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How can Distance Learning be Used in the Physical Education of Students?

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Abstract: Russian universities switched to distance students learning for before the global pandemic threat. Physical education departments are also required to provide students with distance learning opportunities. The organization of high-quality distance learning in physical education of students is not an easy task for most Russian universities. The purpose of the research - analysis of the level of effectiveness of using distance learning methods in the physical education of students in self-isolation during the COVID-19. Effectiveness criteria of distance learning: the quantity, quality and speed of completion of distance tasks. The research participants - 347 students. The research period - 30 days. It was revealed that medical students have a significant ($P<0.05$) advantage in the speed and number of completed distance tasks. Humanities and technical students have lower scores. The completed tasks quality is evaluated moderate scores. Can be explained moderate and low scores by the lack of students' motivation to perform distance learning tasks. Dissatisfaction of the majority of students with a large academic workload and lack of motor training sessions was revealed. Improving the quality of distance learning of physical education of students is necessary. Students want to reduce the number of theoretical tasks and more motor training sessions use.

Keywords: *Students; distance learning; physical education; learning motivation.*

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1. Introduction

The global threat COVID-19 set the task for educational organizations to quickly switch to online education of students. Students' PE should also take place remotely. The organization of a quality process of distance learning will require most teachers of physical education to develop electronic educational courses in the shortest possible time. The distance learning courses should have a some blocks of theoretical and practical tasks, literature and test tasks. These educational courses must be approved by the university's methodological commissions before use in educational practice. The rather strict requirements for the timing of the courses preparation raise some concerns about the quality of these distance learning courses. Experts point to significant resistance of some teachers of physical education in terms of transition to distance learning models. A lot of PE teachers consider direct contact between the teacher and student a necessary condition for successful learning (Silva et al., 2019). PE teachers are negative about online learning because they consider internet addiction to be one of the main threats of students' health. Regulating and reducing the time spent on the internet can help to protect students from physical and physiological negative effects of Internet addiction (Koçak, 2019).

Experts note the low motivation level of a significant part of university teachers to be active in electronic educational courses. The electronic educational environment is perceived as a space with a low level of security, the risks of losing copyright on intellectual activity results. Dysfunctions were revealed in the motivation system, orienting teachers towards the introduction of digital technologies: hard-to-predict performance, distortion of quality assessment criteria, and manipulation possibilities (Frolova et al., 2019). Such representations of PE teachers significantly limited in the potential using of distance and mobile technologies in educational practice. Experts point out the lack of using of these technologies in PE practice of Russian students, although the positive potential of their use is confirmed by scientific research (Osipov et al., 2018). Researchers insist on some reforms of professional education of PE teachers. The quality transformation from traditional to innovative type by means of the overall implementation of the modern strategies, assimilating movement and physical exercises into the teaching process is needed today (Roliak, 2020). However, the Russian pedagogical educational system is characterized in terms of "double negative selection" when not the best school graduates go to the pedagogical institute and not the best graduates of the institute go to the educational system (Nagovitsyn et al., 2020). The

lack of communicative and professional competencies of PE teachers is a barrier to the effective use of distance learning technologies in educational practice. However, researchers note the high level of productivity and overall job performance of PE professors, even under such conditions (Moloud & Nawal, 2020).

Various forms of distance learning are actively used in educational practice today (Kozhayev et al., 2019). In the Russian university's physical education (PE) practice, distance forms were mainly used for distance learning of nonresident students or students from other regions. In most cases, distance learning provided access to the educational resources of the university on the PE. Most Russian universities use electronic educational courses Moodle to studying and control of PE courses using a rating system. Also in university electronic courses, methodological recommendations on the organization of independent PE practice for students and electronic textbooks (videos) on sports and recreational practices are presented (Somkin et al., 2019). However, the majority of students practicing PE programs according to the educational standards of the Russian higher education do not use electronic educational courses in large quantities. PE practice today represents sports and motor training of students under the supervision of teachers (Avdeeva & Belicheva, 2019).

The purpose of the research - analysis the level of effectiveness of using distance learning courses in the PE practice of university students in self-isolation during the COVID-19 pandemic.

