

# QUALITY OF DISTANCE LEARNING IN SECONDARY SCHOOL SPORTS AND HEALTH CLASSES

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**Abstract.** Distance learning or remote studies can break the boundaries of time and space, as students can use computers or electronic devices (for instance, mobile phones and tablets) to instantly acquire learning resources and listen to teachers during remote classes. The pandemic led to procedures that changed the way teachers teach and communicate with students and families. All teachers faced such a situation for the first time, thus it was necessary to invent, acquire and apply new teaching methods in sports and health classes, in order to provide students with the planned amount of physical activity in sports classes, as well as to implement the curriculum. The human body is made for movement; therefore, a person feels best when they move regularly. The aim of this study was to evaluate the skills of sports teachers to apply digital teaching methods in secondary school sports and health classes, and the quality of distance learning. Research methods: the research used surveys, which were issued to 29 secondary schools in Latvia, as well as to 2 respondents from primary schools. In total, 34 respondents filled out the research survey. In order to determine the opinion of sports teachers on the quality of distance learning in sports classes in secondary school and the applied digital skills, interviews were conducted with the participation of 5 sports teachers. Analysing the responses to the survey and the correlations between them, the research results show that if the sports teacher has not acquired digital skills, then online and distance learning cannot be provided, as well as the set learning results in sports in secondary school are not achieved.

**Keywords:** quality of distance learning, secondary school, sports and health classes

## Introduction

In 2020, the World Health Organization declared a pandemic due to the spread of the coronavirus (Covid-19) (WHO, IFRC, & Unicef, 2020). The Covid-19 pandemic has negatively affected many areas – social life, especially health, economy, education, and everyday life (Karaca & Kalayci, 2021). The coronavirus disease (Covid-19) pandemic forced people around the world to change their daily routines, including physical activity habits. This unusual situation also produced physical and psychological consequences, and behavioural changes for all individuals, including elite and amateur athletes and students. Life in a closed environment is difficult because everyone has to stay at home and stay healthy while following the new norms (Nieman, 2020).

Furthermore, it is important to note that physical activity has changed due to the Covid-19 pandemic, and this has a significant impact on sports teachers and students. In the near-overnight shift to distance learning as a result of the Covid-19 pandemic, many teachers used trial and error methods to implement distance learning (Jeong & So, 2020). As a marginalized area of subjects, sports teachers are often left alone to figure out how to deliver high-quality sport without any support (Richards, Gaudreault, Starck & Woods, 2018). It is reasonable to assume that the pandemic further isolated sports teachers and forced them to make decisions that affected the learning results of students (Mercier et al., 2021). During the pandemic, attempts to continue education for students around the world were and are very different, with significant differences in access to technology that could support distance learning, for example, books, TVs, smartphones, and the internet (Varea, González-Calvo & García-Monge, 2022).

In the 21<sup>st</sup> century, it is necessary to talk about a new generation of people, which can be defined as a digital generation, whose existence is an integral part of the possibilities provided by digital technologies (Baldiņš, 2017). Digital pedagogy is the study and use of modern digital technologies in teaching. Moreover, digital pedagogy can be used in online, mixed, and offline learning environments (Väättäjä & Ruokamo, 2021). The digital skills of teachers equal an understanding of the role of digital technologies, the opportunities they create, and their importance in communication. Digital skills are the responsible and purposeful use of digital resources created by others, and the knowledge of the rules that must be followed when using information media (Daniela & Rūdolfā, 2019).

In education quality, the component “high-quality learning” consists of three sub-components – teaching and learning, the professional capacity of teachers, and the implementation of education programmes (Vossensteyn et al., 2019). The quality of a sports class is related to physical load application, as well as to development and social contacts, almost all interventions in physical education can stake a claim to making a positive difference to student learning (Jansone, Fernāte & Immere, 2014) and development across four domains: cognitive, affective, psychomotor, and social (Dudley, Mackenzie, van Bergen, Cairney & Barnett, 2022).

