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STUDY ON TECHNOLOGY AS SUPPORT FOR THE ACTIVITY OF PHYSICAL EDUCATION AND SPORT TEACHERS IN THE PRIMARY AND SECONDARY EDUCATION SYSTEM OF CLUJ-NAPOCA

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ABSTRACT. Nowadays, technology is considered by older generations as the reason why a big part of young people breaks reality and chooses to spend most of their time in front of small screens. In parents' perception, this period of time could be exploited through other activities, such as increasing school performance. In spite of the multitude of accusations about the use of technology, this also has a great number of benefits in terms of the educational process. The effective teacher will need to understand that we need to guide students to use technology for educational purposes, not just for recreational leisure activities. Fast access to technology, in our everyday life, forces us to increasingly associate education with technology (Yücel & Koçak, 2010). Traditional teaching practice, learning methods and course content are all affected by the evolution of technology (Cingi, 2013). Living in the 21st century, where technology, the internet, the computers, the smartphones, and all the accessories that come with them are part of our lives every day. The fact that we have access to a huge range of information has led us to check how much, what and how teachers of Physical Education and Sport, who teach in schools of Cluj-Napoca, use these devices in order to prepare their didactic activities, but also during this didactic activity.

Key words: *technology, computer, smartphone, didactic activity, physical education, school.*

REZUMAT. ***Studiu privind tehnologia ca suport pentru activitatea profesorului de Educație fizică și sport din sistemul de învățământ preuniversitar din Cluj-Napoca.*** În zilele noastre tehnologia este considerată de generațiile anterioare ca fiind motivul pentru care cea mai amare parte a tinerilor se rup de realitate și aleg să își petreacă majoritatea timpului în fața micilor ecrane. În percepția părinților această perioadă de timp ar putea fi

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valorificată prin alte activități, cum ar fi creșterea performanțelor școlare. În ciuda multitudinilor de acuze aduse tehnologiei, aceasta prezintă și un umăr mare de beneficii în ceea ce privește procesul instructiv-educativ. Profesorul eficient va trebui să înțeleagă că trebuie să îndrume elevii în vederea utilizării tehnologiei cu scopuri educaționale, nu doar pentru activitățile recreative desfășurate în timpul liber. Accesul rapid la tehnologie, în viața noastră de zi cu zi, ne obligă să asociem tot mai mult educația cu tehnologia (Yücel & Koçak, 2010). Practica tradițională de predare, metodele de învățare și conținutul cursurilor sunt toate afectate de evoluția tehnologiei (Cingi, 2013). Trăind în secolul XXI, unde tehnologia, internetul, calculatoarele, telefoanele și toate accesoriile care vin cu acestea fac parte din viața noastră, zi de zi. Faptul că avem acces la o gamă uriașă de informații ne-a determinat să verificăm cât, ce și cum folosesc profesorii de Educație fizică și sport, care predau în școlile din Cluj-Napoca, aceste aparate pentru pregătirea activităților didactice dar și în timpul acestor activități didactice.

Cuvinte cheie: *tehnologie, calculator, telefon „smart", activitate didactică, educație fizică, școală.*

Objectives

The objectives of our research were:

1. To identify the extent to which Physical Education and Sport teachers use technology (smartphone, desktop computer, laptop) to prepare for the didactic activity with children;

2. To identify the extent to which Physical Education and Sport teachers rely on technology (smartphone, desktop computer, laptop) during the didactic activity with children;

3. To find out the opinion of Physical Education and Sport Teachers on the obligation for a teaching staff from 2020 to have the necessary skills for technology use when they prepare for the didactic activity with children.

Material and methods

Our study took place in 26 schools in Cluj-Napoca, where 52 Physical Education and Sport teachers were interviewed using a 13 items questionnaire. All teachers teach in the primary and secondary education system. The questionnaire we built was self-designed, and aimed to meet research objectives. All interviews were applied in May 2018.

The first item in the questionnaire measured the types of technological devices that Physical Education and Sport teachers have: smartphone, desktop computer, laptop and smart watch.

The following 3 items were of general interest for the use of each type of technology (smartphone, desktop computer, laptop) with 6 response options: Socialization (FB platforms, Instagram etc.), Communication (e-mail, messenger etc.), Games, Entertainment (movies, news, etc.), Education (articles, books, etc.), Preparation for didactic activity (attendance book, planning, etc.).

In order to achieve the first objective of our research, we introduced 2 specific items for the physical education and sport activity (items 5 and 6 of the questionnaire), item 6 being an open-ended response to find out which type of device is used to plan the didactic activity.

