

Study on the Implementation of Theoretical Notions in the Online PE Lesson during the Covid-19 Pandemic

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Abstract: *Objective: The aim of this research is to analyse the use of the practical component within the online PE lesson during the Covid-19 pandemic.*

Design: A number of 400 PE teachers from 9 counties of Romania were interviewed in connection with the online PE lesson during the Covid-19 pandemic. Thus, the proposed questionnaire contains two parts: one in which demographic data is requested and one containing 14 items requesting the specialized opinion regarding the online PE lesson. The likert scale was used in order to construct 5 answer options for each of the 14 items.

Results: Teachers who said they approach these elements "Very Much" or "A lot" are below 3.6%. Those who answered that they approach them "Enough" are still quite few when it comes to learning/strengthening motor skills specific to sports games (8%), but their number increases when it comes to speed (17.3%) and endurance (22.8%). One may also notice that the sum of the percentages "A Little" + "Not at all" of the teachers who answered that they approach these three elements is over 71%. (77.6% speed, 71.5% endurance, 97.3% motor skills specific to sports games).

Conclusion: Teachers' answers indicate the fact that, in the online PE lesson, motor skills are developed, with an increased emphasis on strength, dexterity and flexibility.

Keywords: *Covid-19 pandemic, PE lesson, the practical component, motor skills, strength, dexterity, flexibility.*

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Introduction

Each generation has its own characteristics, which are largely influenced by the education it receives. Education, in turn, changes continuously, in an attempt to become more efficient. But, like anything created by humans, we cannot stop at a single method and say, "this is the perfect method that must not change anymore."

The young generation is the least affected by the Sars-Cov 2 virus. But the real pandemic that young people are fighting is based on two very strong viruses: sedentary lifestyle and obesity, which are affecting young people more and more (Department of Health & Department for Children, Schools and Family, 2010).

As PE specialists, we have a responsibility to highlight the causes of these side effects and to discover the life-saving vaccine. It is imperative to promote physical activity among the new generations, and the most effective way to do this is through PE (Corbin, 2002). But the question that concerns the specialists in the field refers to: which is the best content of PE in order to achieve this goal? Perez and Saltijeral (2016) tried to answer this question and the conclusion is that educational strategies focused on changing eating habits and on promoting physical activity for health, should rely on the knowledge and attitudes of students to ensure the success of the applied methods.

Jackson (2006) notes a tendency to a shift in focus within the approaches of PE. He wrote a paper that follows the evolution of fitness testing since the period with a strong athletic emphasis up to the contemporary period. Also, the forces that bring about this change in an environment that is not exactly receptive are analysed. This new approach is reinforced by Macdonald (2011), who states that testing and reporting motor performance tests or the body mass index may be contrary to the educational intent of PE.

Physical Education as a school subject

The most obvious intervention on the education of young people, regarding the benefits and principles of an active and healthy life, is through PE (Corbin, 2002). Physical activity is the distinctive feature of this school subject, being recognized by the IOM (Institute of Medicine) as "the school subject that offers the only opportunity for all children to learn about physical movement and engage in physical activity" (Institute of Medicine, 2013, p. 199). The same source advocates for the need of 60 minutes/day of

physical activity but acknowledges that this goal is impossible to achieve even with a curriculum of the highest quality, because the lessons must also include teaching activities. The solution offered by IOM refers to the content taught in the Physical Education lesson: "Instead of focusing on the practical part, in order to record the time of physical activity (i.e. 60 mins/day), a new curricular approach emphasizes the need for students to acquire the knowledge that answers the question: Why is it a good thing to be physically active in life?" (IOM, 2013, p. 202).

Cloes (2017) invites teachers to observe their students' answers to the question: "Which are the benefits of PE?". And he goes on saying: "Sometimes it's surprising to read the answers ... to see that most of these young people aren't able to explain which are the aims of PE" (Cloes 2017, p. 246). Students' views on fitness were also analyzed by Placek et al. (2001) in a study conducted on 6th grade students, and the results show that the view of these students can be summarized by the correlation: "good physical shape = looking good = being slim" (Placek et al., 2001, p. 321).

It can be seen that the role of PE is not only to engage students in physical activities. This fact is supported by the President's Council on Physical Fitness (2009) which states that a quality curriculum for Physical Education must not only engage students in practical activities but must also provide students with ample opportunities to acquire theoretical notions, necessary for the development and maintenance of a healthy lifestyle throughout life. The two components, theoretical and practical, cannot be missing from a balanced curriculum that aims to promote the physical activity of students throughout life (Castelli & Valley, 2007, Alexandrache, 2016).