2. Materials and methods

The research bases are large universities of the Krasnoyarsk Region and Irkutsk Region: Siberian Federal University (SFU), Voyno-Yasenetsky Krasnoyarsk State Medical University (KMU), Irkutsk State University (ISU). The research period is 30 days (March 2020). Participants - students (n=347) who did not have previous experience in the use of distance educational technologies in PE practice. All students gave informed consent to participate in our research. All students had no problems with access to electronic networks and university sites.

We used quantitative research methods: students' questionnaire, students' grade scores analysis, statistical analysis. The research tools: questionnaire, students' grading scale.

All participants had to contact teachers and receive assignments in the electronic educational environment of universities. Students had to send completed tasks to teachers for verification in the electronic educational

environment. In total, students had to complete 8 tasks, during the research period. The learning tasks were of theoretical materials study with subsequent written reports submissions. Each report was evaluated by PE teachers. Students did not use motor training sessions.

We evaluated the effectiveness level of using distance learning in the PE practice via students' grade scores analysis. PE teachers rated students by a five-score scale: 1 – bad score (not submitted report), 2 – low score (significant lack of report information), 3 – moderate score (some lack of report information), 4 – good score (insignificant lack of report information), 5 – excellent score (full report information) for each completed task.

Additional criteria for evaluating the effectiveness of the use of distance learning in PE practice of students: completed tasks total number and completed tasks speed (students had to complete and send the each task for verification in 3 days). These criteria were also evaluated on a five-score scale. Completed learning tasks number grade scores: 1 score – two or less completed tasks, 2 score – three completed tasks, 3 score – four completed tasks, 4 score – six completed tasks, 5 score – eight completed tasks. Completed learning tasks speed: 1 score – five days or more, 2 score – four days, 3 score – three days, 4 score – two days, 5 score – one day.

We asked all students to give a self reasoned assessment of the completed tasks effectiveness. All study participants received an anonymous questionnaire with two questions. First question - evaluate of distance learning effectiveness level (five-score grading scale: 1 score – bad level (distance PE course not intended meets learning needs), 2 score – low level (distance PE course does not satisfy the need for learning), 3 score – moderate level (distance PE course partially meets learning needs), 4 score – good level (distance PE course meets basic learning needs), 5 score – high level (distance PE course fully meets learning needs)). The second question - indicate three main reasons of distance learning effectiveness level limiting (free student answers).

Statistical analysis: data analysis was performed using SPSS12. The reliability of the results was determined using the Pearson test (Chi-square).

3. Results

It was revealed that completed tasks number is on average: students (ISU) - 57%, students (SFU) - 61%, students (KMU) – 72%. Assessment of completed tasks quality in all students groups – moderate level (3 score out of 5 score). Assessment of completed tasks speed: students (KMU) –

moderate level, students (SFU and ISU) – low level. All students' rating the completed tasks do not exceed a moderate score level (the average score – 3.67±0.39). Students pointed out the effectiveness limitations of distance learning in PE. The largest limitation is a significant increase of academic workload (literature search, writing reports) and the lack of motor training sessions. A student's small number are dissatisfied with the slow work of the site of electronic educational resources, the lack of direct contact with teachers and the lack of quick responses of teachers to the completed tasks.

The research results are presented in the table 1.

Table 1. The overall results of research
Source: Authors' own conception

Evaluated criteria	Students (n=347)		
	SFU (n=117)	KMU (n=114)	ISU (n=116)
Completed tasks (number)	4.86±0.42	5.64±0.38*	4.67±0.46
Completed tasks (quality)	3.44±0.35	3.75±0.41	3.48±0.24
Completed tasks (speed)	3.51±0.26	4.16±0.27*	3.42±0.18
Student's tasks scores	3.66±0.38	3.73±0.45	3.62±0.34
Students' limitations			
Lack of motor training (%)	61.49±6.28	57.24±6.35	46.17±5.42*
Large volume of study (%)	60.32±4.25	64.47±5.22	62.56±5.39
Other Reasons (%)	26.19±3.52	29.34±2.38	28.63±2.31

Legend: * - $P<0.05$.