The second objective of the research was verified with the aid of items 7 and 8, item 8 being an open-ended response to find out which type of device is used during the didactic activity.

To meet the third objective of the survey, respondents were asked for an opinion on the effectiveness of a future teacher in 2020 who is unable to use technology to prepare for teaching.

Of the 52 interviewed teachers, 35 were male and 17 females. The 50 respondents who revealed their age belonged to the group of 36 to 50 year's old (see Figure 1). Two respondents didn't say how old they were.

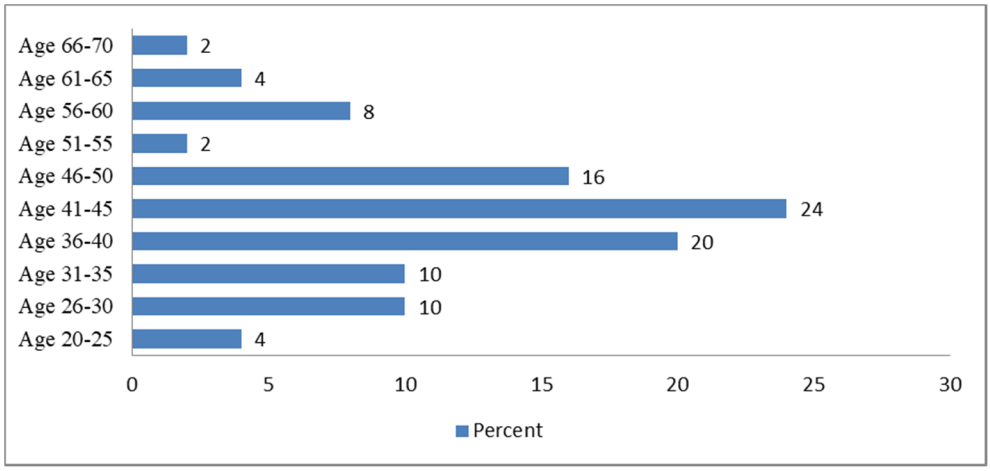

Chart 1. Age of subjects

Results

Of the interviewed teachers, they almost all have a smartphone, many of them having a laptop or a desktop computer. Details can be seen in Chart 2.

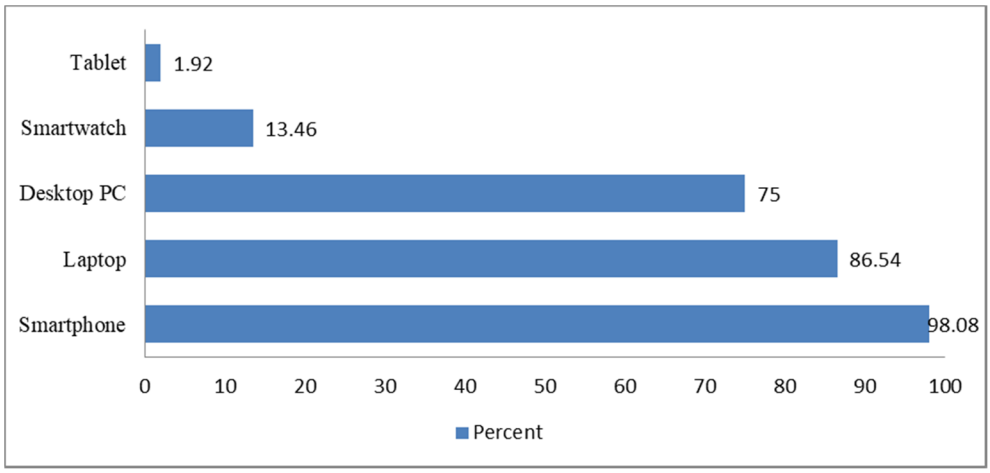

Chart 2. Types of appliances owned by respondents

The smartphone is most often used to communicate or to socialize. In order to prepare for the teaching activity, only 40% of the subjects use the smartphone. Details can be seen in Charter 3.

