

# The Net-Generation Methods of Learning, Online Activities and Upbringing Outcomes

Vesna Bilić

Faculty of Teacher Education, University of Zagreb

## Abstract

*Members of the net generation are born and grow up in a digital world. They are different in attitudes and behavior from their parents and teachers who had to adapt to digital trends. The introductory part of the paper analyzes their typical characteristics and their special, new-millennium style of learning and gaining knowledge. These skills, which are supported by leading contemporary paradigms (constructivism and connectivism), have provoked interesting changes in the theory and practice of education, but frequently neglected upbringing outcomes.*

*This paper, based on the researched literature, examines possible influences of digital media on the formation of habits and creation of new patterns of behavior that are practiced in learning and everyday activities such as speed, multitasking, searching for information. It researches their immediate profitability and wide span of attention that results in lack of patience, perseverance, superficiality, thoughtlessness and physical and mental laziness. Although the new wave of Internet usage is being associated with positive educational qualities such as sharing, mutual help, support, honesty and tolerance, there are also some negative sides of it, specifically irresponsible and incorrect behavior towards others (electronic violence, disrespect for intellectual property), but also oneself (false self-presentation, (no) self-criticism and invasion of privacy).*

*Since modern technology is forming the young generation and becoming an important force in shaping modern society, the conclusion emphasizes that with positive changes in the educational domain, attention should also be directed towards developing educational qualities such as perseverance, consistency, patience, criticism and self-criticism, responsible behavior, mutual respect and appreciation.*

*It should be noted that, in the Croatian language, education and upbringing are different terms, which is why in the English version we used the terms education and upbringing separately.*

**Key words:** *educational outcomes; moral behavior; patience; perseverance; upbringing qualities.*

## Introduction

Generations of children born and raised in a digital environment are drawing much attention from the public and scientists. It is assumed that technology has a strong effect on their development (technological determinism), and it seems that it is becoming essential for their daily functioning, almost like air (Tapscott, 2011).

Different terms are used to emphasize their connection with technology, such as cyber-children, M-generation (media generation), V-generation (virtual generation), C-generation (a word which synthesizes the terms connected, creative and click-prone to clicking on mouse) (Selwyn, 2009; Jones & Shao, 2011; Lasić-Lazić et al., 2012). The term *homo zappiens* has also become very popular (Veen, 2007; Veen & Vrakking, 2009), derived from lat. *homo*- man and imitating the sound generated when waving with imaginary laser weapons “zap-zap-zap”, and is a metaphor for quick scanning of information on computers and mobile phones. Although there are small differences between the aforementioned names, they are generally considered as synonymous. Since net-generation is one of the more frequent terms (Tapscott, 2011), we will use it in this paper in order to describe the generation that does not know of a world without technology, is born and raised directly connected to the (Inter)net. It seems they are focused on the Internet which is their best friend, third parent and their most important window into the world (Tapavički Duronjić, 2011). Prensky (2005) calls them digital natives and describes them as native speakers of the digital language who are significantly different from the pre-digital generation, especially from their digitally accustomed parents and teachers, whom he calls digital immigrants.

Typical characteristics of this generation are freedom, speed and flexibility (Prensky, 2005; Berk, 2009; Tapscott, 2011). In addition, they are optimistic, team and globally oriented, collegial, rational, extremely curious (Jones & Shao, 2011). They like parallel processes, enjoy immediate pleasure and function best when they are online, tend to adapt, collaborate and be connected (Berk, 2009; Tapscott, 2011).

Thanks to modern technology, information that is nowadays quickly and easily accessible to all, influences their way of learning and acquiring knowledge. So Veen and Vrakking (2009) describe the *homo zappiens* as creatures directed at controlling the flow of information and rapid absorption, together with constructing meaningful knowledge from discontinuous sources (text, audio, visual). Referring to Prensky, these authors made a comparison on the *homo sapiens*' and *homo zappiens*' way of learning. A brief overview is shown in Table 1.

