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Original Article

Attitudes of parents of preschool children towards the frequency and aspects of the use of computers

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Abstract:
It is a fact that nowadays computers are educational and technological innovation whose potentials exceed the possibilities of other media. By introducing computers into homes, preschool institutions and schools, they become an intellectual tool which possesses the attribute of the time in which we live. Besides the theoretical analysis of the topic, this work also presents the results of an empirical research on the attitudes of parents of preschool children, in certain towns in Montenegro, about the frequency and aspects of the use of computers in preschool age.
Acquired data point to the conclusion that a large number of parents do not have adequate knowledge of the harmful effects of using those computers that are not adjusted to children's age and which could save children's health, especially when the time spent in front of the computer is too long and not controlled. Nowdays, a computer is a new toy" with which in a large number of cases children replace their outdoor activities, spending time with their peers and parents. Using computers at this age has its benefits, but also weaknesses which can be avoided by adequate education of teachers in high education institutions focused on the work and playing with children, as well as by education of parents in terms of children's use of the computer at home. All this education will help to adjust and ensure the conditions for preschool children's work with computers, which are important for protecting a child's health, but also for the maximal utilization of multiple benefits which these conditions provide, and which are related to the psycho-physical development of preschool children.
Key words: questionnaire, computers, preschool age, parents.

Introduction

Using computers in everyday work, life and play day-to-day, is ever-increasing. The Statistical Office of Montenegro in 2011 carried a research on the use of the internet and obtained a result that the percentage of people aged from 16 to 74 who used computers was 53.2%, whereas the percentage of those who never used a computer was 46.8%, 76.6% of them used the internet every day or almost every day, which is a considerable number, and 17.5% of people used the internet at least once a week. These Montenegro statistics are lower with estimates from other developed countries that between 70% and 90% of preschoolers use a computer at home or school (Johnson, 2010). Today, the number of people using the internet is certainly much larger, which is favoured by the data that many municipalities have installed a free Wi-Fi signal for their citizens, and the majority of citizens nowadays use smartphones which without any trouble connect to this signal, and "a window to the world" is open to them in any moment.

In the 21st century, computers have been important influences in children's lives (Calvert, 1999).The computer serves as an important influence in children's lives through the role it can play in experiential learning (Samaras, 1996; Linn & His, 1999). Computer can also function in children lives as a multipurpose tool in helping them to achieve academic goals and become more creative (Bank & King, 1999). Clements & Samara (2003) recommended computer technology as a tool for improving children's learning through exploration, creative problem solving and self guided instruction.

Computers found their way to almost every family. What once was television, nowadays are, certainly, computers. By more frequent use of computers in the family, they become available to children of all ages, including preschool children. Young children are using digital technology devices anytime and anywhere, especially with the invention of smart phones and the replacement of desktop computers with digital tablets (Strader, 2011). In a research (Rideout et al. 1999) which encompassed children and teenagers, and which asked them to answer which media they would carry with them to a lonely island, the majority of them answered: a computer with the internet. There is a constant rise in the number of children who spend a considerable part of their leisure time in front of the computer (Dmitrić & Janković, 2011). Physically, preschool children with

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increasing computers use tend to be less physically active, increasing the risks of obesity and musculoskeletal problems (Bremer, 2005). Given that their body is very susceptible different influences, whose effects are manifested in the later period, must be taken into account that some negative effects is not possible or is very difficult possible to fix a later age (Pantović et al. 2012). There is a huge responsibility of parents: from what age in front of the computer? To what extent? What are the consequences? Large number of parents also expressed concern that eyesight of their children got affected by using computers (Dhingra et al. 2009). To this and similar questions, there are no answers and definitive stances. Surrounded by phones, tablets, smartphones, television, video games in which violence dominates (Provenzo, 1991), children adapt to the new digital surrounding thus developing the knowledge and competences necessary for this. Ina very fast manner, they acquire the rules of computer games, solve problematic situations on the computer, use it for communication, creating, searching, analyzing, learning, and for other activities. Already in early childhood children are fluent in the "digital language" and the language of video games. By using the computer, everything is possible and available to them.

One of the great challenges of the modern society is the development of abilities for generating knowledge and data processing, especially in children (Castells, 2003). Information literacy is regarded as general and implied, and the emphasis is placed on acquiring skills for data search, their combining, and using the knowledge for those purposes which an individual will need during his or her lifelong learning. The basic habits of using computers in play and leisure can be acquired already in the institutions dealing with early upbringing and education. Correct use of computers in an early age makes the educational process more interesting, more high-quality, more creative, and more accessible to children, and it contributes to a more high-quality integration of diverse contents (Elston, 2007). Hasebrink et al. (2008) found that computer have many opportunities like entertainment, information, education, communication, networking, creativity, play and civic participation for children. Jackson et al. (2006) found that children who used the Internet more had higher scores on standardized tests of reading achievement and higher grade points than children who used it less.

