the subject from the curriculum; control, registration, and analysis of the dynamics of students' performance and qualities of educational process; statistical processing of research results; modeling of pedagogical, educational and training, as well as rehabilitation process. The authors assume that this will increase the level of professional training of future specialists in physical therapy.

Key words: innovation, future specialists in physical therapy, modern information technology, professional activity.

Introduction

The primary aim of state policy in the field of education is to create conditions for personal development of creative self-realization of each citizen of Ukraine; to update the content of education and organization of educational process according to democratic values, market basis of economy, modern scientific and technological achievements.

The formation of innovational model of society formation broadens the range of functional peculiarities of the system of higher education aiming at combination of the function of transmission of accumulated social experience, knowledge and skills, and promotion of the development of new scientific ideas, technical solutions and technological processes as well as training of a new-level specialists who would have developed professional, analytical, and innovatory skills. Fulfillment of these tasks within the system of higher education of Ukraine will promote its basic aim: to train specialists whose professional and qualification characteristics will meet the demands of social and economic development of society and will become a key factor of their competitiveness on domestic and international labor markets.

According to A.A. Andreyev, a dominant tendency of further development of modern civilization is a "shift from industrial to information society, in which information resources and scientific knowledge will become the objects and results of labor of most part of working population". A.A. Andreyev notes that "informatization of education is one of the most important conditions for a successful development of the processes of society informatization as it is the sphere of education that trains those people, who do not only form a new information environment of the society, but also have to live and work in this new environment" [1, c. 39].

Informatization of education calls for implementation of innovational by its form, methods, and means professional training of future specialists of the new generation; creation of a solid information infrastructure in higher educational establishments with a developed information and computer educational environment; application of Internet technologies, e-studies, communication networks (global, national, local) in higher education.

Current shift of Ukraine to information society requires the system of higher education to tackle rather new approaches to training of future specialists in physical therapy in higher educational establishments. In global experience, information and communication technologies have acknowledged as key technologies of present days, which will be basic “engine” of scientific and technological progress for decades to come.

The survey of domestic (R.S. Hurevych, M.Yu. Kademiya, M.M. Kozlyar (2012), L.P. Sushchenko (2015)) and foreign (J. Gotlib (2009), J. Petty (2013), A. F. Pettersson (2015)) scientific and pedagogical works shows that many scientists aim their efforts on search of optimal ways of improvement of future specialists under conditions of formation of information and intellectual society.

It is a known fact that the basis of professional training of student in higher educational establishments includes not only special knowledge but also a system of personal qualities, the development of which is influenced by tendencies and regularities of the shift to information and intellectual society. This shift determines practical tasks of creation and application of information resources, provision of information services, development of mechanisms of information safety, which stimulates the necessity of scientific reinterpretation of the essence of information and communication competence of future specialists in physical therapy [17].

According to R.S. Hurevych, M.Yu. Kademiya, and M.M. Kozlyar, a significant drawback within professional training is modern specialists is “poor professionalism in application of information and communication technologies, which has negative impact efficiency and level of teaching. Graduates must not only have knowledge in the sphere of computer technologies but also know how to use information and communication technologies in their professional activity, be able to communicate within information environment” [3, p.11].

Researchers indicate that the application of information technologies allows increase of intensity and efficiency of the process of education; creates conditions for self-education and distance learning, which allows making a shift to continuous education; solves the problem of access to new resources of various information in combination with telecommunication technologies [6].

Successfulness of higher education system functioning is determined by the pedagogical staff engaged in training of future specialists for effective professional activity under conditions of implementation of innovational methods of organization and management of educational process; diversification and expanding of curricula variability, changing of its tasks and content; assessment of the results of education. The level of professional training of future specialists in physical therapy to work with athletes’ health rehabilitation is considerably determined by the level of ability of teachers, who work in higher educational establishments, to provide efficient training process [2].