Teaching PE during the Covid-19 pandemic

The year 2020 was marked by the pandemic caused by the Sars-CoV 2 virus. Due to the fact that the virus showed a high rate of infections and even mortality (Baud et al., 2020) many countries were forced to limit the direct contact between individuals as much as possible. This was the only solution of the specialists until the appearance of the vaccine (Maier & Brockmann, 2020).

This situation has affected society on many levels. The education system is no exception, so the decision of most governments has been to stop face-to-face activity and replace it with online activity. Teachers and students found themselves in a new situation that most found difficult to manage. Even though online teaching was previously approached as a

possible economical option for education (Meyer-Peyton, 2000), too few teachers had the skills to manage.

Teaching PE was a challenge for PE teachers, given the fact that the teacher and the student were not face-to-face. This fact, combined with the view that PE should be entirely practical (Ennis, 1996; Alexe, et al. 2012), has determined many people to argue that online practical classes (OPC) in physical education are quite difficult to teach (Yu & Jee, 2021).

The Covid-19 pandemic surprised the education authorities. Some teachers had guidance on how to teach this school subject, but autonomy was given to each teacher to decide on the content. Given this autonomy, we will try to find out the position of PE teachers regarding the theoretical component of physical education.

Methodology

This study was approved by the Ethics Committee of the Faculty of Physical Education and Sport, "Dunărea de Jos" University of Galați, and all the procedures were conducted in accordance with the Declaration of Helsinki.

The teachers who teach PE from 13 counties of Romania represented the target of this study. A number of 400 teachers responded to the request to express their opinion regarding the online PE lesson. A questionnaire was drawn up in order to provide an overview on this topic.

The questionnaires were completed between December 1, 2020 - January 15, 2021. In order to try a more personal approach in view of a higher response rate, the questionnaires were distributed by means of the WhatsApp application. The teachers received a message explaining that they are being asked for their specialized opinion regarding the online PE lesson conducted during the Covid-19 pandemic. The message also contained a link to a questionnaire created in Google Forms.

This approach allowed teachers to fill in the questionnaire directly from their personal phone by accessing the link sent.

A total of 400 teachers who teach PE filled in the questionnaire. Of these, 44.5% (N = 148) are women and 55.5% (N = 222) are men. The relationship between the two genders is balanced, fact which allows us to see if there are differences in the approach to the online PE lesson taught by male and female teachers.

As far as the area in which they teach is concerned, the respondents are from 13 counties in the eastern part of Romania, as follows: Galați 35.5% (N = 142), Vaslui 22.8% (N = 91), Brăila 13% (N = 52), Botoșani

11.3% (N = 45), Iași 11.5% (N = 46), Vrancea 4% (N = 16), Brașov 1% (N = 4), Buzău 0.5% (N = 2), Tulcea 0.5% (N = 2). The big differences in the number of respondents from each county make an analysis of the data on this criterion irrelevant, so we will not relate the specialized opinion of the teachers to this criterion.

The seniority in a PE department represents an interesting perspective from which we will try to look at the problem of theoretical knowledge. We will try to see if there are differences in the approach to theoretical notions between teachers who have been teaching for more than 15 years and their younger colleagues. The results show that, out of the 400 PE teachers, 22% (N = 88) have been teaching for 0 to 5 years, 25.4% (N = 102) for 5 to 10 years, 23.8% (N = 95) for 10 to 15 years, 17.3% (N = 69) for 15 to 20 years and 11.5% (N = 46) have a seniority in the PE department of over 20 years.

Another criterion by which we will try to analyse the answers refers to the environment from which the teacher comes from. Here, the results indicate that, out of the teachers who participated in this study, 40.2% (N = 161) work in rural areas and 59.8% (N = 239) in urban areas.

The last criterion by which we will filter the answers is the classes the teachers teach. From this perspective, 30.5% (N = 122) of the teachers participating in the study teach at the primary level (grades 0-4), 36.5% (N = 146) at the secondary level (grades 5-8) and 33 % (N = 132) at high school level (grades 9-12).

Procedure

The questionnaire was developed in the Google Forms application and contains a preamble followed by two sections: one requesting demographic data and one requesting the expert opinion on the online PE lesson.

The preamble specifies to whom this questionnaire is addressed, the approximate time required to complete it and the scientific destination in which the data will be used.

The first section contains five fields that must be filled in by the PE teacher: the gender, the county in which he/she teaches, seniority in the department, urban/rural area and the age group he/she teaches.