Technologically advanced toys introduce the child to the world of computers even from an early preschool age, and therefore the best time to start using the computer is when the child shows an interest for that (Elston, 2007). The use of computers at home and in educational institutions should be methodologically well designed and controlled. It very often occurs that children spend too much time in front of the computer. A research carried out in the United Kingdom by a company called Childwise Research Agency on a sample of 1800 children aged from five to thirteen, shows that daily, children spend up to 6 hours in front of a computer, 2.7 hours in front of a TV, 1.5 hours on the internet and 1.3 hours in front of game consoles.

It is up to the teachers and parents to enable children to use a computer correctly, and before allowing this, to set up the rules for using a computer (time rules, exercises and the like) in order to avoid the possible negative effect on the social and emotional development of a child.

Material & Method

The aim of this research is the gain an insight into the issue of the use of computers of preschool children inside the family. The instrument of the research was in the form of standardized questionnaire which was taken from and modified on the basis of Tatković & Ružić (2011): (1) Does your child use a computer, (2) For which purposes does your child use a computer, (3) How much time daily does your child spend in front of a computer, (4) How often in a week does your child use a computer, (5) How many times did you replace going outdoors with your child, with taking rest in front of a computer.

The simple encompassed 254 examinees in total, involving parents and children who attend kindergartens in towns across Montenegro, in Nikšić (87), Podgorica (40), Danilovgrad (20), Bar (26), Herceg Novi (30), and Tivat (51). For the purposes of this research a questionnaire that provides answers relevant to this work was used. Parents were acquainted with the fact that the questionnaire was anonymous and that the results would be used solely for research purposes. After the analysis and data processing by means of appropriate methods of descriptive statistics, the obtained results will be shown in the tables.

Results

(1) Does your child use a computer?

From responses to this question, the following results were obtained:

From the total of 254 parents (Table 1.), 181 of them (71.3%) responded positively, which represents a considerably large number, while 73 parents (28.7%) responded negatively and they did not take part in the later part of the questionnaire, because the questions were solely linked to those parents whose children use a computer.

Table 1. The percentage of children's use of computers.

Does your child use a computer?	**N**	**%**
Yes	181	71.3
No	73	28.7
total	254	100

(2) For which purposes does your child use a computer?

The question was related to on which things children use most of their time when using a computer:

a) drawing
b) educational games
c) internet

To this question 66 parents (36.5%) reply that their children use a computer for drawing, 73 parents (40.3%) say that children use it for educational games, and the rest, 42 of them (23.2%), see that their children use a computer in order to be on the internet (Table 2.).

Table 2. Ways in which children use computers

For which purposes does your child use a computer?	**N**	**%**
drawing	66	36.5
educational games	73	40.3
internet	42	23.2
total	181	100

(3) How much time daily does your child spend in front of a computer?

To this question the interviewees stated the following: 53 parents (29.3%) state that their children spend in front of a computer a maximum of half an hour daily, 78 of them (43.1%) say that their children spend one hour daily, and 50 parents (27.6%) say that this is more than two hours daily (Table 3.).

Table 3. The time which children spend in front of a computer daily

How much time daily does your child spend in front of a computer?	**N**	**%**
up to half an hour	53	29.3
from half an hour to one hour	78	43.1
more than two hours	50	27.6
total	181	100

(4) How often in a week does your child use a computer?

To this question 40 parents (22.1%) said that their children use a computer only once a week (Table 4.), 93 parents (51.4%) answered affirmatively that their children use a computer from two to five times a week, while 48 of them (26.5%) said that their children use a computer every day.

Table 4. How many times in a week do children use a computer?

How often in a week does your child use a computer?	**N**	**%**
once a week	40	22.1
2-5 times a week	93	51.4
every day	48	26.5
total	181	100

(5) How many times did you replace going outdoors with your child, with taking rest in front of a computer?

By answering to this question, almost half of the interviewed parents (47.5%), 86 of them (Table 5.), said that they never replaced going outdoors with their children with taking rest in front of a computer; 65 of them (36%) said that they do this occasionally, and the remaining 30 parents (16.5%) said that they always do this.

