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ORIGINAL ARTICLE

Practices of pedagogical skills in the implementation of courses in the field of physical education and sports in a distance format

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ABSTRACT

In modern conditions, no one doubts that physical culture and sports are useful and necessary for every person. A team of SPbPU authors have developed and introduced into the educational process of MOOC courses "*Physical culture*" in 2016, "*Fundamentals of the training process of cybersports men*" in 2020, posted on the National portal "*Open Education*". The Physical Education online course can be one example of organizing such resources. Today (and especially during a pandemic) this is one of the most popular courses with a massive audience. At the Polytechnic University, it is involved in all curricula and is compulsory for all students. Our research is devoted to further prospects for the development of the resource. Of course, it is very difficult to define the concept of "*pedagogical skill*" in the context of this article. However, we tried to do this, highlighting the main, from our point of view, the criteria of pedagogical excellence, which are necessary for the high-quality implementation of courses in a distance format. The online resources we have created allow us to stimulate and motivate students for personal development, organize their educational activities, including building a training system, organize pedagogical activities, monitor the success of students' development of resources, and structure classes. The implemented system made it possible to organize training during the COVID-19 pandemic without interruptions and without reducing the quality of education.

Keywords: Performance analisys of sport, Physical conditioning, Teaching skills, Online courses, Physical education, Distance learning.

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INTRODUCTION

Universal digitalization brings change to many aspects of our daily lives, including the educational process. However, its implementation should be justified, phased and gradual; qualitative changes should have no sudden "*leaps*" that disrupt the progress in the training process (Bespalko, 1995; Bakayev et al., 2018; Kerry, 2021; Littlejohn & Milligan, 2015; Makarova & Makarova, 2018; Garavan et al., 2020; Olesov et al., 2020; Bolotin, & Bakayev, 2017).

The spring-autumn period of 2020 (lockdown) required urgent and disruptive decisions in order to keep the educational process going. Unfortunately, not all universities were prepared to make this transition. Implementation of Emergency Remote Teaching required involvement of additional human and information resources (Figure 1).

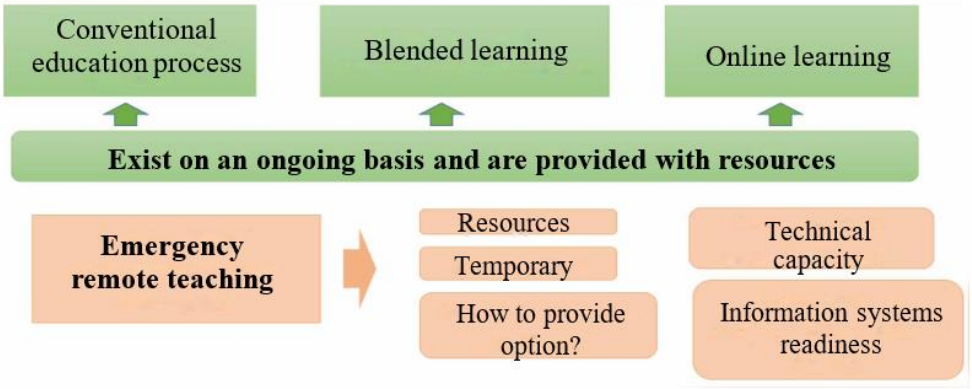

Figure 1. Key differences in organization of conventional and emergency training.

Despite all challenges of the pandemic, it was necessary to ensure both quality of the educational process and its full implementation in accordance with the curricula. Teaching Physical Education online raised many questions that had to be resolved in an unusual format of training. Based on the available experience, teachers of our University have implemented the educational process at due level of quality during this difficult period. However, any information technology or online resource would be of limited use, were it not for the pedagogical excellence of the faculty.

MATERIAL AND METHODS

Analysis of literature showed that many famous teachers and psychologists had delved into the topic of pedagogical excellence. V.A. Slastenin (2002) wrote that... "*among teachers, the opinion was firmly established that the pedagogical excellence is purely individual, so it cannot be directly transferred. However, from balance between technology and mastery, it is apparent that pedagogical technology can indeed be mastered; like any other, is not only mediated, but also determined by the personal parameters of the teacher. One and the same technology can be implemented by different teachers showing their professionalism and pedagogical excellence*".

