THE INFORMATION AND COMMUNICATION TECHNOLOGIES AND PRESCHOOL CHILDREN

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Abstract

The fast development of information and communication technologies (ICT) caused significant changes in almost all areas of human life especially in education. The generations, which are born after the new information and communication technologies accepted ICT as something normal. These generations some call them "net generations" are learning on different way as elder generations using advantages offered by the ICT. In that sense it is interesting to see which ICT knowledge and skills have the preschool children. Because IPAK institute is participating in LLP project NEST covering early learning we decided to investigate the level of ICT knowledge and skills when preschool children are starting to go to elementary school. We did this research in Slovenia, Croatia and Bosnia and Herzegovina. The results of investigation show that the level of ICT knowledge and skills of preschool children are high and use of ICT could improve educational process in elementary schools

Key Words: Information and communication technologies, early learning, preschool children.

INTRODUCTION

The fast development of ICT especially of Internet significantly changes almost all human activities, especially the way how we learn. Dan Tapscott (1999) in his well known book is talking about "net generation, which is learning different then previous generation. It looks like that as T. Kuhn (1996) pointed in his seminal book The Structure of Scientific Revolution, generation born after technology accept it as something quite normal and natural, however elder generation have problems in this process. The young generation is becoming more visual (Naisbitt 2006) and the classical literacy is not so important as it was in the past.

Because of this " paradigm shift" we decided to investigate the level of ICT knowledge and skills, which have the children entering to school. The information and communication tools became quite accessible to the children at preschool level. They have computers tablets, smart phone access to the internet. They start to use quite young. Several of them cannot read but are using their visual abilities to browse on internet searching and finding what they want. Sometimes they need minor support of elder as to key in some keywords and that

is all. At same time there is a lot of different content presented in the form of game which children can use easily.

The aim of this work was to determine the level of use of ICT at preschool children. The specific objectives were as follows:

- To investigate the accessibility of ICT devices and tools to the preschool children
- To determine how much preschool children are using the ICT devices and tools.
- To determine how much preschool children are using ICT for education.
- To investigate how preschools children are using Internet
- To determine the level knowing and use of educational games at preschool children.
- To investigate the importance of early learning and ICT based educational games for preschool children.

THE METHODOLOGY OF INVESTIGATION

The data necessary for investigation have been collected using questionnaire and interviews. The investigation has been realized as follows:

- The sample of children N=14 at Velika Nedelja, Slovenia
- The sample of N=40 preschool children at Zagreb, Croatia
- The sample of N=22 preschool children at Tuzla, Bosnia and Herzegovina

The children were in age from 5 to 7 years.

The questions used in this investigation were as follows:

1) Do you use the computer?
2) Can you switch off the computer?
3) Can you switch on the computer?
4) Can you use Internet?
5) Do you play computer games?
6) Is it easier to you to write on computer?
7) Where is the letter G (on keyboard)?
8) Do you know to type numbers using keyboard?
9) Do you learn watching educational cartoon?
10) Do you learn playing games?
11) Do you know some didactical game?
12) Do you browse on World Wide Web?
13) Do you know what YouTube is?
14) Do you know what Google is?
15) Does the compute help you to learn faster?
16) Do you write faster on computer or on paper?
17) Where do you prepare to write: on computer or on paper?
18) Which device you prefer to use: cellular phone, computer or tablet?
19) In school you will prefer to use: cellular phone, computer or tablet?
20) Your parents are using every day: cellular phone, computer or tablet?

As it can be see the questions are prepared so that important topics are covered namely: basic skills for using ICT, education and ICT, writing and ICT and preferences of ICT devices.

RESULTS

We have presented the results in several tables because the answers to questions could not be presented on uniform way.

The results connected with the knowledge and skills how to use computer and learning with modern technology are presented in the table1.

Table 1: ICT Skills of Preschool Children

Country	Slovenia		Croatia		Bosnia and Herzegovina	
Question No.	Yes	No	Yes	No	Yes	No
Do you use the computer?	14	0	39	1	22	0
Can you switch off the computer?	12	2	36	4	20	2
Can you switch off the computer?	14	0	36	4	20	2
Can you use Internet?	12	2	36	4	19	3
Do you play computer games?	14	0	39	1	18	4
Is it easier to write on computer?	14	0	36	3	14	8
Do you know to type numbers using keyboard?	14	0	38	1	22	0
Do you learn watching educational cartoon?	7	7	37	2	8	14
Do you learn playing games?	5	9	36	3	8	14
Do you know some didactical game?	13	1	36	3	12	10
Do you browse on world Wide Web?	11	3	30	9	19	3
Do you know what is Youtube?	12	2	26	13	8	14
Do you know what is Google?	9	13	26	13	9	13
Does the computer help you to learn faster?	8	6	35	4	9	13

As it can be seen from data in table 1, almost all children have access to the computer and have basic skills necessary to use them. Much less (in Slovenia and Bosnia and Herzegovina) are using computer technology to learn. The same is with Internet.

In table 2 is presented the answer in which children have to define the position of letter G on keyboard. The results are very different. It looks like that question was not understood well or they had problem to define what is left, middle and the right.

Table 2: Recognition of Letter on Keyboard

Question: Where is the letter G on keyboard?			
Country	Left	Middle	Right
Slovenia	13	1	0
Croatia	1	35	3
Bosnia and Herzegovina	5	10	7

In table 3 are answers on questions connected with the writing. More children write faster on computer and prefer to use it for writing. Although there is still significant number of them which use and like paper.

Table 3: Writing on Computer

Country	Slovenia		Croatia		Bosnia and Herzegovina	
Question No.	Computer	Paper	Computer	Paper	Computer	Paper
Do you write faster on computer or paper	8	6	18	21	15	8
Do you prefer to write on computer or paper	10	4	18	21	14	9

In Table 4 are presented the answers on questions connected with the use children prefer to use. It is interesting that tablets are most popular device. Somehow that is proof that we are going to visual society in which writing and reading will be not so important as earlier.

Table 4: The preferred ICT device

Country	Slovenia			Croatia			Bosnia and Herzegovina		
Question	Phone	Computer	Tablet	Phone	Computer	Tablet	Phone	Computer	Tablet
Which device you prefer to use: cellular phone, computer or tablet?	1	2	11		10	29	9	4	9
In school you will prefer to use: cellular phone, computer or tablet?	14	14	14	10	17	32	7	4	11
Your parents are using every day: cellular phone, computer or tablet?	14	10	4	26	29	20	22	22	18

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CONCLUSION

From analysis of data we can conclude that:

- Young generation become more ICT literate and less functional literate requiring writing and searching.
- Most of preschool children have computers, cellular phones and tablets and have necessary skills to use them.
- Although they have experience with internet they are not using all functions.
- The potential of ICT for education is not used as much as it could be.
- There is a big opportunity to improve educational process using ICT on proper way.

There are differences between countries however it has to be investigated on much larger sample and in different environment.

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REFERENCES

.T. Kuhn (1996). The Structure of Scientific Revolutions. Chicago: The University of Chicago Press.

D. Tapscott (1999). Growing Up Digital: The Rise of the Net Generation. New York: McGraw-Hill.

J. Naisbitt (2006) Mind Set! Reset Your Thinking and See the Future. New York Collins.