We consider the study of the level of preparedness of teachers from higher educational establishments to form professional competence of future specialists in physical therapy with use of educational innovations and modern information and communication teaching technologies, and the level of preparedness of future specialists in physical therapy to taking a complex of professional actions aimed at athletes’ health rehabilitation to be topical.

Materials and methods

Participants

Within this research, we have polled teachers of higher educational establishments in Ukraine, who personally take part in training of future specialists in physical therapy to work with athletes’ health rehabilitation. 192 teachers were polled, namely: 18 teachers of Berdyansk State Pedagogical University, 9 teachers of Mykhailo Kotsiubynsky Vinnytsia State Pedagogical University, 18 teachers of Dnipropetrovsk State Institute of Physical Culture and Sports, 13 teachers of Ivan Franko Drohobych State Pedagogical University, 19 teachers of Kamianets-Podilsky Ivan Ohienko National University, 14 teachers of International University of Economics and Humanities named after academician Stepan Demianchuk, 11 teachers of National Pedagogical Dragomanov University, 12 teachers of Vasyl Stefanyk Precarpathian National University, 15 teachers of Ternopil Volodymyr Hnatyuk National Pedagogical University, 19 teachers of Kharkiv State Academy of Physical Culture, 9 teachers of Kherson State University, 8 teachers of Khmelnytsky Institute of Social Technology University of Ukraine, 12 teachers of Khmelnytskyi National University, and 15 teachers of Cherkasy State University, Bogdan Khmelnytskyi.

Moreover, 812 students who study to be physical therapists in higher educational establishments of Ukraine were polled. Among them: 38 students of Berdyansk State Pedagogical University, 58 students of Vinnytsia State Pedagogical University, 76 students of Dnipropetrovsk State Institute of Physical Culture and Sports, 49 students of Drohobych State Pedagogical University, 46 students of Kamianets-Podilsky Ivan Ohienko National University, 84 students of International University of Economics and Humanities named after

academician Stepan Demianchuk, 70 students of National Pedagogical Dragomanov University, 50 students of 12 teachers of Vasyl Stefanyk Precarpathian National University, 43 students of Ternopil Volodymyr Hnatyuk National Pedagogical University, 70 students of Kharkiv State Academy of Physical Culture, 65 students of Kherson State University, 29 students of Khmelniysky Institute of Social Technology University of Ukraine, 91 students of Khmenytskyi National University, 43 students of Cherkasy State University, Bogdan Khmelniyskiy. The following methods of research have been used: theoretical analysis and generalization of data of scientific and methodological literature, social methods (poll), and methods of mathematical statistics.

The aim of the article is to characterize peculiarities of implementation of innovational educational technologies in the process of professional training of future specialists in physical therapy within higher education establishments of Ukraine.

The tasks of research are as follows:

1. To analyze data of scientific and methodological literature concerning the level of implementation of innovational technologies in the process of training of specialists in physical therapy.
2. To determine the level of application of innovational educational technologies in the organization of educational process of future specialists in physical therapy by teachers.
3. To define the level of formation of professional; competence of future specialists in physical therapy.

Results

Currently available domestic and foreign experience of informatization of educational environment allows significant improvement of efficiency of educational process. Informatization of education creates good prerequisites for broad implementation of new methodological developments aimed at intensification of educational process in pedagogical practice; for realization of innovational ideas of educational process [Базильчук].

R.S. Hurevuch (2012), L.P. Sushchenko (2015), Yu.O. Lyannoi (2016) attribute Internet technologies, educational and methodological resources, systems of distance learning, etc. to modern information and communication educational technologies [3, 7, 10]. Among new information and communication technologies, a key role is played by “cloud technologies” that are attributed to dynamically-scaled free access to external computing information resources in the form of services that are provided with the help of Internet (e.g. Software as a Service, Platform as a Service), application of Moodle and others [2].