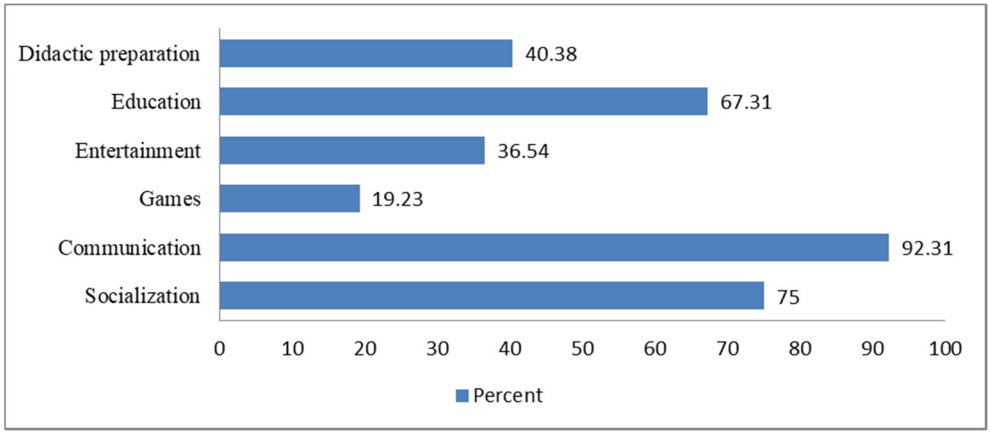

Chart 3. Activities in which subjects use the smartphone

The desktop computer is used in a high percentage for didactic preparation (almost 76% of teachers). Charter 4 provides more details.

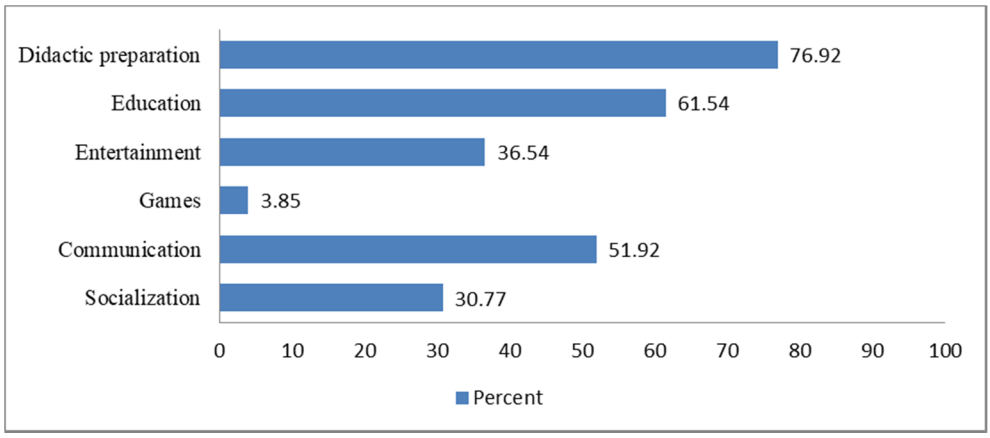

Chart 4. Activities in which subjects use the Desktop PC

The laptop is also used in a high percentage to prepare for teaching, as shown in Charter 5.

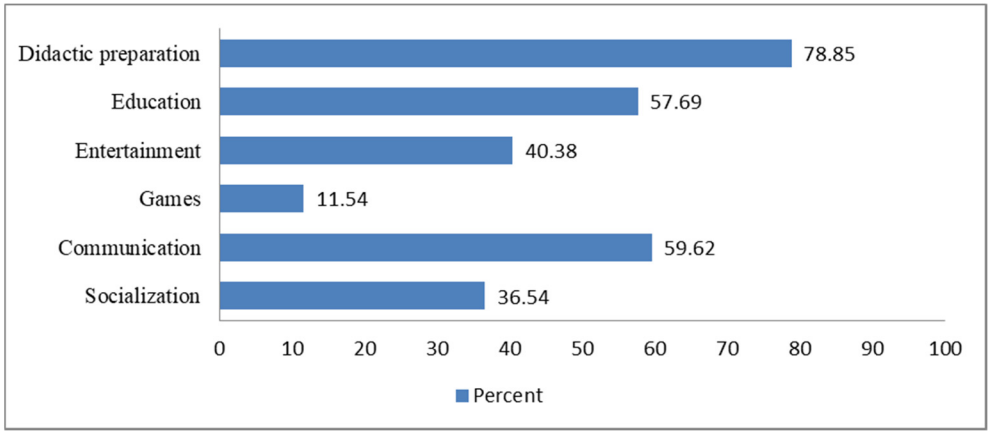

Chart 5. Activities in which subjects use the laptop

From all the operations that teachers perform when they prepare for their teaching activity, we observed that the technology they have is mostly used for planning.

