Professional article

THE SIGNIFICANCE OF DIDACTIC MEDIA
IN TEACHING PHYSICAL EDUCATION

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Abstract. *The aim of this paper is to present the significance of modern, electronic didactic media in the realization of physical education (PE) classes. PE helps students become skilled, active, healthy, responsible, independent and competent, able to think analytically and critically, and ready to act in new and unexpected situations. The didactic media open up wide application in contemporary PE classes that seeks to overcome the disadvantages of traditional teaching. It involves the introduction of innovative models of PE, as well as the use of modern didactic media. Advantages of the implementation are numerous, and most often emphasized: better motivation, and better communication between PE teachers and students in the educational process.*

Key words: *Physical Education, Didactic Media, Student, Teacher*

INTRODUCTION

A review of the available literature concerning the importance of didactic media for physical education (PE) revealed emergence and significant increment in new ways of presenting information, which entails the requirement for the students' capacity to correctly perceive, absorb and visualize educational material, simultaneously creating schematic images that differ in completeness, integrity and generalization (Kalina, Aydarov, & Aydarova, 2019).

The Society of Health and Physical Educators-SHAPE (2017) and the International Society for Technology in Education-ISTE (2017), which are educational organizations, responded upon this issue by indicating indispensable technology-related standards i.e., knowledge and skills which teachers need to integrate technology. These standards influenced the restructuration of physical education teacher education (PETE) programs or enhanced preparation of the teachers with relevant knowledge, experience, and the

propensity to integrate technology adequately into instruction within the existing curricula (Jones, Bulger, & Wyant, 2012 in Baek, Jones, Bulger, & Taliaferro, 2018).

There is a dilemma between academics, those who make decisions and schools, based on whether technological innovations are "good" or "not", or how technology can be used in the best possible way to fulfill educational aims. In the context of the place that technology takes, it is an interesting field to research and limits the broad lens of technology incorporation into a special field of society (Sargent, 2018).

PE teachers adopted wearable technologies, mobile phones and apps, PC, diverse gaming systems into quotidian physical activity and fitness (Beighle, Morgan, & Pangrazi, 2004; Phillips, Rodenbecka, & Clegga, 2014 in Baek et al., 2018).

PE helps student become skilled, active, healthy, responsible, independent and competent, able to think analytically and critically, and ready to act in new and unexpected situations.

The education priority goal is to form such standards that could help a person quickly adapt to the contemporary lifestyle, create the urge for constant self-improvement and a critical attitude to life (Gorovaya et al., 2017).

Education is a social activity involving both teachers and students. Hence, a good relationship between teachers and students is essential in the smooth completion of educational and teaching activities. Moreover, it also has an important impact on the personality development and psychological health of teachers and students (Lu, 2019).

Modern schooling should pay attention to the student's self-reliant action, the organization of independent learning surroundings and training that includes experiments and practice, where students can choose actions and use both inventive and flexible training programs while working in an agreeable rhythm (Yakovleva & Yakovlev, 2014).

Student education should contain characteristics such as: basic knowledge acquisition, scientific preparation and the ability to use different technologies related to the field (Oliveira, & Morais, 2019).

Skilled teachers can facilitate the process of learning if they motivate students to think, question, test ideas and to explain and represent them. They should be well educated about the subject they teach, but also flexible when it comes to their teaching methods (Jack, 2017).

PE teaching, as an interactive relationship between teacher and student, is achieved through various forms of communication, guided by the principles of obviousness, accessibility to age, rationalization and economy, as well as the rules of gradual learning set by Komensky: from proximal to distal, from easier to harder, from familiar to unknown, from simple to complex. Teaching is situated in the area of didactically shaped sources and communication media, called "media" or "teaching media".

Relationships between students and teachers should be supportive and warm and that includes open talks, teacher participation, reliance and taking responsibilities.

The positive relationship makes students perceive teachers as trustworthy, approachable, and encouraging, but they also see themselves as capable and valuable (Wang, Leary, Taylor, & Derosier, 2016).