It has been found out that a high-quality professional training of future specialists in physical therapy in higher educational establishments of Ukraine requires certain pedagogical conditions, namely:

- creation of informative environment for educational correlation of the subjects of educational process in a higher educational establishment;
- implementation of innovational educational technologies that promote the formation of interest among future specialists in physical therapy to work in a multi-disciplinary team of specialists in athletes’ health rehabilitation;
- practice-oriented trend of professional training of future specialists in physical therapy with use of information and communication technologies..

With the purpose of implementation of innovational educational technologies in the educational process of higher educational establishments of Ukraine and determining the level of formation of professional competence of future specialists in physical therapy, we polled teachers and students of 14 establishments of higher education in Ukraine.

The analysis of answers given by teachers, regarding the question whether application of individual forms of work of students in the process of studying vocational subjects for their future professional is effective shows that only 42.1% of teachers of Kamianets-Podilsky Ivan Ohienko National University consider this approach effective under modern conditions. A significant number of the polled from Vasyl Stefanyk Precarpathian National University (66.7%) and Cherkasy State University, Bogdan Khmelniyskiy (46.7%) consider this approach to be ineffective. The results of the poll show that under modern conditions of organization and implementation of educational process of training of future specialists in physical therapy to work with athletes’ health rehabilitation, the application individual forms of work of students in studying vocational subjects for their professional training is partially ineffective, which is proved by the answers of teachers from the majority of higher educational establishments.

The analysis of answer given by teachers regarding the question about the application of forms of distance learning in organization of educational process to train future specialists in physical therapy shows that one-third (29.9%) of teachers polled consider this form of learning to be unreasonable. Most of specialists (53.4%) consider the combination of traditional stationary form of organization and implementation of educational process with several elements of distance learning to be the most rational. A small amount of teachers (12.2%) thinks that constant application of form of distance learning is required for the organization of educational process of training of future specialists in physical therapy.

Teachers of National Pedagogical Dragomanov University (45.5%) and Ternopil Volodymyr Hnatyuk National Pedagogical University (33.3%) showed more interest in application of this form of learning. On one

hand, this shows that most of teachers from domestic higher educational establishments use traditional forms of organization and implementation of educational process of training of future specialists in physical therapy. On the other hand, this may be showing students' poor ability for self-education.

The analysis of the results of the poll concerning application of new pedagogical technologies with the purpose of improvement of quality of training of future specialists in physical therapy shows that 26.5% of respondents use the method of situational exercises and case-study tasks; 35.9% of respondents partially use this method; one-third of respondents (33.2%) do not use this methods; and 4.4% of respondents found it difficult answer this question (fig. 1).

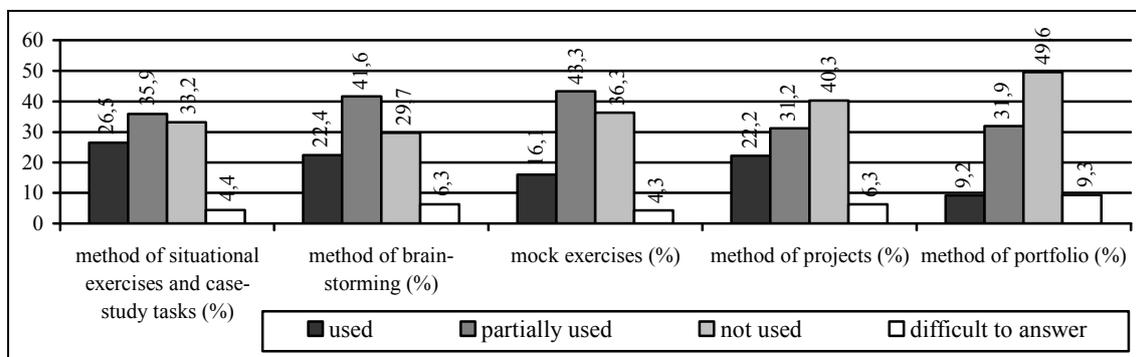


Fig. 1. Answers given by teachers concerning application of the method of situational exercises and case-study tasks in organization of educational process for future specialists in physical therapy in the process of vocational training (%).