Table 1

*Comparisons of the homo sapiens' and homo zappiens' way of learning*

HOMO ZAPPIENS	HOMO SAPIENS
Digital	Analog
High speed	Conventional speed
Wide span of attention	Focused attention
Multitasking	Monotasking
Learning by searching for information	Learning by memorizing information
Immediate profitability	Patience
Holistic approach to learning	Analytical approach to learning
Non-linear approach to learning	Linear approach to learning
Iconic skills	Reading skills
Connectedness	Individuality
Cooperation	Competition
Active creation of knowledge	Passivity (listening, reproduction)
Learning through externalization	Learning through internalization
Use of imagination	Orientation to reality
Technology is their friend	Technology is their enemy

While Web 1.0 allowed obtaining information and encouraged speed, simultaneously performing multiple tasks, wide span of attention etc., Web 2.0 provides opportunities for broad cooperation, active creation and acquisition of knowledge, and the exchange of experiences. Thus, the emergence of Web 2.0 technology brought further innovations in the way of learning and how the net-generation gets educated. In the virtual world today, social networks are a particularly important and popular destination for socializing and information-sharing. They enable large numbers of people of different habits and ways of thinking to become involved in the process of creating new content. While communicating, they share ideas, experiences, resources and in that way they expand their viewpoints, create insights and develop knowledge. Therefore, Gan and Zhu (2007) call this collective ability that occurs by integrating power and cooperation of every individual member in the formation of insight and understanding, the collective wisdom. In contrast, Keen (2010) points out to danger of creating knowledge in such a way, because it comes from unverified, unreliable sources, without compelling views and argumentation, and uses Wikipedia as an example. He talks about the crisis of professionalism and the cult of amateurs, the rule of the uneducated mob where the “voice of the wise is not appreciated more than the rumbling of fools” and indicates that it can have various negative consequences especially in the “system of education, and the construction of sound mind”. Even though the author describes today’s Internet as a place of deception, moral disorder, where the truth is selective and continuously subject to change, where information is incorrect and chaotic, he nevertheless emphasizes its omnipotence.

Generally, there are two streams of scientists. Some idealize the benefits brought by the technology (digital optimists), as well as the characteristics of the members of the

net-generation (Prensky, 2005; Tapscott, 2011), thereby largely ignoring the side effects, possible risks and challenges. The others (Keen, 2010; Carr, 2011), digital skeptics, as called by Andevski and Vučković (2012), demonstrate great concern and warn about the problems of cyber-socialization, developing Internet addiction, increase in violence, gambling, criminal and other problems. Even though the idea of digital immigrants and the positive sides of the net-generation gained great popularity, unfortunately, there is no empirical evidence about it (Bennett & Matton, 2010). Highlighting its negative consequences is also exaggerated and poorly substantiated (Selwyn, 2009). Thus, there is a need to examine this phenomenon more objectively and contribute to a true understanding of children and young people in the digital era, which is one of the goals of this paper.

Similar trends can be observed when talking about education and ways in which that net-generation learns. In educational practice, it is quite clear that students' preferences are changing, especially when it comes to learning, so they are increasingly looking for a different approach and engaged learning (Jones & Shao, 2011). Therefore, teachers recently started to adapt their way of work to evident changes in the ways that the net-generation learns. These changes are supported by scientists, and the two dominant paradigms of learning, connectivism and constructivism represent a framework for the aforementioned efforts. All this led to some interesting developments, especially in active learning and class methods which focused on students (project teaching, learning by discovering, research, problem solving, experiential and cooperative learning). With such praiseworthy efforts in the educational domain, the side effects of technology on the outcomes of upbringing remained neglected. Some scientists warn that the role of digital technology is not only informative, but formative, meaning that technology is starting to shape young people, has a global impact on creating new habits and behavioral patterns (Lovink, 2010). So, it does not only transmit information and transform learning methods, but also affects the formation of children, their habits and values (Ben-David Kolikant, 2010). Pavlović (2007, p. 82) suggests that we stop and rethink what lies behind the current enthusiasm and fascination with the benefits and opportunities that technology gives us, and what remains when we shut down the computer and "what will the new generations turn into". The author fears marginalization of upbringing and everything that makes man a human being, while favoring the "creation of islands full of information, extremely skilled with technology".

But, today it is more about the outcomes of learning and outcomes of education, than it is about the outcomes of the upbringing process. Jurčić (2013, p. 105), under the "outcomes of upbringing" implies student's qualities such as perseverance, patience, self-criticism. The author also adds responsible behavior and particularly emphasizes mutual help, support and appreciation.