The second section requests the specialized opinion of the teachers regarding the teaching of PE in the online system. This section was developed using the likert scale with 5 answer options: <Very much>; <A lot>; <Enough>; <A Little>; <Very Little>; <Not at all>

Teachers had to provide an answer to 6 items (Table 1) using one of the 5 answer options presented above. The first 6 items focused on the practical component and the last 8 items, on the theoretical one.

Table 1 – The specialised opinion of PE teachers regarding the online PE lesson

The type of component	No.	Items
the practical component	1	During online PE classes, the speed motor skill is developed.
	2	During online PE classes, the endurance motor skill is developed.
	3	During online PE classes, the strength motor skill is developed.
	4	During online PE classes, the fine motor skill/dexterity (coordinative ability) is developed.
	5	During online PE classes, the suppleness motor skill is developed.
	6	During online PE classes, the motor skills characteristic to sports games are learnt/developed.

Results and discussion

The first six questions in the questionnaire focused on the teachers' opinion regarding the approach to the practical component in the online PE lesson. (see Table 1) Teachers' answers to these first six questions are presented in Table 2:

Table 2 – Teachers' answers regarding the approach to the practical component in the online PE lesson

Item	Answers				
	Not at all	A little	Enough	Much	A lot
1. During online PE classes, the agility motor skill is developed.	25,8% N=103	51,8% N=207	17,3% N=69	3,5% N=14	1,8% N=7
2. During online PE classes, the endurance motor skill is developed.	19,5% N=78	52% N=208	22,8% N=91	3% N=12	2,8% N=11
3. During online PE classes, the strength motor skill is developed.	3,8% N=15	11,3% N=45	43% N=172	24,8% N=99	17,3% N=69
4. During online PE classes, the fine motor skill/dexterity (coordinative ability) is developed.	4,8% N=19	20% N=80	38% N=152	24,3% N=97	13% N=52
5. During online PE classes, suppleness motor skill is developed.	9% N=36	30,3% N=121	40% N=160	12,3% N=49	8,5% N=34
6. During online PE classes, motor skill characteristic to sports games are learnt/developed.	44,5% N=178	42,8% N=171	8% N=32	2,5% N=10	2,3% N=9

From the teachers' answers it can be seen that speed, endurance and the motor skills specific to sports games are the least addressed elements in the online PE lesson. Teachers who said they approach these elements "Very Much" or "A lot" are below 3.6%. Those who answered that they approach them "Enough" are still quite few when it comes to learning/strengthening motor skills specific to sports games (8%), but their number increases when it comes to speed (17.3%) and endurance (22.8%). One may also notice that the sum of the percentages "A Little" + "Not at all" of the teachers who answered that they approach these three elements is over 71%. (77.6% speed, 71.5% endurance, 97.3% motor skills specific to sports games).

When we talk about the development of dexterity (coordinative ability) and suppleness, the teachers' answers show us that these are the

topics that teachers pay the most attention to in the practical activity within the online PE lesson. The sum of the percentages of teachers who develop strength “Much” and “Very much” is 42.1% (24.8% much and 17.3% very much), dexterity 37.3% (24.3% much and 13% very much), and suppleness 20.8% (12.3% much and 8.5% very much). The percentage of teachers who answered that they develop these three elements "Enough" is significantly higher than the previous three. Thus, the percentage of teachers who say that they develop strength "Enough" is 43%, dexterity, 38%, and suppleness, 40%.

From these first six items that highlight the way teachers approach the practical component in the online PE lesson, one may notice an emphasis on the development of strength, dexterity and suppleness. However, the development of speed and endurance does not seem to be excluded from the teachers' answers, even if to a lesser extent than the first three. Learning/consolidating motor skills specific to sports games (item 6) seems to be the element that differs the most from the other five elements that are part of the practical component: 87.3% answered that they approach this element "A Little" or "Not at all".

After applying the “seniority within the department” filter, we obtained the teachers' answers divided on the 5 seniority criteria, established in the first part of the questionnaire. The answers of the teachers, after applying the above-mentioned filter, are presented in Table 3:

Table 3 – The teachers' answers regarding the practical component after the application of the “seniority in teaching” filter