The analysis of the answers given by teachers concerning application of “brain-storming” method in organization of educational process of training of future specialists in physical therapy whose professional activity will be aimed at athletes' health rehabilitation allows to state that this method was used by 22.4% of teachers; partially used by 41.6% of respondents; was not used by 29.7% of teachers; and 6.3% of respondents found it difficult answer this question. The research shows that the method of mock exercises in the organization of educational process of training of future specialists in physical therapy was used by 16.1% of respondents; partially used by 43.3% of teachers; not used by 36.3% of respondents; and 4.3% of teachers found it difficult to answer this question. The method of projects is used 22.2% of teachers; partially used by 31.2% of respondents; not used by 40.3% of teachers; and 6.3% of teachers found it difficult to answer this question. The method of portfolio is used by 9.2% of teachers; partially used by 31.9% of respondents; not used by 49.6% of teachers; and 9.3% of respondents found it difficult to answer this question.

Thus, the analysis of the block of answers given by teachers about application of modern pedagogical technologies with the purpose of improvement of the quality of training of future specialists in physical therapy shows that under modern conditions, low-response rate of teachers in application of modern pedagogical technologies is observed; however, the least popular is the method of portfolio. Around half of the respondents (49.6%) do not use this method in organization of educational process of training of future specialists in physical therapy whose professional activity will be aimed at athletes' health rehabilitation (fig. 1).

The analysis of answers given by the teachers shows that under modern conditions of professional training of future specialists in physical therapy for work with athletes' health rehabilitation, most of the respondents (67.1%) partially use modern computerized systems in educational process; 16.2% of respondents actively use modern computerized systems on sufficient level; 16.6% of respondents find it difficult to answer this question (fig. 2).

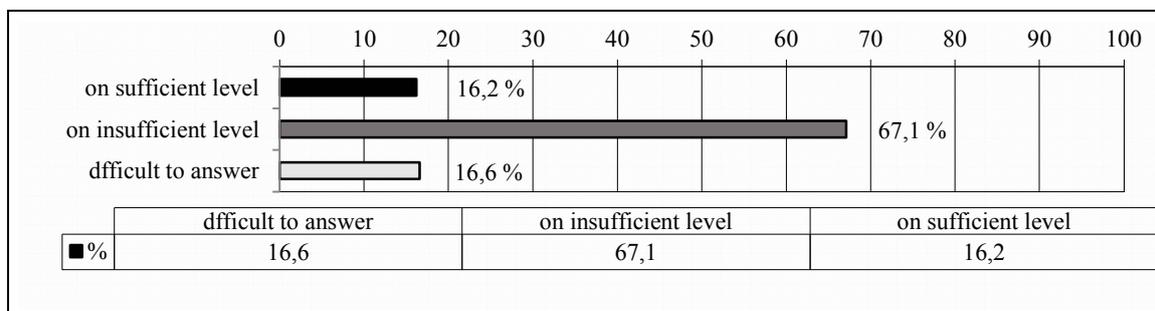


Fig. 2. Answers given by teachers concerning the level of implementation of innovational computerized systems in professional training of future specialists in physical therapy to work with athletes' health rehabilitation done in in higher educational establishment (%)

The results of the poll regarding application multimedia means of teaching by teachers in organization of educational process for students whose professional activity will be aimed at athletes' health rehabilitation

showed the following: 44.5% of the respondents actively use modern multimedia means of teaching; 38.5% of respondents partially use it in their work; 13.3% of the respondents do not use in their work; and 3.7% found it difficult to answer this question.

Most actively multimedia means of teaching in organization of educational process for students whose activity will be aimed at athletes' health rehabilitation were used by teachers of Vasyl Stefanyk Precarpathian National University (80.5% of respondents), teachers of Ternopil Volodymyr Hnatyuk National Pedagogical University (73.34%), teachers of Cherkasy State University, Bogdan Khmelnytskyi (73.33%), teachers of Berdyansk State Pedagogical University (66.67%). High percentage showed teachers of Dnipropetrovsk State Institute of Physical Culture and Sports (61.11% of respondents), teachers of Khmelnytskyi National University (58.34%), teachers of National Pedagogical Dragomanov University (54.55%), teachers of Kamianets-Podilsky Ivan Ohienko National University (52.63%) and others. We consider application of multimedia means of teaching in organization of educational process of future specialists in physical therapy by teachers of most domestic higher educational establishments under modern conditions to be a positive phenomenon.