Therefore, the aim of this paper is to analyze, based on literature, the implicit effects of learning methods and behavior of the net-generation on the upbringing outcomes.

In accordance with the aim, we are going to analyze how the use of modern technology (Web 1.0 and Web 2.0), and mentioned characteristics and approaches

to learning of the net-generation (speed, multitasking, searching for information and immediate profitability, wide span of attention, sociability, behavior in the virtual world, etc.) affect the outcomes of such processes and activities; more specifically patience, perseverance, focus, self-criticism, responsibility, morality, and some cognitive and physical abilities.

## **Characteristics of the Net-Generation's Approach to Searching for Information and Learning**

Learning, which is said to be oriented to finding information, by using Web 1.0 technologies, is mostly characterized by speed, multitasking, immediate profitability of information, and wide span of attention. That is why it is the object of our analysis.

### ***Speed***

We are witnessing the power of the technology that connects people and transforms the world in an inconceivable velocity. According to Bajić (2014), we live in the golden age of speed, and therefore it is not surprising that exactly high speed is emphasized as the first characteristic of the learning (Veen & Vrakking, 2009). All this resulted in a psychological expectation of speed (Milivojević et al., 2013). In other words, the speed in which we communicate, send messages and learn leads to intolerance for waiting for a reply to a message or feedback, including progress feedback or test results. Milivojević et al. (2013, p. 212) talk about the dictatorship of urgency that sent thoughtful responses, actions or answers to a museum of antiquities. The authors warn that the imperative of fast reactivity leaves no space to think about the quality of the process or to analyze it, resulting in the so-called blind spots. For the same reasons, metacognitive processes are endangered, meaning that there are difficulties in determining a direction, evaluation and correction of personal thoughts. As a consequence, there is lack of ability to separate relevant from irrelevant, and it is more difficult to gain a deeper insight and clarification, important precursors for interpretation and steps towards realization.

### ***The Multitasking Skill***

The imperative of speed and reactivity are important reasons for practicing the acclaimed (Prensky, 2005; Veen & Vrakking, 2009; Tapscott, 2011) skill of multitasking. Members of the net-generation emphasize this skill as their virtue, because they believe it makes them more efficient in their work in comparison to using the traditional approach (Burak, 2012). They believe they can successfully do more things at once and deftly switch between different tasks. Owing to the availability of mobile digital devices, students often combine listening to their teachers and participation in discussions by checking their messages and communicating with their friends through social networks.

With the aim to examine the impact of multitasking on learning in a school context, Wood et al. (2011) conducted research on 145 students, allowing them to use their

mobile phones, Facebook and e-mail during a lecture accompanied by Power Point presentations. The results of this research, in line with the Cognitive Load Theory, show that students who participate in activities that are not directly related to the objectives of class assignments, learn less effectively. Burak (2012) states that college students behave in a similar way during classes and for similar reasons. A study involving 774 students has shown that multitasking, listening to the lecture, messaging, browsing the Internet and checking Facebook is associated with a lower grade point average and an increase in risky forms of behavior. Based on the cited studies (Wood et al., 2011; Burak, 2012) it can be concluded that juggling between different tasks leads to poorer performance and an increase in the time needed for their completion.

In explaining the non-productivity of multitasking, the authors refer to recent neurological research. Burak (2012) points out that switching from one task to another in rapid succession engages a part of the frontal cortex which, figuratively speaking, becomes “crowded” because the brain is faced with more stimuli at a time and is trying to determine which task should be given priority. However, they mostly agree that simple multitasking is possible, such as performing two tasks at the same time, in the case when one of them is automated, such as walking, because in such situations, two different regions of the brain are engaged (Burak, 2012; Milivojević et al., 2013). On the other hand, when the same brain region is engaged in carrying out various tasks at the same time, it can cause as much as 50% more errors, and it requires 50% more time (Medina, 2008; according to Milivojević et al., 2013). It seems that the distribution of attention to more tasks is a burden for cognitive resources and also means a waste of time, which is attributed to shifts from one task to another, especially if they are complex (Wood et al., 2011). This approach leads to a reduced efficiency (Milivojević et al., 2013) as it seems that only one task can get the full attention of a conscious mind at any given moment (Burak, 2012).