Table 5. Replacing outdoor activities with taking rest in front of a computer

	How many times did you replace going outdoors with your child, with taking rest in front of a computer?	**N**	**%**
	never	86	47.5
	occasionally	65	36
	always	30	16.5
total		181	100

Discussion

Of the total number of interviewed parents, 254 of them, we received a data that 181 child (71.3%) used a computer, which is a significantly high percentage for this age, whereas 73 children (28.7%) did not use a computer, which is very similar to a research carried out by Tatković & Ružić (2011) who, on a sample of 60 examinees of preschool age, concluded that 67% of children in total used a computer. The majority of them who used a computer, 76.8% used it for drawing and educational games, and 23.2% used it only for watching cartoons or playing games on the internet. This proportion is good only if drawing and educational games are suited for the children's age and pedagogically well designed. The selection of high-quality games justifies the use of computers as a means of children's play, but this should by no means replace children's games outdoors and creative games that have an enormous importance to the development of preschool children. Paul & Attewel (2003) conducted a study in which they compared young children who spent time at home on activities such as reading, sports or outside play and children who use home computers a lot for over 8 hours a week. It was found that computer users spent much less time on sports and outdoor activities than non computers users. Computers have a large potential and are of benefit to children of preschool age when they are used in an appropriate way in terms of children's development (Haugland & Wright, 1997; Haugland, 1999). A computer is used from half an hour to one hour daily by 72.4% of children, and 27.6% do this more than two hours daily, which should concern their parents, because for this age that amount of time spent in front of a computer is alarming. Excessive computers use has ramifications for the emotional, psychological and social aspect of a child's everyday life, affecting their family and school life (Wu et al. 2014). From two to five times a week a computer is used by 51.4% of children, while 26.5% do this every day, which is related to the results of the previous question and confirms that nowadays a computer is an irreplaceable "toy" in children's hands. One of the main critiques of computers is that in children of this age they will lead to reduced interaction and to generations that will be socially isolated (Barnes & Hill, 1983). The data of this research point to a conclusion that a large number of parents do not have adequate knowledge of the harmful effects of the use of computers that are not suited to children's age and which can save children's health, especially when the time spent in front of a computer is too long and not controlled. A confirmation of this is the data that 36% of parents occasionally rather replace going to the nature with their children with taking rest in front of a computer, while 16.5% of them always do this!!!

Conclusions

The results of the completed questionnaire are related to preschool children who in a large percentage their leisure time spend in front of computers which are not suited to their age, and that computers slowly replace different creative games of entertaining character as well as outdoor sports games, which were, for this age of children, irreplaceable in the previous period until the market became dominated by computers. Furthermore, the results also say something about the passivity of parents, who do not o anything in this matter, i.e. to direct their children towards the use of a computer which will be useful to them, with the time limit adequate for this age of children.

At home and in educational institutions are often used computers that are not suited to children, but to adults. If parents and educational institutions are not capable of providing computers that are solely aimed at children, then it is necessary to adjust the work surrounding as best as possible to children's age. There are certain rules of how to use a computer: the screen should be in line with the a child's eyes, and the child should be sitting on a chair correctly (without leaning to the sides), feet should be supported by a small bench (if the computer is not placed on the child's table and the child is using his/her own chair), elbows should be bent at right angles which enables the correct use of a keyboard; it would be advisable to replace a "big" mouse and a "big" keyboard with a smaller mouse and an adjusted keyboard in order to reduce the risk of injuries and the tension on the fist. It is necessary to train children to frequently look away from the screen and focus on distant objects, from time to time do stretching exercises, and make a break every twenty minutes so that using a computer would not cause negative health issues. In order to make it easier for children to use a computer and to help their orientation in the Windows surrounding full of different icons (examples of desktops), it is necessary to try the following techniques: create shortcuts to the programmes which a child most frequently uses, create a shortcut for shutting down the computer, purchase a keyboard and a mouse suited to the child's age, LCD monitor, a desktop suited to children's age, configure the mouse for a „single-click", install a programme for filtrating the content during the use of the internet.

Today, parents most often buy computers to children in order to satisfy their interests and the need to be up to date. As part of this, it very often occurs that many parents simply do not have the time to expand their computer knowledge, in order to be up to date themselves. Ina research carried out in Serbia, Bosnia and Herzegovina, Slovenia, Italy and Montenegro (Rajović et al. 2012), it was determined that over 65% of children of preschool age have a computer in their room. In that way children independently learn to work on the computer, by playing entertaining games, not knowing that there are also educational games, thus using this powerful and creative technology for wrong purposes. The computer has exceptionally positive but also negative effects. It depends solely on parents and educational institutions how to direct a child towards working on the computer. Educational programmes and well-designed games enable the child to experiment, research and discover, evaluate, analyse his/her strategy, exchange their experiences with other children, bring their knowledge and skills to the highest level.

The question of children's use of computers is very complex and should therefore be given appropriate importance in the process of the development and education of children in preschool institutions, as well as to that use of computers realized in the family and other educational institutions. A computer is nowadays a new "toy" which for a child has a magical power, which insensible takes their hours and days. As any other didactic means, computers have their advantages but also their disadvantages which can be avoided by adequate education of teachers in preschool institutions as far as children's work and playing with computers is concerned, as well as by education of parents for a child's use of a computer at home. A good knowledge of adjusting and providing conditions for work on a computer for preschool children is important for protecting children's health, but also for a maximal utilization of numerous advantages of computers for psychophysical development of children of preschool age.

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