Distance learning or remote studies allow students to use computers or electronic devices (for instance, mobile phones and tablets) to instantly acquire learning resources and to listen to teachers remotely (Salama, Uzunboylu & Alkaddah, 2020). Distance learning can be used to a certain extent and in situations where it is an effective solution for ensuring a high-quality offline learning process and strengthening self-directed learning skills (Valsts izglītības satura centrs, 2020). In response to the spread of the coronavirus (Covid-19), schools in many countries around the world introduced distance learning to address student learning issues during school closures (Morgan, 2020). To carry out the distance learning process, many communication and learning platforms

were used during the pandemic, for example, Zoom, MS Teams, and E-class. Inclusion and promotion of movements through distance learning and online education should be a common practice regardless of the age of students. Furthermore, teachers can reduce the lack of movement and sedentary behaviour (Heather, 2020).

By analysing distance learning, researchers have defined issues as the difficulties associated with conducting secondary school and secondary school online sports classes. The issues included the monotony of the classes, the limited environmental conditions, and the limited educational content, which did not sufficiently reflect the value of sports education (Jeong & So, 2020). Without the physical presence of a sports teacher, it is difficult to encourage students to engage in healthy physical activities (Šišlova & Fernāte, 2018), while also motivating students to enjoy these activities (Mercier et al., 2021). Significant influencing factors were determined by collecting scientific articles, for example, the digital skills of the teacher, digital teaching aids, the content of the sports class, the availability of technology, the assessment of students, the involvement of students in physical activity, data security, the support from the education institution for the teacher (Varea et al., 2022; Korcz, 2020; Baena-Morales, López-Morales & García-Taibo, 2020; López-Fernández, Burgueño & Gil-Espinosa, 2021; Jeong & So, 2020). The aim of this study is to evaluate the skills of sports teachers to apply digital teaching methods in sports and health classes in secondary school, and the quality of distance learning.

### **Research Methods**

In order to achieve the aim of the study, surveys and interviews were used in data collection. The research survey was developed based on scientific knowledge on the distance learning process and the structure of survey development. The survey included a range of questions on the digital skills of teachers and experience in using them, the form for submitting tasks to teachers, on the application of recommendations of the National Centre for Education in the distance learning process, the purchase of additional tools for the acquisition of the sports and health subject, the digital tools used in conducting sports and health classes, the application of synchronous and asynchronous learning methods, about the physical and practical activities and the time devoted to theory in the distance learning process, as well as the quality of distance learning in a sports class. The survey consisted of 46 questions. The survey was conducted in an electronic environment.

The content of the interview was developed based on scientific knowledge on the distance learning process. With the help of interviews and the 17 questions included in them, the opinions and work experience of sports teachers were determined regarding the quality of distance learning in secondary school sports

classes, as well as the skills of teachers in applying digital teaching methods in sports classes.

The survey took place from May 2022 to December 2022 in 29 secondary schools in Latvia and included 2 respondents from elementary schools. Representatives of all regions of Latvia from Riga, Latgale, Vidzeme, Kurzeme, and Zemgale participated in the survey. In total, 34 respondents filled out the research survey. Overall, 59% of research participants were female, and 41% - male. The age of the sports teachers was from 23 to 70 years, and the length of service at a school was from 1 year to 33 years. In total, 5 sports teachers participated in the interviews.

For the survey (survey and interviewing), an opinion was received from the Ethics Commission of the Latvian Academy of Sport Education regarding the compliance of the content and procedure with ethical norms.

The obtained data were entered and mathematically processed with SPSS software. The Kolmogorov-Smirnov test was used to determine whether the results of the surveys corresponded to the normal distribution. The correlation method was used to determine the correlation between the answers given by the teachers about the quality of distance learning in sports and health classes, and the digital teaching methods used by secondary school sports teachers.

## **Research Results**

Analysing the answers of the respondents to the survey questions in general, it can be concluded that the majority (41.2%) of the sports teachers who participated in the research had an average level of digital skills and abilities before the pandemic. However, when analysing the assessment of sports teachers about the acquired digital skills to conduct sports classes during the pandemic, it can be concluded that 73.5% of the research respondents improved their digital skills to conduct sports classes remotely. The majority of respondents (41.2%) believe that the use of digital skills when conducting sports and health classes remotely only partially ensures the achievement of learning results in sports classes. This means that distance learning in sports and health cannot ensure the full achievement of learning results. It can be concluded that teachers used more synchronous than asynchronous learning approach, which means that more sports classes were conducted online, in one of the communication platforms.

