

The difficulties perceived by students from the specialization of physical education and sports in the online educational process

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Abstract

Background. The academic educational process has undergone a series of procedural and didactic adjustments as a result of the current pandemic conditions, perceived especially in the vocational specializations. The current context requires a decrease in the active, effective practice of students from the physical education and sports program to the practical discipline and an adaptation for the online teaching system which has led to a series of difficulties in corroborating and translating theoretical knowledge into effective practice.

Aims. The present study aimed to investigate the level of practicing physical activities (PA) and the difficulties perceived in the online educational system by third year students in the specialization of physical education and sports (EFS).

Methods. The study included 43 undergraduate students from the "G.E. Palade" UMFST Physical Education and Sports undergraduate program to which two questionnaires were applied: the first aiming at the index of practicing physical activities (IAF) and the opinion questionnaire regarding the identification of perceived difficulties in teaching online courses and practical work.

Results. The results of the first questionnaire indicated an acceptable level of PA practice with a mean value of ± 54.61 , characterized as reasonable. The perceived difficulties of online education were varied and inhomogeneous, and for these reasons we grouped them into three components: didactic, mental and social. In the questionnaire, the study subjects identified the following aspects that require optimization: technical aspects, lack of interactions, inefficient feedback, extensive explanations sometimes not accompanied by practical demonstrations, etc. In the practical area, the most relevant difficulties were: passive participation instead of active, lack of practical demonstrations that should accompany the theoretical explanations, inefficiency of feedback, lack of space and working materials, lack of individual corrections, lack of work in the team, the weakness in the ability to represent the movements presented theoretically or by video, the weak influence of the development of imagination and creativity, lack of empathy, etc.

Conclusions. The online educational process at university level regarding the specialization of physical education and sports limits the active participation and reduces the level of the practical competences of future specialists in the field.

Keywords: physical education, difficulties of online education physical activities, e-learning.

Abbreviations: EFS - physical and sport education; PA - physical activity; IAF - the index of practicing physical activities

Introduction

The COVID-19 pandemic context called for a university-level approach to online teaching of courses, on-site and online teaching of practical activities, depending on the evolution of infection rates.

Vocational specializations had to adapt quickly to the form of online teaching. The impact of these new educational adaptations was felt especially on the practical activities that in the on-site format require an applied practice on a specific methodological basis in order to form practical professional skills, and online teaching required

an important adjustment regarding learning and physical exercise.

One of the consequences of restrictions under the conditions of the pandemic was the reduction of the time for performing sports activities for all categories of people and the limitation or even the prohibition of access to the specially arranged spaces (Elmer et al., 2020; Edelhauser & Lupu-Dima, 2020; Gonzales et al., 2020).

These restrictions had effects especially on active practitioners of PA, this category including students from the specialization of physical education and sports.

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In this sense, in the specialization of physical education, where emphasis is on the acquisition by students of learning and initiation skills in the practical-methodical teaching process, the current situation has determined the transformation of the active educational process into a passive e-learning educational process.

Studies have shown that in order to maintain an optimal level of health, a decisive factor is the systematic practice of PA (Dusa et al., 2017; Badau et al., 2015).

New approaches and implementation must meet curricular objectives and reduce teaching and learning difficulties. The online educational system through its facilities for students and teachers requires a “set of new and expanded skills” (Peachey, 2017; Pérez-Jorge et al., 2020).

Our study aims to examine the difficulties of conducting courses and practical work at the university level for students specializing in physical education and sports in online conditions. We believe that this study can contribute to the review of educational methods at the university level, based on the difficulties encountered by students in online teaching, providing a way to avoid these barriers by reviewing the current methods used.

The university curriculum in the EFS specialization within G.E. Palade UMFST Tg. Mureș includes for all the years of study a number of 51 disciplines, out of which 40 include courses and practical work and 11 disciplines involve only practical work and specialized internships. We mention the fact that for the students who finish their undergraduate studies, in the current pandemic context, the internships in the educational units present a barrier determined by the lack of institutional access, which makes it difficult to apply theoretical knowledge in effective practical training with the students, this experience representing the finality of the educational act at this level.

We included in this study third year students because we consider that they have an educational experience of almost two years in the classic system, completed since February 2019 with the online educational experience, the study subjects having the ability to make an objective comparison between the two on-site and online teaching systems.

Among the general objectives of the university in physical education and sports programs we mention: (a) the development of experimental skills, design, problem solving and analysis; (b) developing data recording and analysis skills; (c) development of practical skills; (d) development of communication and interpersonal skills; (e) developing the capacity for abstractization and generalization; (f) integration of theory and practice; (g) motivation of students, etc.