Item	Answers				
	Not at all	A little	Enough	Much	A lot
Agility	30% ¹ , 28% ² , 33% ³ , 16% ⁴ , 20% ⁵ , 25.8% ⁶	52%, 51%, 38%, 70%, 49%, 51.8%	15%, 9%, 23%, 13%, 26%, 17.3%	4%, 6%, 2%, 0%, 6%, 3.5%	2%, 2%, 4%, 0%, 0%, 1.8%
Endurance	16%, 9%, 21%, 24%, 27%, 19.5%	49%, 70%, 49%, 47%, 46%, 52%	30%, 12%, 23%, 26%, 22%, 22.8%	2%, 2%, 2%, 3%, 6%, 3%	4%, 7%, 4%, 0%, 0%, 2.8%
Strenght	0%, 0%, 2%, 6%, 10%, 3.8%	16%, 12%, 12%, 6%, 11%, 11.3%	39%, 37%, 48%, 53%, 38%, 43%	25%, 19%, 30%, 20%, 29%, 24.8%	20%, 32%, 8%, 16%, 12%, 17.3%
Fine motor skills	2%, 0%, 2%, 7%, 13%, 4.8%	19%, 20%, 16%, 25%, 21%, 20%	42%, 25%, 46%, 36%, 41%, 38%	24%, 31%, 29%, 19%, 18%, 24.3%	12%, 24%, 8%, 13%, 8%, 13%
Suppleness	8%, 3%, 6%, 12%, 16%, 9%	33%, 36%, 27%, 32%, 24%, 30.3%	44%, 28%, 48%, 43%, 37%, 40%	9%, 18%, 14%, 10%, 11%, 12.3%	6%, 14%, 6%, 6%, 11%, 8.5%
Specific motor skills	31%, 47%, 48%, 51%, 46%, 44.5%	54%, 37%, 39%, 43%, 41%, 42.8%	8%, 9%, 5%, 6%, 12%, 8%	6%, 2%, 4%, 1%, 0%, 2.5%	2%, 6%, 3%, 0%, 0%, 2.3%

1. teachers with 0 to 5-year experience
2. teachers with 5 to 10-year experience
3. teachers with 10 to 15-year experience

4. teacher with 15 to 20 years experience
5. teacher with over 20 years experience
6. the teachers' answers without any applied filter

Table 3 – The answers of teachers regarding the practical component after applying the “seniority within the department” filter *the first value is for teachers who have a seniority within the department of 0 to 5 years, the second for teachers who have 5-10-year seniority, the third, 10-15, the

fourth, 15-20, and the fifth over 20 year-seniority, and the last value (the underlined one) is the percentage of the answers obtained by the 400 teachers, without any filter 1. speed; 2. endurance; 3. strength; 4. dexterity; 5. suppleness; 6. specific motor skills

A fact that is worth mentioning is that the percentages of answers do not show significant differences when we analyse them according to the seniority within the PE department. This result indicates that unexperienced teachers, as well as those with great experience, try to develop motor skills even during this period when the PE lesson takes place online. We chose the word “try” because, in the study conducted by Jeong and So (2020), it was highlighted that the approach of the practical component, during the online PE lesson is almost impossible. It was also found that the evaluation of this component is even more difficult, without evaluation, we cannot talk about development, learning or consolidation.

This approach to the practical component during online lessons by all teachers, regardless of seniority, could be due to the way they are trained in college. The emphasis laid by colleges, in the training of PE teachers, on the sport-based approach and the development of motor skills, seemed to have influenced the decisions of teachers during this period. This opinion seems to be supported by the work of Varea and González-Calvo (2020) who analysed a group of pre-service PE teachers who, during the internship, had to go online. The study presents the feelings of these future teachers during the period in which PE lessons had to take place online. They felt that this school subject loses its identity because “there seems to be an agreement that sporty attire and movement are key characteristics of PE” (Varea & González-Calvo, 2020).

Regarding our study, no noticeable differences were observed even when we applied the filter of “gender”, “teaching environment” or “age level” at which the teachers teach. This highlights a unitary vision of teachers related to the practical component of online PE lessons, fact which reinforces the possibility that the root of this fact lies in the way these teachers were trained.

Conclusions

This study provides an insight into the perspective that PE teachers have regarding the theoretical component of PE. Whether this component is really part of PE lessons, whether teachers actually know educational strategies for teaching it, or whether students have theoretical knowledge – represent goals for further studies.

The philosophy behind teachers' training 20 years ago does not differ much from their training at present, and this can be seen from the fact that teachers say that they develop motor skills even in this online period. This approach, which focuses almost exclusively on the practical component, is criticized by many authors, and some conclusions even say that PE teachers who teach in this way should apologize to students for their experiences in these lessons (Corbin et al., 2020; Dale et al., 1998; Ennis, 1996) This study highlights the focus teachers lay on the development of motor performance and their belief that they succeed. Some research measuring the development of these motor skills in online lessons could provide a clearer picture of the effectiveness of this approach.

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