The largest number of respondents (47.1%) indicated that on average, students devoted 40 minutes to remote physical activities in sports and health classes, which is the same time as in offline classes. The use of sports mobile apps in the distance learning process was also common. For instance, various pedometer apps were used to organize classroom competitions to support physical activity using steps, kilometres or minutes spent in sports activities, as also mentioned in a previous study on distance learning in sports (Heather, 2020). The

majority of respondents (52.9%) indicated that students lacked computers to participate in the distance learning process in sports, while 47.1% stated that there was no shortage of computers. Moreover, the majority of respondents (88.2%) indicated that there was no need to purchase equipment in order to acquire the relevant topics in remote sports classes, thus it can be concluded that most of the surveyed sports teachers followed the National Centre for Education guidelines, which stated that students should not purchase additional sports equipment to acquire the sports and health subject during distance learning (National Centre for Education (NCE), 2020, 2021).

Analysing the responses of the respondents on digital technologies and the possibilities of conducting the introductory preparation part of classes remotely, it can be concluded that 86% of the respondents most often used a video prepared by other authors in the introductory preparation part of the class, which was available in the digital environment, for example, on "YouTube". In turn, mobile applications were used the least in the introductory preparation part of the class. When analysing the answers of the respondents, it can be concluded that most often the respondents (83%) conducted the main part of the sports and health class on some online platform, and showed the exercises themselves or used a video prepared by other authors. Presentations were rarely shown in the main part of the sports and health class, which is due to the fact that they include more theoretical tasks and theoretical tasks were used less (11%-30%) than practical sports tasks (71%-90%) in remote sports classes. Analysing the answers of the respondents on conducting the final part of the sports and health class using digital teaching methods, it can be concluded that 77% used videos prepared by other authors, while 74% also showed the exercises of the final part themselves on one of the communication platforms. A smaller number of respondents (43%) also used one of the mobile applications that can be used in the final part of sports.

By analysing the opinion of the respondents and their experience gained on providing feedback after given remote sports tasks, it can be concluded that the majority (64.7%) believe that students received partially sufficient feedback, while 23.5% believe that the feedback was insufficient.

In the question on student evaluation during the distance learning process, the opinions and experiences of teachers differed, because the evaluation was different for each teacher, as it could include student participation in online classes, self-evaluation, distance, and time completed in independent tasks, theoretical knowledge of the rules of sports, and independently developed exercise complexes. In terms of grades during distance learning, all sports teachers interviewed indicated that the grades improved because it was easier to earn higher grades, as the content of remote sports classes was simpler, and students were more difficult to assess.

Evaluating the opinions of sports teachers on the quality of distance learning in sports and health classes in secondary school and the skills of teachers in

applying digital teaching methods in sports classes, it can be concluded that the assessment of sports teachers about their digital skills to conduct sports classes remotely has a weak negative correlation with the statement that if a sports teacher has acquired and will apply digital teaching methods, then the achievement of learning results in sports classes is ensured when organizing online learning ( $r_s = - 0.448, p < 0.01$ ). The opinions of the teachers on sports and health classes led by sports teachers online (on one of the communication platforms) have a weak negative correlation with the opinions on the quality of secondary school content acquisition during distance learning in sports and health ( $r_s = - 0.310, p < 0.05$ ). The opinions of the teachers on sports classes led by sports teachers online (on one of the communication platforms) also has a weak negative correlation with the opinions on the quality of the learning results achieved in secondary school during distance learning in sports ( $r_s = - 0.426, p < 0.01$ ). The use of the Zoom platform in the distance learning process, while conducting sports and health classes online, has a weak correlation with the quality of the learning results achieved in secondary school during distance learning in sports ( $r_s = 0.326, p < 0.05$ ).