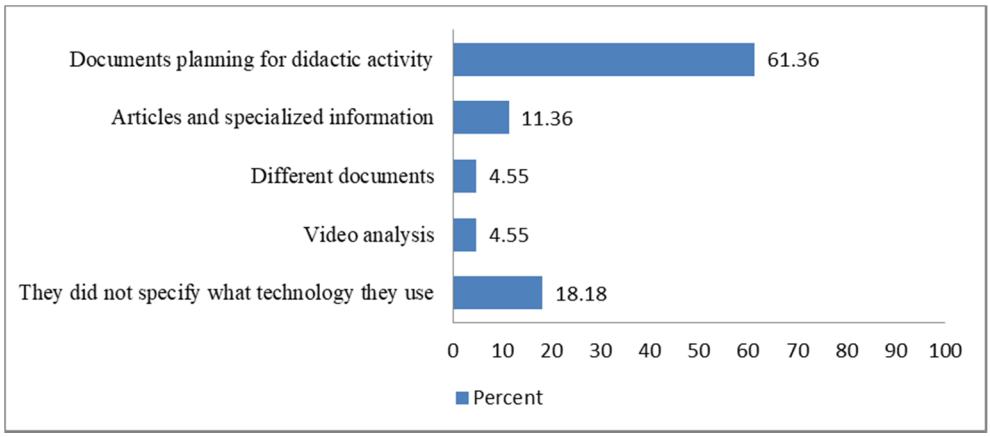

Chart 6. The purpose of using technology in teaching

As regards the use of technology as a support, during the teaching activity, 42.31% responded positively. The most common device used during the teaching activity is the laptop (almost 41% of the respondents that use the technology), the smartphone being the second (see Chart 7).

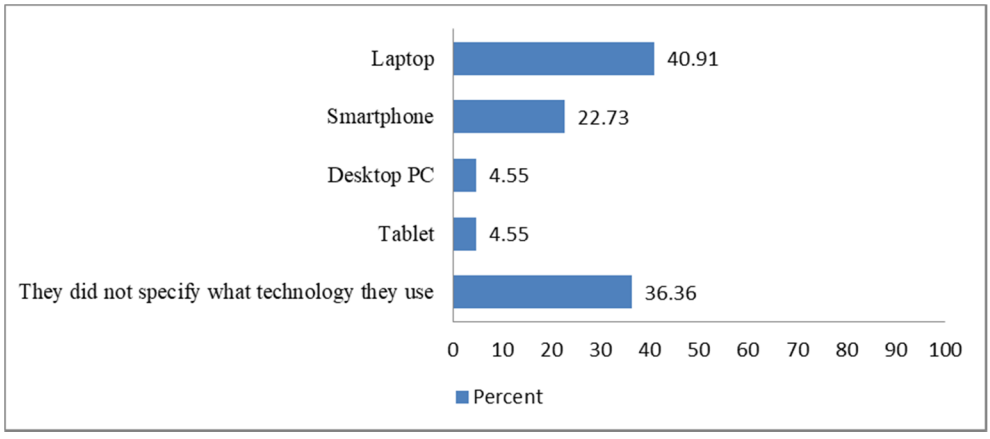

Chart 7. Type of device used during teaching (percentages refer only to those who have mentioned that they use technology during their teaching activity)

The main purpose of the use of technology for physical education teachers is for video analysis (see Chart 8).

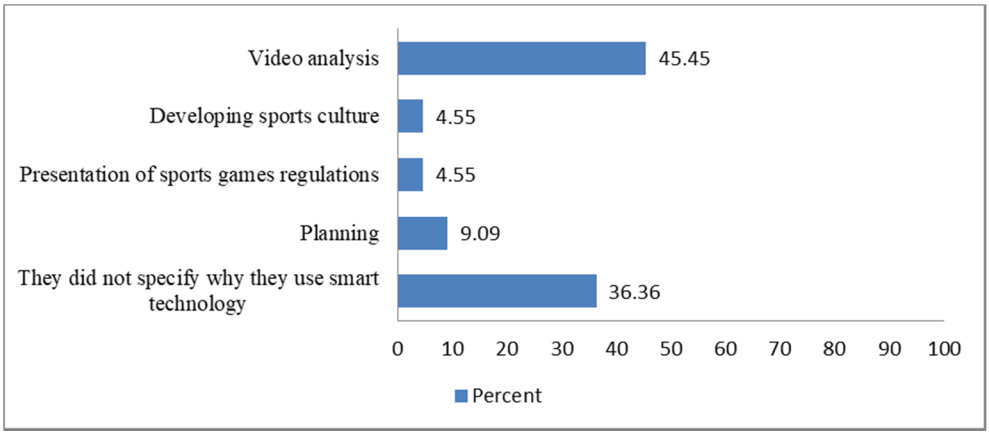

Chart 8. The purpose for which they use technology during their teaching activity

To the question "A teacher who doesn't know how to use a computer in order to prepare his (or her) teaching activity will be an efficient teacher in 2020?" A great percent of the teachers (84.62%) answered negatively. There are, however, few teachers (15.38%) who accept that they can prepare for didactic activity without the necessary skills to use a computer.