The main condition that makes teachers successful is their wide knowledge on the taught unit, scientific degree for training in this area, related units in the overall education; finally, familiarity with the methodology of the subject they teach and understanding of the general didactic principles (Roman & Nadezhda, 2018).

The learning process can be considered successful if the educational goals can be realized. The realization of goals can be influenced by many technical and non-technical factors. Teachers and students not only facilitate the learning process, but also some aspects of the teaching and learning strategies. Teaching and learning strategies are based on the teacher's decision what learning approaches will be used, and appropriate to the learning objectives and learning materials that will be taught (Hanipah, Florentinus, & RC, 2018).

The nature and character of the PE content enable the application of different teaching media in the processes of learning and teaching.

The effectiveness of learning achievement goals needs to be improved by learning media when it comes to learning communication (Widodo, 2018). It is the PE teacher's obligation to provide as rich a source of immediate experiences as possible, which are the basis of all knowledge, opinion and attitude development.

In order to be effective, teachers should be able to come up with an acceptable quantity of instruction, they need to work on the organization and management of the classroom, the instruction time and the structure of instructional material should be used effectively, students should be able to practice and apply what they learned, the classroom should provide a good environment, and teachers should have moderately satisfactory knowledge of the subject (Toraby, & Modarresi, 2018). The use of didactic media is based on the fact that they are less abstract than words. Their proper use has a positive effect on the quantity, quality, durability of knowledge and development of students' skills. In his preparation for direct PE teaching, the teacher must foresee what, when, and how didactic media will be used. The correct choice and application of didactic media determine the extent to which the expected effects of their application will be achieved. Didactic media should be adapted to the age, previous knowledge and experiences of the students, as well as their ability to perceive, and abstract thinking.

The aim of this paper is to present the significance of modern, electronic didactic media in the realization of PE classes.

THE SIGNIFICANCE OF DIDACTIC MEDIA IN THE PHYSICAL EDUCATION

In everyday use, by medium we mean a means of mediating and transmitting information in the communication process. The media in conceptual terms (books, e-textbooks, a whiteboard, computer, internet, film, camera, video projector, etc.) are not teaching media until they begin to exercise a didactic function.

Teaching media are in the function of achieving the goals and objectives of the teaching if it "motivates students, stimulates their interest, serves to understand a phenomenon more easily, helps a student to practice an action" (Vilotijević, 1999, author's translation).

Multimedia learning is based on the premise that students can better understand an explanation if it is presented with both words and figures instead of a presentation with only words. Multimedia messages can be used as information delivery vehicles or sometimes they are aids to sense making. For instance, a multimedia message on a computer could include narration and animation, while the same type of message in a book could be printed text and illustrations. An example of such message is the one with words and figures intended as an explanation of an athlete demonstrating sport technique (O'Donoghue & Holmes, 2014).

In order to see the cognitive consequences of multimedia learning, teachers can ask their students to recall information that was presented to them through the test of retention or by

answering questions concerning the information that they got through the test which examines transfer (Mayer & Moreno, 1998).

A possible learning outcome could be no learning, which refers to poor retention and poor transfer performance. Another possible outcome is rote learning where there is good retention but poor transfer performance. Finally, the best outcome is meaningful learning where students show good retention and transfer performance. Whether the students will learn meaningfully, depends on their cognitive activity while they are learning, which is more important than the teacher's behavior during the teaching process . Besides that, according to a cognitive theory of multimedia messages, humans use dual channels for information processing: one that processes visual and pictorial, and the other that is intended for audio and verbal. Both are limited by their abilities to process, and coordination of cognitive processes for active learning is required.

Meaningful learning usually requires a heavy amount of cognitive processing and due to the limited information processing system of the student, multimedia instruction should be designed in such a way that unnecessary cognitive load is minimized (Mayer & Moreno, 1998).

It is important to emphasize that humans have cognitive resources they use for learning that are limited. There are three components that determine the level of cognitive load. To begin with, by the intrinsic cognitive load, which refers to the level or quantity of interacting concepts. These elements are processed in working memory at the same time in order for the subject being taught to be learned. The second one is an extraneous cognitive load that refers to unnecessary cognitive demands and the last one is germane cognitive load. This one is connected to learning activities that foster schema acquisition (Park, Flowerday, & Brünken, 2015). One of the implications of this study is that instructional planners, teachers and learners should consider the working memory capacity of the students and to adapt materials to the learning situation.