The results of the poll show that a slight percentage of respondents (20%) constantly uses Moodle environment in organization of educational process of training of future specialists in physical therapy. The results also show that almost half of the respondents (42.6%) use Moodle environment less actively but on sufficient level, while almost one-third of respondents (30.4%), unfortunately, do not use it at all. 6.7% of respondents found it difficult to answer this question.

Teachers of the following universities use Moodle environment in organization of educational process for students whose professional activity will be aimed at athletes' health rehabilitation: National Pedagogical Dragomanov University, Ternopil Volodymyr Hnatyuk National Pedagogical University, Lhmelnytskyi National University, Kherson State University and others.

The results of the poll concerning use of "on-line e-journals" by teachers of higher educational establishments to register level of performance of future specialists in physical therapy whose professional activity will be aimed at athletes' health rehabilitation show the following: only 15.65 of teachers use "on-line e-journals" in their professional activity; almost half of them (48.9%) do not have experience of using this system; 3.8% found it difficult to answer this question. We assume that it indicates on absence of the "on-line e-journal" system to register level of students' performance in the majority of Ukrainian higher educational establishments that specialize in professional training of future specialists in physical therapy.

Application of interactive educational computer software-trainers is one major reserves in improvement of educational process of training of future specialists in physical therapy whose activity will be aimed at athletes' health rehabilitation. The results of the poll show low-response rate of using these software-trainers in organization of educational process. Thus, 19.8% of teachers actively use this software, while 32.7% use it partially. 43.5% of respondents do not use this software in organization of educational process of training of future specialists in physical therapy whose activity will be aimed at athletes' health rehabilitation. 4% of respondents found it difficult to answer this question.

The results of the poll show that one-third of respondents (32.7%) do not use computer testing to check the level of knowledge of future specialists in physical therapy whose professional activity will be aimed at athletes' health rehabilitation. 22.8% of respondents constantly use it; 38.0% of teachers use it partially; and 6.5% found it difficult to answer this question.

The analysis of answers given by future specialists in physical therapy shows that currently, the main reasons they enter high educational establishments are: getting quality education (34.66%), obtaining a diploma of higher education (20.64%), opportunity for self-education and self-realization (13.97%), prestigiousness of higher education within society (10.28%), opportunity to communicate with friends (8.89%), desire to become self-reliant and financially-independent, a way to personal wealth (4.40%). An interesting fact is that under modern conditions the majority of students do not consider quality education as a way to personal wealth and opportunity to become self-reliant and financially-independent in future.

The results of the poll show that 36.49% and 35.42% of students have sufficient and partially sufficient level of theoretical knowledge needed for future professional activity respectfully. 17.77% of respondent have insufficient level of theoretical knowledge needed for professional activity aimed at athletes' health rehabilitation. 40.42% of respondent are well informed about peculiarities of their future professional activity; 33.93% of respondents are partially informed; and 15.52% of respondents said they were insufficiently informed. The majority of students are sufficiently or partially informed about various methods, principals and means of athletes' health rehabilitation (36.46% and 41.71% respectfully). 13.79% stated they were insufficiently informed. The majority of students are informed about the reasons and consequences of sports traumatism (45.85% sufficiently and 28.56% partially). However, 16.92% of respondents are insufficiently informed about the reasons and consequences of sports traumatism. 42.0% of respondents have good knowledge and skills in sports traumatism and disease prevention. 16.77% have insufficient level of knowledge in this area. 34.52% of the students have sufficient level of knowledge, while 40.97% have partially sufficient level and 13.75% have insufficient level of knowledge of physiological peculiarities of athletes' organism adaptation to physical workload. 42.79% of students have sufficient knowledge of fatigue development with athletes; 31.50% of respondents have sufficient level of knowledge in this area, while 16.58% have insufficient level of knowledge