### ***Learning by Searching for Information and Its Immediate Profitability***

Speed and multitasking are practiced mostly in searching for information, including the pieces of information necessary for learning. As it seems, the result of fascinating agility and speed is – superficiality. Studies (Rowlands et al., 2008; Nicholas, 2011; Lasić-Lazić et al., 2012) confirm that members of the net-generation are skilled in browsing. They rapidly switch from sites they visit and do not stay too long on neither of them. They are prone to performing tasks fast, but are not willing to repeat the search even when they are not sure of the quality of results; they do not delve deeper into the content. They usually rely on search engines; look for summaries, overviews, simplified representations and mostly simple things, instead of accepting challenges. It seems that they often use the Internet to bypass or evade intellectual efforts (Ben-David Kolikant, 2010). Lack of patience and concentration is also evident after the results are found; they try to quickly go through them, give the content a cursory reading with the conviction that in this “ocean of information” called the Internet,

there is probably something more useful, interesting, profitable and simple which they would find easier to overcome (Kuiper et al., 2008; Carr, 2011).

### ***Wide Span of Attention***

Speed and the described way of learning by searching for information, together with multitasking, result in a wide span of attention. Veen and Vrakking (2009) state that members of the net-generation are not able to maintain concentration because they are preoccupied with more things at once, and they emphasize this particular characteristic as the ability that allows them multiple use of various functions. Miliivojević et al. (2013, pp. 213-214) say that rapid changes in focusing on different tasks, preferring a variety of information sources, their even faster processing and a need for high levels of stimulation result in *floating attention*. Efforts to continuously maintain partial attention stop at some point because the brain can no longer function in that way, which leads to errors and tensions. The authors appreciate the opinion that modern learning methods, with the help of the Internet, contribute to the plasticity of the brain which learns to change focus, analyze information quickly and immediately decide on actions, and that floating attention is desirable in adjusting to situations and engaging in some tasks in a modern society, but raise the question whether it is good for the development of man as a human being, for his spiritual and intellectual development.

## **The Impact of Speed, Multitasking, Search for Information and Floating Attention on the Outcomes of Upbringing**

Speed, superficiality and fragmentation combined with a waste of time and attention and a lack of commitment are serious consequences of using modern technology that affect some members of the net-generation (Andevski & Vučković, 2012), and which have a negative effect on patience, perseverance and focus.

### ***Patience and Perseverance***

Patience, as a virtue of persisting in any long-term effort, is associated with perseverance, and is an ability of persevering. A persistent person is one who is insistent in something, who does not intend to give up (Anić, 2009). From previous discussions it is clear that speed, and especially learning by researching, modifying existing pages and the tendency for rapidly fulfilling tasks is associated with a lack of patience and perseverance (Rowlands et al., 2008; Berk, 2009; Nicholas, 2011; Lasić-Lazić et al., 2012).

Research by Kuiper et al. (2008) shows that members of the net-generation are prone to trying out several strategies of searching without much thought or effort. However, if they do not achieve the desired result quickly and cannot see the immediate benefit, they return to their own strategy, which is most often Google, which they approach

quite impulsively, recklessly and without patience. In situations when they do choose an effective research strategy to fulfill their goal, they rarely persist in its implementation and give up easily. The authors conclude that a large number of students are impatient, impulsive and reckless, regardless of their skills in using modern technology. Generally, if things do not develop as they had intended, or if their needs are not immediately fulfilled or their wishes not satisfied, they are frustrated and lose patience (Berk, 2009), which is why they easily give up. Burmester et al. (2014) confirm that a low level of perseverance leads to giving up, and their research results show that 40-80% of students are prone to giving up.

So, nowadays, one of the priority task of schools is to encourage patience, encourage developing perseverance, and enable students to complete the started tasks on time and in a thorough manner despite distractions, obstacles, discouragement, boredom, and various challenges and distractors (Farrington et al., 2012). Rijavec and Miljković (2006) point out that perseverance is a unique human virtue that enhances knowledge and skills. However, satisfaction and self-confidence without which there would be no civilization are also essential for achieving challenging goals. Gutman and Schoon (2013) state that in order to achieve success, perseverance is more important than cognitive abilities (IQ, etc.). According to these authors, persistence is an important non-cognitive factor, which, together with skills, attitudes, strategies, etc. shapes the probability of achieving success. So, it is pretty clear that success is not only a matter of talent, intelligence or skill of finding information, but largely depends on the ability to stay focused and persistent in doing something despite the distractions, obstacles and possible delays. It is believed that persistent students prevail obstacles and temptations, define priorities among lower pleasures and all of that has a positive effect on self-discipline and self-control (Farrington et al., 2012).