The use of the MS Teams platform in the distance learning process, while conducting sports and health classes online, has a weak correlation with the frequency of using synchronous learning (online classes (live)) in the distance learning process, where students and teachers must be online at the same time ( $r_s = 0.325, p < 0.05$ ). The frequency of a teacher posting their own exercises online in the main part of the sports and health class closely correlates with the frequency of broadcasting their own exercises online at the end of the sports and health class ( $r_s = 0.774, p < 0.01$ ). The frequency of using the mobile application Strava in remote sports and health classes has a weak negative correlation with how much time students spent on physical activity in remote sports and health classes ( $r_s = - 0.382, p < 0.05$ ). The frequency with which a teacher broadcasts their own exercises online in the main part of the sports and health class also has a weak correlation with synchronous learning in the remote sports and health classes ( $r_s = 0.294, p < 0.05$ ).

The frequency of broadcasting online video exercises prepared by other authors in the main part of the sports and health class has a weak correlation with the percentage of time students spent doing the practical tasks in the sports and health classes remotely ( $r_s = 0.360, p < 0.05$ ). The frequency of broadcasting online video exercises prepared by other authors during the final part of the sports and health class has a moderately close correlation with the percentage of time students spent doing the practical tasks in the sports classes remotely ( $r_s = 0.578, p < 0.01$ ).

The frequency of how much time on average students devoted to physical activity per day during the distance learning process in sports and health has a weak negative correlation with the quality of secondary school content acquisition

during distance learning in sports and health classes ( $r_s = -0.302$ ,  $p < 0.05$ ) and with the quality of the learning results achieved in secondary school during distance learning ( $r_s = -0.387$ ,  $p < 0.05$ ). The assessment of sports teachers on the quality of secondary school content acquisition during distance learning in sports has a moderately close correlation with the quality of the learning results achieved in secondary school during distance learning in sports and health ( $r_s = 0.621$ ,  $p < 0.01$ ). The closest correlations were found between the use of mobile applications in the introductory preparation part and the final part ( $r_s = 0.889$ ,  $p < 0.01$ ).

Furthermore, there was a close correlation between the frequency of a teacher broadcasting their own exercises online in the introductory preparation part and the final part of a sports and health class ( $r_s = 0.739$ ,  $p < 0.01$ ).

There was also a close correlation between the frequency of broadcasting an exercise video online prepared by other authors in the introductory preparation part and the final part of the sports and health class ( $r_s = 0.700$ ,  $p < 0.01$ ).

Analysing the answers provided by sports teachers in the interviews to the question about the digital competences of a teacher, all of them indicated that they had sufficient digital competences during distance learning. In the interviews, when answering the question “Was the teacher training programme for information and communication technology (ICT) mandatory?”, 4 respondents answered that it is mandatory for them in educational institutions, but one respondent said that it is not mandatory. Therefore, for the majority of teachers, the schools ensure the improvement of the structural quality component – human resources. In the interviews, all teachers mentioned that they were provided with support at educational institutions during distance learning, both from the school management and from colleagues. The secondary schools of the surveyed sports teachers organized courses for teachers on digital technologies and the organization of distance learning, using digital teaching methods. All five respondents indicated that they had good development opportunities to integrate ICT in their sports classes, ICT were acquired both in school-organized training and through self-learning, thus the structural quality for providing learning resources was promoted.

## **Conclusions**

Sports teachers believe that they have sufficient digital skills to implement the learning process remotely; however, when analysing the answers of the surveyed secondary school sports teachers, it can be concluded that the distance teaching work in a sports and health class partly corresponded to high-quality content acquisition in secondary school. More than half (52.9%) of the respondents indicate that the quality of the learning results achieved in remote

sports and health classes partly corresponds to the high-quality acquisition of the sports and health subject in secondary school.

The digital learning methods that the surveyed sports teachers use most often in person even after the distance learning process in sports and health classes are mobile applications, communication platforms, the use of teaching videos prepared by other authors, the implementation of theoretical tasks in the sports and health subject on communication platforms, as well as video tests and presentations in offline sports and health classes.

The research proves that if a sports teacher has acquired and will apply digital teaching methods, then the achievement of learning results in sports and health classes is ensured during the distance learning organization, as the quality of learning content acquisition in sports and health during secondary school distance learning has a connection with the quality of the learning results achieved.

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