in this area. 38.12% of students said they had good knowledge about peculiarities of athletes' organism recovery after physical workload. 36.60% have partially sufficient level of knowledge, while 18.44% have insufficient level of knowledge in this area. 38.2% are satisfied with. 34.87% of students are partially satisfied, while 20.52% of students are not satisfied with informational and methodological provision of subjects studied.

The assessment of the level of students' skills in providing rehabilitation services showed that 37.98% of respondents had good knowledge about the system of actions needed to be taken with athletes for their health rehabilitation after a trauma or disease. 16.64% had no such knowledge, while 32.85% of respondents said they had sufficient level of knowledge and skills in disease and sport traumatism prevention. 39.16% of students had partially sufficient level, while 16.77% of students had insufficient level of knowledge and skills in this area. 31.85% had sufficient level of knowledge and skills in giving first aid in case of sports injury. 40.65% said they had partially sufficient level, while 17.08% of respondent said they had insufficient level of knowledge and skills in this area. 38.71% of students had good knowledge of methods of how to determine athletes' physical health. 34.91% of students had partially sufficient level, while 16.87% of students had insufficient level of knowledge in this area.

Future specialists in physical rehabilitation whose professional activity will be aimed at athletes' health rehabilitation can consolidate the obtained theoretical knowledge in the process of practical training (vocational practice). The question of how sufficient for them, as future specialists, is the volume of practical training (vocational practice) that they have in terms of their curricula showed the following results: 30.94% of students said the existing volume is sufficient; 36.44% of respondents considered it to be partially sufficient, while 21.93% of students said that the existing volume of practical training (vocational practice) was insufficient. 10.69% of respondents found it difficult to answer this question.

Discussion

Successfulness of functioning of the system of higher education is determined by its pedagogical staff that provides training of future specialists for effective professional activity under conditions of implementation of innovational methods of educational process organization and management; diversification and expansion of variability of curricula, changing its tasks and content; performance assessment. The level of professional training of future specialists in physical therapy to work with athletes' health rehabilitation is considerably based on the level of ability of teachers from higher educational establishments to provide highly-effective educational process.

Topicality of implementation of information and communication technologies is stipulated by the fact that they improve the system of higher education and make educational process more effective. Nowadays, computer educational software is widely used, namely computer textbooks, diagnostics and testing systems, laboratory complexes, expert systems, data bases, consultation and information systems, applied software that provide data processing.

Our researched has revealed insufficient application of educational technologies in the process of training of future specialists in physical therapy. The results show rather low activity by teaching staff of Ukrainian higher educational establishments in application of modern information and communication technologies in organization and implementation of educational process. This proves data from other works by R.S. Hurevych, M. Yu. Kademiya, M.M. Kozlyar, who state that "insufficient professionalism of teacher's use of information and communication technologies in professional training of modern specialists, which has negative impact on efficiency and level of teaching, is a significant drawback. Graduates must not only have knowledge in the sphere of computer techniques, but also be a specialist in application of information and communication technologies in his/her professional activity, be able to communicate in information environment" [3].

The results of our research are proved by scientific data of O.V. Petrunko, who indicates that teachers and students vividly lack the following: 1) understanding of principal, strategic aims of educational innovations (that envisage changes not only in educational process but primarily in consciousness of pedagogical community, teacher, students); 2) technological competence to use innovations in personal professional activity (development of technologies drastically outstrips the development of possibilities of their application); 3) psychological preparedness to innovational changes [9].