It is certainly necessary to draw attention to the possible positive effects of media on the development of perseverance in children. Some well-designed computer games (such as Portal 2, Lumosity) can be good for developing perseverance (Shute et al., 2015) because they involve challenges that motivate players to persevere despite the obstacles and failures. The authors point out that crossing our personal boundaries is a great way to improve perseverance. What also helps is constant feedback on our progress and the rewards which result in satisfaction after having successfully solved a problem or finished a task.

### ***Focus***

One of the possible reasons for lacking persistence, patience and consistency is the inability of the net-generation members to focus and achieve a high level of mindfulness (Anić, 2009) or to focus attention on a particular subject, task, content or purpose.

Kuiper et al. (2008) researched the issue of being focused on certain content while browsing the Internet. The results show that students are prone to look for the right



answer on the Internet rapidly, without putting in much effort, and thereby often ignoring or only taking a glance at relevant information. They spend more time on irrelevant parts, even when they are incorrect, if they contain key words they started their research with. In addition, it seems that what makes it difficult for them to focus are flashes and advertisements, so while browsing, they divert their attention and have a negative impact on focus. Carr (2011) also suggests that a big problem of the net-generation members is that they cannot focus on content, and warns that we are all getting used to a condition of scattered attention, and the big problem is that these generations grow up in a culture of distraction (Turkle, 2011).

Unlike them, an ardent supporter of the net-generation, Tapscott (2011), attributes the lack of focus in, for example a class, to boredom, slow and uninteresting lectures of teachers. And Prensky (2005) states that it cannot be said that young generations have a problem with focus because they can remain focused for a long time and at a maximum level when it comes to video games, listening to music and similar popular activities.

### ***Chronic Superficiality***

Additionally, it seems that modern technology has affected the development of superficiality (Ben-David Kolikant, 2010), and changes in the way that people remember and think. Carr (2011) suggests that reading from the screen is turning into decoding of information and makes it hard for us to focus on the content and follow arguments, and that the Internet has a negative impact on our memory and thinking. Since all information is easily accessible, people generally, not only members of the net-generation, do not even attempt to memorize it (Ben-David Kolikant, 2010). Instead of trying to remember the information, more often they only remember where the necessary information can be found. Thus, the Internet has become an attractive addition to our memory because it is being used as a personal memory bank (Carr, 2011). But, when we “start using the Internet as a substitute for personal memory, bypassing the internal procedures of consolidation, we bring ourselves to danger of depriving our mind from its fortune”, and the consequence is that as thinkers we become more shallow, superficial, as pointed out by Carr, (2011, p. 253). It seems as the tendency to skillfully and rapidly accumulate beneficial information which the net-generation perceives as knowledge, is most often in opposition to thinking and having critical attitudes (Kupier, 2008), which is mostly accompanied by a lack of critical evaluation and interpretation (Rowlands et al., 2008; Lasić-Lazić et al., 2012, p. 136). And owing to this way of learning, new generations have not developed the skills of contemplation (Carr, 2011) and critical thinking, which results in difficulties in making conclusions (Ben-David Kolikant, 2010) and reckless conduct (Selwyn, 2009). So, the way that we currently use the Internet is causing us to remember less and reflect less deeply (Ben-David Kolikant, 2010). The high level of comfort provided by technology sometimes creates a false sense of ability (Berk, 2009).

In contrast, few authors say that modern media have allowed new forms of cognitive exercises, pointing out video games that can be used for improving memory, have attractive motivational features, optimal stimulation, clearly defined goals and integrated memory tasks (Deveau et al., 2014).

In addition to the aforementioned effects of using modern technologies in the cognitive area, especially memory and reasoning, it should be noted that it also has consequences for the physical development and health of children.