Previous studies on the effectiveness and potential of online physical education classes are limited, being conducted mainly at the pre-university level (Iconomescu et al., 2014; Lyu, 2011; Lm & Kim, 2007).

Previous studies have focused on the difficulties of teaching online physical education courses in high school and middle school, by questioning teachers, finding that the most important barriers in teaching are: (1) class monotony by limiting space and limited educational content that do not allow adequate transmission of the values of physical

education, (2) the attempt to implement working methods without an expertise and (3) the very limited evaluation guidelines proposed by the competent structures, making systematic evaluation impossible (Hyun-Chul & Wi-Young, 2020; Pérez-Jorge et al., 2020).

The concerns of online physical education specialists were related to: active participation in activities, given the restrictions of space and facility, efficiency of the content taught, relevance of selected and designed materials used in teaching, adaptation to working platforms with technical aspects that were not part of classical education (Hyun-Chul & Wi-Young, 2020; Blaine, 2019; Lee & Gwak, 2012).

Hypothesis

The current study started from the assumption that identifying the difficulties perceived by students in the Physical Education and Sports degree program will contribute to optimizing the academic teaching process and identifying new teaching and learning solutions to achieve specific goals and creating future professional skills for physical education and sports teachers.

Material and methods

a) *Period and place of the research*

The present study aimed at a qualitative method of data collection and analysis, by applying two questionnaires on the online platform used in the teaching process called Blackboard. The study took place in the period October 15-20, 2020, the students having an activity in online teaching from February to May related to the academic year 2019-2020 and starting with September 14 related to the academic year 2020-2021.

Inductive category analysis was used, focusing on open coding, axial coding, and core coding (Strauss & Corbin, 1998). After collecting the data, their interpretation was done by: repeated reading, systematization of information and understanding the real meaning in the general context of the issues related to the educational difficulties perceived by the student in online teaching.

The meanings were classified and grouped according to the subject of the item and analyzed through technical, reflective and interpretive writing. The relationships between the aspects, the essential elements of the results were identified to determine the overall structure.

The descriptive experiences perceived by the subjects of the present research within the university didactic activity at the online courses of the physical education and sports specialization were realized by exploring the developed individual opinions, reflecting the experienced difficulties.

In order to increase the validity of the study and to test the consistency of the findings, a technical triangulation of the data was performed by cross-checking the written opinions from different angles using the data collection.

b) *Subjects and groups*

In the current study, 43 third-year students, 12 (27.9%) girls and 31 (72.1%) boys, with an average age of 21.74 years, from G.E. Palade UMFST in Tg. Mureș, specialization Physical Education and Sports participated.

c) *Applied tests*

The first questionnaire applied is a standardized one

that indicates the degree of participation of the subjects in the physical activities and determines the IAF (Dumitru, 1997), while the second questionnaire designed by us aimed to identify the difficulties perceived in the academic teaching process carried out exclusively online. The IAF comprises three questions with four or five answer options, regarding the intensity of the effort made in the practiced activities, the duration of the effort during the activity and the frequency of participation.

The evaluation is made according to the answers indicated, by entering the value of the answer given for each question in the following formula: $IAF = intensity \times duration \times frequency$.

We applied this questionnaire in order to see whether the students had a motor experience and an education to be physically active; in the current conditions these behavioral aspects remain relevant. The intensity parameter included 5 response variants from light effort to physical activity leading to marked acceleration of breathing (panting) and relatively abundant sweating. The duration parameter comprised 4 response variances from less than 10 minutes to over 30 minutes, and the frequency parameter had 5 response variants from less than once a month to daily or almost daily. The subjects had to check only one variant for each parameter. The appreciation grid is presented in Table I.

Table I
Characterization and interpretation of the physical activity index (IAF).

Scores	Characterization	Physical activity category
80 - 100	Very active lifestyle	Superior
60 - 80	Active and healthy person	Very good
40 - 60	Acceptable	Resonable
20 - 40	Insufficiently active, relatively sedentary	Weak
Under 20	Sedentary	Very weak

The second questionnaire included 8 items with open answer, regarding the difficulties perceived in the teaching process for the two forms of teaching: course and practical work.

Regarding the online courses, the questions focused on the following aspects: the difficulties of teaching specialized online EFS courses; what suggestions do you have in increasing the quality of teaching in courses and identifying the difficulties of translating theoretical knowledge and concepts into mental representations.