Other researchers argue that pedagogical excellence is the highest level of mastery of pedagogical technology; however, "*it is not limited solely to the operational component but is a synthesis of personal and*

professional qualities and properties that determine high efficiency of the pedagogical process" (Bolotin, & Bakayev, 2018).

The team of authors from Peter the Great St. Petersburg Polytechnic University has developed and implemented Massive Open Online Courses published at Open Education National Portal (https://openedu.ru/). Implementation of online courses prompted a conclusion that a teacher of higher education should seek to combine scientific and educational activities and possess a whole range of digital competencies that he or she can use in constructing an educational process in digital environment. In the course of our study, we have established the main qualities and skills that a physical education teacher should possess in order to deliver an online training course. Those were:

- Excellence in organizing group work of students;
- Excellence in organizing individual work of students;
- Excellence in transfer of knowledge and skills on organization of physical education and sports classes;
- Excellence in involving students in educational and sports activities.

Pedagogical excellence is closely interlinked with pedagogical technology. Perfect knowledge of pedagogical technology is the definition of excellence. Thus, it can be concluded that pedagogical excellence in the digital environment is additionally measured by the digital competencies of teachers in delivering their disciplines. Despite the fact that in the digital environment the problem of upbringing is understudied, in physical education this aspect of pedagogical technology is quite relevant.

Pedagogical technologies are usually represented by didactic technologies and upbringing technologies, namely:

- Technology for transfer of knowledge and technology for personality development;
- The technology chain of the actions sequence arranged in accordance with target assumptions having the form of a specific expected result;
- Technologies implementing the principles of individualization and differentiation, enabling optimal fulfilment of human and technical capabilities and dialogue;
- An integral part of pedagogical technology consists in diagnostic procedures containing criteria, parameters and tools for measuring performance (Pikan, 2005; Toni Mohr, et al., 2012; Suárez-Llorca, et al., 2010; Bakayev, 2015; Obidallah et al., 2019; Popovic, et al., 2021; Yan, et al., 2021).

RESULTS AND DISCUSSION

Pedagogical technologies implemented during organization and delivery of the Physical Education discipline in the digital environment suggest a fairly high level of pedagogical excellence of the teaching staff. As a result of the introduction and integration of online courses into the curriculum, the team of authors gained an invaluable experience.

For the first time, the course was launched in 2016. It was a highly non-typical course due to its subject matter. However, the authors of the course seriously worked through the material to create suitable content, including video and tests. At the initial stage in 2016, the authors of the course did not aim at practicing hands-on skills; it was solely devoted to the theory of physical education.

Today, the total number of students on the course exceeded 63,000; the course is included in Top 3 at the platform by the number of students attending it Figure 2. During the pandemic (spring semester of 2020), more than 15 Russian universities included this course in their educational process.