Innovative teaching media design will significantly provide students with motivation and achievement (Duckworth & Yeager, 2015). The learning will go quickly and on target. When it comes to the students' perceptions about teaching learning media in didactic lectures, research conducted by Manohar, Dashputra, & Suresh (2015) shows that the majority of students preferred Power Point presentations as the best medium, which suggests that effectiveness of this medium should be increased. These results show that teaching learning media play very important role in the learning process of students.

In his work "Audiovisuals and their use", Jacob Danon argues that teaching media enable students to understand the basic thoughts of the teacher in the teaching process, and to translate the ideas he wants to present into verbal and visual language, understandable for the students (according to Mandić, 2001).

Teachers have access to a variety of didactic media used in the educational process and create them independently. However, in order to improve teaching, it is important for the teacher to develop a critical attitude towards the accessible didactic media. For the quality use of didactic media in teaching, PE-related content must be didactically and methodically designed. Teaching PE gives PE teachers great opportunities to apply various didactic media to enrich educational practice.

Choosing the right medium for teaching and learning is a very important didactic issue. In order for the teacher to make the best choice of media to use in the teaching process, he/she should know their advantages and disadvantages.

Didactic media are characterized by multimedia, the possibility of an interactive approach and interdisciplinary learning, which is a feature of the teaching of nature and society.

Lack of an adequate training on skillfulness and capability to teach using technology in PE settings, has an insufficient effect on the proficiency of PE teachers (Baek et al., 2018).

According to Baek et al. (2018), there are two types of the barriers to technology integration: 1) external barriers for teachers to use technology (lack of insight into technologies, insufficient budget and time required to master technological skills, improper technical and organizational support, and class size); 2) internal factors (opinions, knowledge, competence, and self-adequacy).

Education programs for teachers should prepare them to adopt technology in such way that will help them perform the pedagogical strategies used in outdoor environment sor in a gymnasium where PE is usually taught. Traditional sport even became a part of the virtual world grace to the new possibilities of contemporary media (Baltazarević & Baltazarević, 2019). Teaching skills need to be adopted and exerted by PE teachers in a similar context they will face later. PE teachers are expected to be familiar with PC devices and other technological gadgets aimed at data collection, the analysis, assessment and evaluation of student knowledge and health-related physical fitness (Juniu, Shonfeld, & Ganot, 2013).

CONCLUSION

The didactic media open wide application in contemporary PE classes which seek to overcome the disadvantages of traditional teaching. They involve the introduction of innovative models of PE, as well as the use of modern didactic media. Advantages of the implementation are numerous, and the ones most often emphasized include: better motivation, and better communication between PE teachers and students in the educational process. The extent to which didactic media will be used to acquire knowledge through PE teaching or through free and optional physical activities depends a lot on the affinity and interest of the PE teacher, as well as the school management. Although this paper has covered one segment of pedagogical work - the application of didactic media in PE teaching, these lines should hopefully arouse new interest in further research in this field.

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ZNAČAJ DIDAKTIČKIH MEDIJA U FIZIČKOM VASPITANJU

Cilj ovog rada je da se predstavi značaj modernih, elektronskih didaktičkih medija u realizaciji nastave fizičkog vaspitanja (FV). FV pomaže učenicima da postanu vešti, aktivni, zdravi, odgovorni, nezavisni i kompetentni, sposobni da razmišljaju analitički i kritički i spremni da deluju u novim i neočekivanim situacijama. Didaktički mediji otvaraju široku primenu u savremenim časovima FV kojima se želi prevazilaženje nedostataka tradicionalne nastave. To uključuje uvođenje inovativnih modela FV, kao i upotrebu savremenih didaktičkih medija. Prednosti implementacije su brojne, a najčešće se ističu: bolja motivacija i bolja komunikacija između nastavnika FV i učenika u obrazovnom procesu.

Ključne reči: *fizičko vaspitanje, didaktički mediji, učenik, nastavnik*