Regarding the practical application of the disciplines, the questions touched on the following aspects: the difficulties of teaching online the specialized EFS practical work, the ways of interaction between teacher and student during the practical work, the teachers' feedback to the practical work carried out by the student; the difficulties in performing the physical exercises required for the practical work and the difficulties in evaluating student's performance in the practical work.

d) Statistical processing

The data were processed by using IBM-SPSS 24, and statistical analysis included the index: the arithmetic

average (X), standard deviation (SD), Cronbach's alpha (α). The value of statistical significance was set at $p < 0.05$.

e) Ethical considerations

All participants were informed about the details of the study. Study participation was anonymous and voluntary, and students could withdraw from the study without any consequences. Only the researchers had access to the research data. The procedures of this study complied with the provisions of the Declaration of Helsinki regarding research on human participants.

Results

a) IAF

Following the analysis of the results, the IAF average was ± 54.61 points, characterized as acceptable, classified from a motor point of view as reasonable. Out of all respondents, 7.16% had a very active lifestyle, being in the upper part of practicing physical activities, 23.25% had a very good physical activity, being characterized as active and healthy people; 23.25% performed PA only in the reasonable category with an acceptable characterization, and 4.65% were sedentary.

b) Perceived difficulties in online teaching

The courses disseminate the fundamental notions and the theoretical aspects specific to the disciplines. In the online system, they have a wide variety from lectures to multimedia presentations, where the teacher is the transmitter and the students are predominantly passive receivers of information.

To the questions regarding the difficulties of teaching specialized online EFS courses, the answers were varied, of which the most relevant are presented below:

- We cannot interact, change opinions and we cannot be as attentive to teaching as when we are physically in class.
- Lack of visual contact between student and teacher. This is probably one of the reasons why students lose their attention more easily, in addition to the fact that, being at home, the disturbing factors multiply. Factors that do not exist in the classroom.
- Technical problems related to connection, microphone etc.; information is not assimilated as well, lack of empathy.
- The teacher does not have that expressive feedback in front of the students in order to be able to know if the information was understood or not by the team.
- Higher stress level.
- Lack of authentic communication and human relationship. Communication with students is more rigid (the answers to a question are slow, unclear). There are no practical demonstrations, no gestures.
- Maintaining students' motivation to participate in lessons and their attendance at lessons.
- In online mode it is just a monologue of the teacher.
- The student will not have the same will to communicate as in college.
- When a question is asked and a student has to answer, during the course in a classroom, the student may be more receptive to the questions asked than when he is in front of a device from which one can simply hear a voice that asks questions, and, in case the student encounters difficulties

in formulating a specific answer to the question asked, I consider that in a classroom it would be much easier to be helped by other colleagues or for another colleague to answer in his place, compared to the situation where only “a voice is heard asking questions”.

- The exact understanding of the presented information and its succession in an activity.

From the analysis of the results of the second questionnaire regarding the online courses, 3 categories of difficulties are highlighted, grouped into: learning, psychological and social teaching.

- Didactic learning: technical problems, lack of practical demonstrations that should accompany theoretical explanations, inefficiency of feedback, accurate understanding of information, specific terminology.

- Social: interaction with the teacher and colleagues, not belonging to a group with the same concerns effectively, reducing the level of application and correlation of theory with practice.

- Psychological: lack of empathy, higher stress level, inability to stand out, lack of non-verbal communication, reduced willingness to communicate, poor concentration, diminished attention, disturbed attention by disturbing factors.

Regarding the practical work, from the point of view of the difficulties of online teaching and the aspects covered in this study, the answers were more detailed, of which the most relevant are presented below:

- the difficulties of teaching online practical work: communication, exemplification, demonstration cannot be done online, the fact that we cannot work between us, to exemplify, to show what we should do, to be corrected in real time;

- not understanding the movement of an exercise, demonstrating the exercises is difficult, cumbersome;

- lack of practice in various disciplines such as gymnastics, handball, basketball, etc.;

- in the process of forming specific competences, having negative consequences on motor skills specific to sports disciplines (athletics, sports games, gymnastics), organization and group work skills (team work / in groups / with a partner);

- requesting imagination to the maximum, each of us having to create our own image of the activity taught by the teacher, sometimes erroneous;

- the physical effort is not made at all, but when you are in the gym with the teacher, different activities are performed and tests are given, the understanding, the discussion is pleasant and much more interesting. In the online environment, although it is called practical work, the physical activity is 0, sitting in bed and just listening to what the teacher says is not physical involvement at all;

- poor direct communication, students' inattention and inability to change anything;

- practice taught online is limited; spaces are limited; the exercises are only individual;

- in a discipline like ours, it's all about how we interact and how we execute or exemplify certain specialized elements, about how we learn to teach our students, about language, things rarely encountered because the online activity of practical work is linked only to “homework”,

questionnaires or other documents;

- the exercises must be written and not “taught” in front of the colleagues;

- the simulation of “teaching”, a link in a lesson, is completely missing;

- often one-way communication from the teacher, students are not involved;

- the lack of adequate equipment and the impossibility to practice the technical elements specific to a sports branch is a major disadvantage in the case of PA's;

- the lack of effective demonstrations and practical work will be difficult to fill in the future profession;

- the lack of development of the specialized practice in on-site format will determine a weak capacity to condition the didactic process in the first didactic experiences as future physical education teachers.

