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Technology Addiction in Children

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Abstract

Uncontrolled and inappropriate use of technology (mobile phones, tablets and PC) among pre-school children is harmfulto their physical and mental development. The use of technology at this age should not be limited to 30 minutesper day.Anything over that timecan cause addiction.Even during this interval,the use of inappropriate content i.e., games, social networks may not encourage deepanalytical thinking; instead,it makes a 'flow water heater' from a brain causingthe reception of a huge amount of information that cannot be processed or stimulated by the brain to solve problems and develop synapses that are responsible for functional thinking.On the other hand, during that period, children experience a range of emotions such as sadness, anger, happiness, fear, love, surprise, disgust, and shame.These emotions cause an increasein serotonin levels, which functions as a form of morphine in children's brain. It is much more effective for a child to engage in some form of motor activitiese.g., playing, climbing or crawling which successfully stimulates the formation of synapses in the child's brain. This new generation of children addictedto technology in schools creates problems. The aim of this paper is to outlinethis multifacated problem.

Keywords: serotonin/morphine, technology addiction, traditional school, educational software, motor activity/functional thinking

Introduction, parents are uninformed

Due to ignorance, and more often unjustified preoccupancy, many parents indulge their children by letting them to use IT devices too early (mobile phones, tablets, PC), in order to make them calmer and obedient. This is already happening to children who have not been attending preschool yet! Thereby, they do not think about possible consequences – they are making a mistake!

The reasons of problems are uncontrolled time intervals and inappropriate contents, which have been used/visited on these devices, which has unwanted impact on children's physical and mentaldevelopment such as: 1) wearing glasses at the very young age – these devices should be used at distance of 20–25 cm, on which eyescan be quickly accustomed, and dynamic accommodation of the

eyes is developing slower on objects at bigger distance – which causes reading problems; 2) due to long-term use of computer mouse, difficulties in writing occur later on – a child does not know howto hold a pencil properly; 3) due to sitting for many hours, obesity and poor posture occur, causing spine problems. However, these are just some of the possible problems (Rajovic, 2009).

Whether will come to this, it depends on determination, authority and how wellthe parents are informed.Technologyis helpful but when it comes to children, parents, educators, teachers they need to know some rules. Namely, the daily use of IT devices by preschool and children in elementary school should be limited. The use of technology during the day for them should not be longer than 30 minutes or maximum up to 1 hour but not in continuity.Everything over that time causes addiction. Namely, the use of inappropriate content even in this time interval (video games, social networks) does not encourage deep thinking – functional thinking.

For example, a child who spends 30 minutes playing a game experiences all possible emotions like sadness, anger, happinessdue to accomplished level of the game, fear, love, surprise, disgust, shame which does not respond to real life or school. In this case, the hormone serotonin, so-called'hormone of apparent happiness', or the kind of morphine, is secreting in the brain of the child, which causes child to be addicted to playing video games – IT. As a consequence, the child wants more time to spend playing on a device.

In such a short time interval, the brain becomes a 'flow water heater' that receives a vast amount of information that cannot be processed and barely register them, which does not stimulate the brain to solve the problem and develop synapses that are responsible for encouraging the functional thinking (Hilcenko, 2008).

It is much more effective for a child to spend that time in some motor activity – games: climbing, jumping, crawling, pulling or turning which successfully

stimulates the formation of synapses in the brain of the child responsible for encouraging a functional or deep thinking (picture number 1) (Hilcenko, 2014).

Picture number 1

Videogames versus educational software

Contemporary software means of IT are essentially interactive and motivational. This is provided by animation, multimedia, interactivity, dynamic, prompt feedback and etc. These characteristics are the same for the so controversial video games that frequently divide professional population in this area, due to their aggressive and stimulus like – destructive contents and therefore labeled this kind of software as improper for school education. However, what is not sufficiently seen explicitly enough is their 'unpredictability' and 'suspense' that drive them even more distant from school anent these characteristics often make the users frustrated, nervous, prone to addiction, negligent towards reality and crate the circumstances for escaping into virtual reality where they can 'reach the goals' which would remain unachieved due to them not having enough persistence or self-confidence.

Yet, it would have been unfair not to mention all the upsides of these video games that impel users to make fast and right decisions, develop required perception and reflex momentum, the traits so necessary nowadays in everyday life related situations and activities. If these aforementioned characteristics of video games would transform from 'unpredictable' and 'suspense' to 'predictable' and 'certain' by redesigning what is quite unlikely because their paramount motif is PROFIT, we would have attractive interactive animated contents incomparably

efficient and applicable for classroom activities in contrary to those 'on the scene' nowadays i.e., traditional means, methods (Hilcenko, 2011).