The results of our research confirm the data from research by M. Yu. Kademiya, M.M. Kozlyar, T. Ye. Rak, who state that information and communication technologies give opportunity to combine processes of education, consolidation and check of the learnt material, which are separated within traditional education. Information technologies give opportunity to personalize the process of education, lowering the number of frontal types of work and increasing the share of individual and group forms and methods of education. Also, information technologies promote increase of motivation to study, develop creative thinking; allow to save spare time; inter-activity and multimedia visual methods promote better realization and learning [6].

According to A.O. Karpov, the role of universities in innovational process "lies not only in providing technological markets with R&D products, but also in training specialists of innovational type, who competences that guarantee shift from research to development with further commercialization" [3, p.38]. We stick to the idea that "a university can become global communication link in the innovational process, partnership relations with

which can not only provide manufacturing structures with new ideas, technologies and appliances, but also suggest new perspective creative personality along with already created future intellectual products” [3, p. 38]

The results of our research show that application of educational innovations in professional activity of teachers of higher educational establishments in the process of training of future specialists in physical therapy are related to the development of teachers’ creative potential, their ability to plan and implement pedagogical innovations based on retrospective analysis of personal pedagogical experience that are aimed at increase of the quality of higher physical education specialists in rehabilitation service of the new generation. This proves the opinion of S.P. Oreshkova, Ye. B. Yertskin, who state that “provision of teachers’ readiness to organize common activity of competences formation is achieved via theoretical (informational) and practical (operational and activity) blocks that guarantee obtaining theoretical material (about the essence and meaning of certain competence); and practical skills with purpose of formation of the required competence based on use of possibilities of various active forms of lessons” [7, p. 48].

Our data prove the research by Hribovska, I. (2015), Danylevych M. (2017), who state that improvement of the existing system due to use of innovational educational technologies will allow increase of the quality of training of future specialists in a higher educational establishment and will improve the level of their professional knowledge and skills [10, 12].

Conclusions

Implementation of educational innovations (modern information technologies and computer means of education; Moodle environment; innovational interactive forms and methods of educational process) in educational process of training of future specialists in physical therapy whose professional activity will be aimed at athletes’ health rehabilitation, can solve such tasks as: presentation and dissemination of educational and methodological documentation concerning a subject from the curricula; control, registration, and analysis of the dynamics of students’ performance and quality of educational process; statistic processing of the results of research; modeling of pedagogical, educational and training, and rehabilitation process, etc.

Significant reserves of improvement of the quality of professional training of future specialists in physical therapy via extensive implementation of innovational technologies in educational process have been revealed, which is proved by the results of the research. The poll concerning the use of sufficiently effective modern innovational educational technologies showed that only 26.5% of teachers use the methods of situational exercises and case-study tasks; 22.4% of respondents use the method of “brain-storming”; 16.1% of respondents use mock exercises; 22.2% of teachers use the method of projects. The least popular methods are: the method of portfolio (49.6% of respondents do not use it at all); Moodle environment (used by only 20% of respondents); the “on-line e-journal system” is used only by 15.6% of respondents, while 19.8% of teachers actively use interactive computer software-trainers.

The level of formation of professional competences of future specialists in physical rehabilitation has been defined. The analysis of the research concerning the level of knowledge and skills of future specialists in physical therapy in providing rehabilitation services shows that 37.98% of respondents have good knowledge and 36.25% of respondents have partially sufficient knowledge about the system of actions needed to be taken with athletes for their health rehabilitation after an injury or disease, while 16.64% of respondents do not have these knowledge and skills. 32.85% of respondents have sufficient level of knowledge and skills in disease and sport traumatism prevention; 39.16% of students have partially sufficient level, while 16.77% of students have insufficient level of knowledge and skills in this area. 31.85% of respondents have sufficient level of skills for giving first aid in case of sport injury; 40.65% of respondents said that their level of skills in this area was partially sufficient, while 17.08% considered their level of skills in this area insufficient. 38.71% of respondents have good knowledge of methods of how to determine athletes’ physical health; 34.91% have partially sufficient knowledge, while 16.87% of respondents have insufficient knowledge in this area.

Conflicts of interest

The authors report no conflicts of interest.

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