Discussions

Almost all teachers have a smartphone (98%) and many have a laptop (86%). The smartphone is used for communication and socialization, which was to be expected given the purpose for such a device and the popularity of socializing applications. However, a higher percentage of teachers (40%), more than we expected, also use the smartphone to prepare for teaching. Instead, the desktop computer and the laptop are the most used devices for the preparation of didactic activity. Both have registered a percentage close to 80% of the respondents. This is a good thing because the technology-based teachers are highly appreciated, as we already know, due to the fact that individuals with specific skills are more effective when using information, solving problems and making profitable decisions about their professional activity (Yücel & Koçak, 2010). In this highly competitive world, it is becoming increasingly important to learn more and faster (Cingi, 2013).

All three types of devices (smartphone, laptop and desktop computer) are used, without regard to preferences, especially for planning (61%). The next activity for which technology is used is to read articles and specialized

information. It is to be appreciated the large number of teachers who use technology to plan the activity, but we must point out that this is not the only activity for which technology can be used to prepare the didactic activity for physical education and sport. Effective video analysis can be done using, for example, a free, well-known application: BS Player (Văidăhăzan, 2017, p. 40). There are applications that help us to transfer information between different devices, such as transferring video from your phone to your computer to perform a video analysis recorded during your didactic activity (eg, Feem application, see Văidăhăzan, 2017, p. 61). It is highly recommended to use technology more often to analyse specialized information that is abundant in our field. We believe that the 11% of those using technology for articles and information is far too small nowadays.

As regards the use of technology during teaching, a little over 40% of teachers said they were using it. They use, in particular, the laptop (17.31% of the teachers who are using the technology) and very few use the smartphone (9.62% of the teachers who are using the technology). The main purpose for which technology is used during teaching is video analysis (45%). Technology is insufficiently used to present sports regulations or to develop sports culture (we recorded a 4.55% percentage for each).

Traditional teaching practice, learning methods and content of courses have all been affected by the introduction of technology (Cingi, 2013). Young people would not imagine their day-to-day activities and habits without technology, so why should we put technology aside when it comes to teaching and learning? On the contrary, we should exploit as much as possible the advantage of having access to information, the useful approach which technology can offer us when it comes to learning and teaching (Trepule, Tereseviciene, & Rutkiene, 2015).

It is difficult, we acknowledge, reorganizing teaching in physical education and sport so that we use a high percentage of technology. This can be done only with proper investment (money, time, goodwill) but widespread use of technology in physical education improves the teaching effect and makes the teaching process "alive" (Chen & Xia, 2012).

Among the advantages of using technology during the teachers' activity we would like to mention:

- monitoring heart rate in more demanding lessons for an accurate approach to effort dynamics (a simple and handy system is the one proposed by Văidăhăzan, Hanţiu, Pop, & Patrascu, 2015);

- providing real-time bio-feed back with a phone and a laptop and MirrorOp like app (see Văidăhăzan, 2017, p. 90);

- monitoring the execution rate of some exercises, using a metronome app (see Easy Metronome, Văidăhăzan, 2017, p. 122);

- keep track of student performance by quickly registering it on your smartphone and removing tens or even hundreds of sheets of paper.

There are many other ways of using technology during physical education and sport. Regardless of the way we choose, we are convinced that positive benefits and results in this direction will only come with the appropriate willingness and training of physical education and sport teachers in this respect, as other researchers in the field already sustained (Chen & Xia, 2012).

A high percentage of teachers involved in this research (almost 85%) believe that in 2020 a teacher who does not know how to use the personal computer is an inefficient teacher. We note, however, that not all teachers agree with this statement. There is still a percentage of 15% stating that this is not an impediment to the effectiveness of the teaching staff.

Conclusions

As a result of our research, we can state that physical education and sport teachers use technology to prepare for teaching, but this training focuses only on planning, for the most part, and little on the research for articles and specialized information.

Regarding the use of technology during didactic activity in physical education and sport, the percentage of teachers is small, and the main reason is only for video analysis. We admit that we need further research to objectively identify the factors that are an obstacle for teachers to use the technology in a diversified manner during their physical education and sport lessons.

We are a bit surprised that not all teachers agree that specific technology and skills are absolutely necessary for future teachers. It is true that there are many levels of efficiency and it is true that physical and sport education can be achieved, at some level, without the help of technology but, in our opinion, there is a huge difference that technology can bring into teaching nowadays. We hope, however, that in 2020 all teachers become aware of the added value of a smartphone or a personal computer to prepare or to carry out the didactic activity in Physical Education and Sport at school.

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