In practical work, the main objective consists of the development of a set of competences: specialized theoretical, practical, relational and organizational skills specific to the field of physical education and sports, and the results of the study reveal the following aspects:

- Didactic learning: passive participation instead of active, lack of practical demonstrations that should accompany the theoretical explanations, inefficiency of feedback, lack of space and work materials, lack of individual corrections, lack of teamwork, poor ability to represent the movements presented theoretically or by video, weak influence of the development of imagination and creativity.

- Social: interaction with the teacher and colleagues, not belonging to a group with the same concerns effectively, reducing the level of application and correlation of theory with practice, only individual practical activity, social inactivity, weak, lack of peer support.

- Psychological: lack of empathy, higher stress level, inability to stand out, lack of non-verbal communication, reduced willingness to communicate, poor concentration, diminished attention, disturbed attention by disturbing factors, insufficient development of creativity, lack of atmosphere in a group.

Regarding the ways of interaction during practical work, it can be seen from the students' answers that most of the cases are satisfied, and the most relevant answers were the following: demonstration materials, explanation, lecture, brain storming, dialogue, Powerpoint projects; didactic topics regarding the conception and description of exercises and lesson plans, etc. An important aspect mentioned by students would be that the online platform does not allow them to develop the ability to teach in front of a group of subjects in order to adapt to the particularities of age and the bio-physical level.

Regarding the feedback to the practical work, referring to the answers, this is done in real time, verbally or in writing, by mentioning the corrections that should be made to the given topics, but it is still of a more general nature compared to the on-site system, when the feedback was made by correcting the individual and collective execution technique, more technical characteristics were mentioned depending on the specifics of the sport. The online platform does not allow an individual assessment of the level of individual movements or physical actions, having limited possibilities to view all of them in real time.

Discussions

The practice of PA in free time during the pandemic is recommended by specialized forums with positive connotations regarding motor, mental, social and health aspects.

The restrictions imposed by the pandemic are also reflected in the possibilities of practicing physical exercise, limiting access to the arranged spaces and indicating mainly outdoor activities (Lim & Pranata, 2020; Badau & Badau, 2018). Studies show that during pandemic restrictions, most people changed their lifestyles by approaching a more inactive behavior, by transforming classic active activities into physically passive online activities (Narici et al., 2020; Toresdahl & Asif, 2020; Jukic et al., 2020; Camarda & Badau, 2010) which emphasizes an agreement with the results of our IAF study.

The difficulties in the didactic process perceived by the students from the specialization of physical education and sports have a great diversity, from technical problems that are external regarding the educational process to motor, psychological, social aspects. All these difficulties have negative influences on creating a complete specialist in terms of professional training regarding theoretical and practical aspects. Previous studies have found that the likelihood of a large generation of COVID-19 students not fully mastering their skills and laboratory practice would be a long-term disadvantage compared to those who have classically failed to do so, having deficient connotations of integration on the labor market (Daniel, 2020; Gamage et al., 2020; Carrillo & Flores, 2020).

We consider that restrictions due to the pandemic situation by limiting or prohibiting access to specially designed didactic or sports spaces, implementing e-learning, maintaining interpersonal distance negatively influence the motivational and volitional aspects by mobilizing in PA after spending a relatively long period per day in the passivity imposed by the online system (Murphy, 2020; Morgan, 2020).

The most relevant difficulties concern the online teaching of practical activities, which cannot fully cover or supplement the complexity of the formation of proactive motor, organizational and behavioral skills compared to the on-site system. The ways of teaching physical education in the online system regarding the practical aspects have been approached in other studies as well (O'Brien et al., 2020; Varea & González-Calvo, 2020), taking into evaluation the experiences lived by specialists. Our study contributes to the extension of the results of previous studies, which we consider that will allow optimizing the vocational academic teaching process.

Conclusions

1. Practicing physical activities during free time has a reasonable level of participation, being characterized as acceptable, but it is not enough if we refer to the motor requirements of future specialists in the field of physical education and sports.

2. The courses are aimed at disseminating theoretical information, and practical applications offer the development of motor, mental, social and functional skills,

which together provide a complete profile of the specialist in the field of physical education. The online didactic context diminishes the practical aspects, which in the long run will be reflected in the evolution and professional development of the specialists, with direct effects on the formation of students' proactive behaviors.

Conflicts of interests

The authors declare that they have no conflicts of interests.

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