Whena child comes to school, they experience disappointment, failure and show indifference, resistance, rebellion. Namely, one school class lasts for 45 minutes, and the feelings and expectations on which the child is accustomed are absent. The school is boring to children, and they cannot follow non--motivating teaching – because there is no application feature! For such children, whose number is large, school success is unsatisfactory. Their abilities, such as attention, reading, writing, vocabulary, conversations, are below average. All individuals in this process i.e., parents, teachers, counselors, psychologists, see only the consequences, not understanding the cause of the problem (Hilcenko, 2012, 2017).

In schools in Serbia, they are not encouraging deep, but reproductive knowledge – the accumulation of useless information (the school does not encourage the development of synapses that are stimulated by motor activity and deep thinking – P.E. classes are not realized in accordance with the plan and program, but improvised, teaching curricula have not been changed for decades). For example, the understanding of mathematics is insufficient and it represents a buzz to the children, because well-timed motor games (such as, for example, moving backward = negative numbers) were missing in motor development of children (Rajovici, 2009/2010).

Recommended precautionary measures

The use of IT by children should be strictly controlled by parents in terms of time and content. This will be possible if parents are educated and informed about all possible consequences that causes lack of supervision of children.

Forexample, Nikola Tesla Center ('NTC') has developed a free application that can successfully limit the use of mobile phones to children. The application restricts usingof phone for 30 minutes, and encourages children to motor activity. If a child walks for 4 km during the day, it gets an extra 20 minutes to use mobile phone! The application provides parents with insight into the content and locations that their children visited, picture no. 2, next to (Ingrum, 2018).

Education is the key word for parents, teachers, pedagogues, psychologist developers in order to contribute together to the correct physical and mental development of the youngest and to encourage the development of deep thinking.

Sociologists for years warn us about the fact that traditional teaching/learning methods are not compatible to new generations, born in the digital era. Blackboard and chalk are completely obsolete means in teaching process when the reality of the digital Generation is made of computers, tablets; they interact on virtual social networks and use on a daily basis the Internet. Before anything else the approach to the lessons should be changed. Then teaching means and methods should be altered and improved and the level of interactivity must be raised. If done the opposite way we risk losing the focus and attention of generation to come as we are losing them as they are right now.

a) **The attention has to directed at visual learning methods**

Studies have shown that the young today differ a lot in comparison to older generations. The environment of this generation are graphically rich web technologies, HD screens of high resolutions and large dimensions and overall the satiety with information, as well. The result of these is pronounced perceptive abilities of the young that accept easily visual forms and learn more effectively. The teachers have to go hand in hand with the times and adapt their lectures and class works to the needs of the new generations.

b) **Focusing on critical thinking and problem solving not on memorizing information**

There will always be the ones who will easily acquire some information simply by memorizing. Whether these ones will be capable of using this knowledge in real life conditions and at tasks is the problem. Some consider that today it is especially not necessary to remember some information when they can be reached by the mere click of the mouse at the Internet. It is clear enough that strategically important education must tackle education of the young regarding development of critical thinking and regarding learning the application of knowledge in problem solving and not involve itself in creating experts who will always and in any time be able to tell the exact dates of some historical events, values of mathematical constants or some scientific theorems. The entrepreneurship is considered the basis of future economic development and therefore it is important to train the young and provide them the knowledge that will aid them in the struggle to thrive at the market.

c) **Adapt lectures to the needs of the young**

The big flaw of the Digital Generation is the lack of attention after a while as the result of too much information received. Simply, information saturation and accelerated cognitive activities add to the fact that only after couple of minutes their brain cannot receive new information and it requires rest time. Enough sure, the 45 minute class is impractical when we talk about the attention of the twenty year old students. Lessons should be divided into smaller segments and it is necessary to enable the young the approach to the knowledge when they are ready to acquire. Here we come across distance learning methods, e-learning platforms and systems that can easily be reached via the Internet and that are available at any times (Kuleto, 2012).

Conclusion

The problem we have raised does not mean that we should avoid technology for both educational and entertainment purposes. On the contrary, many researches speak in favor of motivation, efficiency and sustainability of knowledge that are adopted in this way (Hilcenko, 2019).

It is about optimal 'measures of their application and user's age, and on the other side, about education of parents, teachers, pedagogues, psychologists, programmers, and instruction designers.

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