The results show that most research participants can use distance learning methods in PE. Students completed more than half of the distance learning tasks during the research time. However, a significant ($P<0.05$) difference in the number and speed of completed tasks in favor of students (KMU) was revealed. The findings indicate a higher level of KMU students' readiness for distance learning.

The most students have moderate and low scores for completed academic tasks in our research. The low scores for assessing of completed tasks quality can be explained by the low level of students' motivation of to

complete distance tasks. A students' significant percentage dissatisfied with the organization of the distance educational process in PE. Students indicate a significantly increased volume of academic workload associated with the preparation of learning tasks. Many students are unhappy with the lack of motor training sessions during distance learning in PE. Some students point to the lack of direct communication with PE teachers in distance learning as the reason for the low quality of scores.

4. Discussion

At the discussion beginning, it should be recognized that there are some limitations in our research. These restrictions are associated with overall number of participants and a short research period (30 days). It should also be noted the influence of the conditions of self-isolation during the COVID-19 pandemic (travel ban and physical exercise and fitness training restrictions). All participants did not have significant distance learning experience in PE practice prior to the start of the research. It must be emphasized that the fast transition to distance learning did not allow PE teachers to prepare high-quality content for educational courses.

However, even existing restrictions allow us to draw overall conclusions. The possibility of fast organizing distance learning of students in PE in emergency conditions (COVID-19 pandemic) was identified. We found that medical students have an advantage in distance learning practice over humanities and technical profiles students. It is known that the modern educational practice of medical students is more filled with electronic educational courses than the educational practice of humanitarian and technical universities student's (Wynter et al., 2019). The leaderships of humanitarian and technical universities need to ensure a higher level of use of distance technologies in the learning practice.

There is evidence that the use of information and communication technologies has the potential to improve assessment methods, and therefore, learning process and students' results in PE (González-Campos et al., 2018). The average academic grade of our research participants is not a high grade. Many students are unhappy with the content of the distance learning course in PE. Students indicate a significantly increased volume of academic workload associated with the preparation of learning tasks. Many students are unhappy with the lack of motor training sessions during distance learning in PE. This position differs from the views of some specialists in higher education. Experts note that the e-learning courses are an effective and feasible teaching methods, and helps students to reduce

costs and save time (Nguyen et al., 2019). Researches confirm the effectiveness of computer-mediated learning, to increase students' motivation and satisfaction (Rembach et al., 2019). Our research shows that PE teachers need to think about the quality of content distance learning courses for students. It was found that most students are dissatisfied with the content of distance learning courses in PE. In particular, dissatisfaction causes a large number of theoretical tasks that take a lot of time to complete. In this case, students' assessments contradict of some experts' opinion, who recommending an increase in the volume of theoretical learning in PE (Zelenova et al., 2019).

The need for a permanent communications between the PE teachers and students, even of distance learning conditions, is revealed. Research participants in indicate a lack of communication with PE teachers in the conditions of distance learning course. Students indicate that lack of communication with PE teachers is one of the reasons for the low motivation for distance learning. It should be noted that some PE teachers are passive in communication with students. Researchers point to some lack of sociability of modern PE teachers (Malinauskas & Saulius, 2020). PE teachers should pay attention to the problem of insufficient feedback with students. The lack of communication with students leads to a loss of their motivation to study PE. PE teachers should involve students in realizing of physical activity potential even in the absence of direct contact with students. PE Teachers' professional development in implementing based physical activity interventions for students is highly recommended today (Juwono & Szabo, 2020).

5. Conclusion

It was found that the medical students showed a higher level of adaptation to the distance learning in PE practice. This is due to the extensive experience in using electronic educational resources in the daily learning practice. PE teachers should take this experience into account when preparing distance education courses for various profile students.

We can conclude that improve the quality of distance learning students in PE is necessary today. It was revealed that students are dissatisfied with the content of distance learning courses in PE (a significant volume of theoretical tasks), lack of motor training and lack of contact with PE teachers. For distance PE classes, teachers should more actively use social networks and mobile communication technologies for direct communication with students. It is necessary to reduce of theoretical

learning tasks number (reports, literature data) and create opportunities for conducting motor training sessions of students.

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