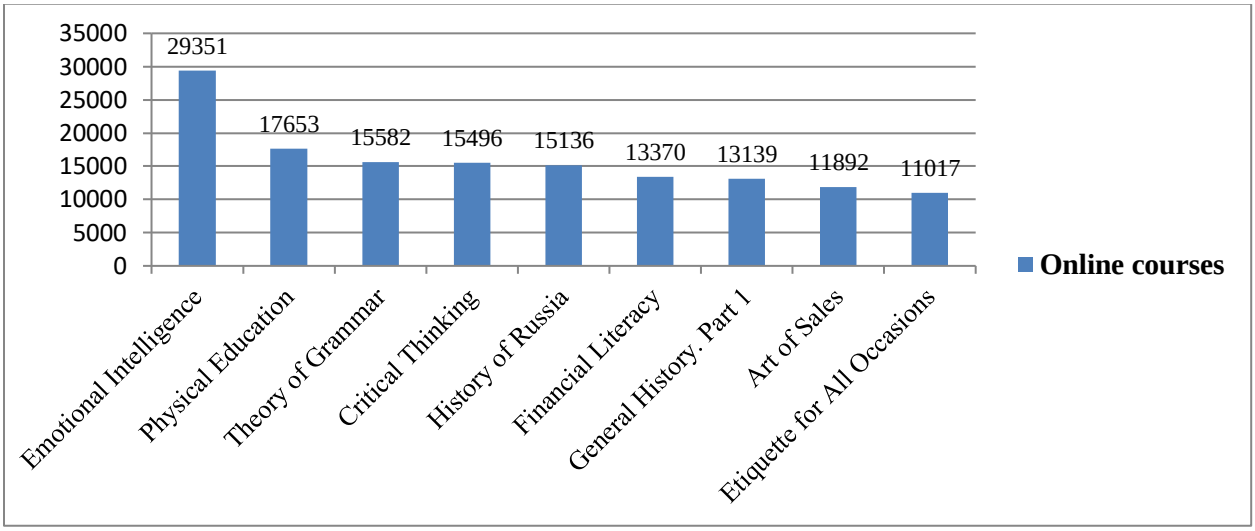

Figure. 2 Number of students in the Open Education National Portal courses in spring 2020.

Table 1. Procedural and descriptive aspect of online course design.

Planned result	**Course organization**	**Methodological requirements**
Forming the knowledge competencies of students in the field of theoretical and methodological practical principles of physical education and healthy living	The theoretical material including videos (duration – up to 10 minutes) delivering theory and case studies, summaries and presentations	*Systematic arrangement*. Clear learning plan. Transparent grading system. Available deadlines and explained consequences of failure to meet them.
Development of personal healthcare and physical self-improvement skills	Material for self-development. Training process arrangement rules. Training load control rules.	*Manageability.* Diagnostic targeting of the material. Possibility to plan the educational trajectory in order to correct the results.
Improvement and development of skills of independent use of methodological principles of physical education	Material for self-development and self-testing, including tasks on developing a training schedule and self-check plan.	*Reproducibility.* The used pedagogical technologies and recommendations on the organization of the course (methodological recommendations for teachers) help conduct classes at various universities of the Russian Federation, apart from the developer university.
	Theoretical knowledge check-up tests	

The course owes its success, among other things, to its good selection of pedagogical technologies. Distinguished researcher V.P. Bespalko defined pedagogical technology as "*a meaningful technique for implementing the educational process*". Pedagogical technology has a procedural and descriptive aspect which is closely related to the design of the online course (Table 1).

During the pandemic period, methodological recommendations were developed for personal physical training in a variety of sports, as it was necessary to organize practical classes. The principles laid down in the theoretical material helped students build the correct training system, and the practical part was therefore implemented quite quickly.

Practicing teachers who conducted physical education classes recorded video content demonstrating the exercising process. In the case of team sports, those were individual trainings of players. According to the methodology set out in the theoretical part, students were asked to prepare a schedule of trainings and also schedules for recording their achievements and general health status.

The Institute of Physical Education, Sports and Tourism of Peter the Great St. Petersburg Polytechnic University (IFKSiT SPbPU) is registered within the remote training system of SPbPU on a separate portal https://dl-ifkst.spbstu.ru/ posting videos of practical exercises, webinar rooms (for teacher and student meetings if necessary), and additional methodological recommendations (Figure 3).

Figure 3. IFKST portal in SPbPU remote training system.

CONCLUSION

The practice of implementing the discipline in "*full online*" format or "*emergency remote learning*" format in spring 2020 showed that despite the quite high level of educational process organization and almost complete absence of negative feedback from students, improvement of the following is required:

- Enhancing the digital competencies of all teachers involved in the implementation of the discipline. This will make training more effective and introduce a competitive component even between students who are far away from each other;
- Redesigning the main theoretical course, supplementing it with interactive elements that allow to carry out the corrective effect of the training trajectory (self-training) depending on the obtained results (interactive feedback);
- Supplementing and revising the course on the IFKST portal, matching the monitoring of successful completion of the practical part of the discipline with the sections of the main theoretical course. This will enable implementation of the pedagogical mono technology and the unity of information

environments for organizing and managing the educational process using various types of diagnostics and monitoring.

AUTHOR CONTRIBUTIONS

Conceptualization, V.B. and S.K.; methodology, S.K.; software, V.V.; data analysis, S.K., V.B. and V.V.; investigation, SK., V.B. and V.V.; data curation, S.K., V.B.; writing-original draft preparation, V.B.; writing-review and editing, V.B. and V.V. All authors have read and agreed to the published version of the manuscript.

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