### ***Developing Physical and Mental Laziness***

The analysis brings us to the conclusion that modern technology on the one hand allows students to become faster and more efficient in their everyday life, and on the other hand, it induces intellectual flabbiness (Keen, 2010), mental and physical laziness (Prince et al., 2010). Ben-David Kolikant (2010) fears that, due to such an approach, this generation is growing to be lazy, and this conclusion is based on a survey where 48% of young respondents consider themselves a lazy generation when it comes to studying. For primary school children it has been determined that they spend almost two hours more having fun in front of screens than outside of the house, and they would rather play computer tournaments than those on sports playgrounds, most likely because it is easier for them to solve virtual rather than real problems, as concluded by Foretić et al. (2009). Hence, they compensate the need for sports, games, and motion with watching different sports and other competitions on TV or the Internet. Also, they have less need to leave the house to socialize with peers because they can do that through social networks. As media fulfill a large part of their free time, they are becoming less active, which has a negative effect on their health. Various health problems, such as problems with spine, obesity, etc. are associated with the lack of movement. Technology can be “contagious”, and children are taking it hard to separate from it during the day, even the night (Prince et al., 2010), which leads to lack of sleep (nocturnal bird syndrome), and is associated with problems in concentration, behavior and fulfilling school obligations (Bassiouni & Hackley, 2013). These authors warn that, generally, spending too much time in closed spaces, and lacking exposure to sun has resulted in, for example, the occurrence of rachitis, which was thought to be an eradicated disease in the UK.

### ***New Wave of Using Technology and Upbringing Qualities of Net-Generations***

The new era of the Internet is marked by social networks, without which we almost cannot understand the children and adolescents of the 21<sup>st</sup> century. Web 2.0 technology has allowed participative and collective activities, non-linear and active creation of knowledge, and it also helps in developing and maintaining connections. Net-generation members appear as a generation of collaboration, who want to work together on mutual goals (Tapscott, 2011). They acquire knowledge in an active way, by

communicating with each other, exchanging information, collecting ideas and creating new content. Such a communicative environment encourages participation, and through mutual cooperation and discussion it impacts the knowledge and expertise of its members. Since no one knows everything, and everyone knows something, the resources and skills are combined and lead to collective knowledge (Gan & Zhu, 2007). Such communities can be more productive than individuals who work separately (McLoughlein & Lee, 2008). As outlined in the introduction, Keen (2010) is critical of these ways of learning and fears that the cacophony of anonymous authors and unconfirmed sources can deafen and suppress the voice of experts, and the quality of knowledge acquired that way is questionable. He thinks that Web 2.0 has brought a chaos of useless, misleading information and superficial observations without analysis. He also shows concern about belittling expertise, experience and talent, undermining the truth and trust.

In addition to learning and exchange of knowledge, social networks have become important places where members of the net-generation seek and receive support and a sense of belonging. Bulatović et al. (2012) define contemporary digital media as the technology of selflessness, and estimate the openness of the young to mutually share knowledge as a new value and well-doing. Talking about the ethical implications of learning through digital media, they point out that the new values are, in addition to acquiring and sharing knowledge, tolerating different opinions and diversity in general. And Tapscott (2011, p. 82) points out that it is a case of deep tolerance. In contrast, other authors (Keen, 2010; Brennan, 2011) warn about the insensitivity of the net-generation to moral questions, frequency of lying, causing damage and pain to others, destroying relationships, theft, etc. Hence there is a need to draw attention to the new wave of adolescents' behavior in the virtual world and the impact on the upbringing qualities, especially the development of (no) self-criticism, self-respect and respect for others.

### ***(No) Self-Criticism and False Self-Representation***

It seems that modern media are less used for learning and encouraging deep interaction than for sharing personal information and self-promotion. Adolescents have always been concerned with themselves and slightly egocentric and wanted to be accepted and liked by others. It seems that social networks are ideal destinations for fulfilling such needs. Research dealing with this problem yielded contradictory results; some claim that the young show a realistic image of themselves in social networks (Young, 2013), while others say they present themselves only through fabrications, mostly untruthfully, post artificial photographs and beautified data about themselves and create an artificial, presentational identity (Wier et al., 2011). Tweng et al. (2008) point out that in some members of the net-generation, we can find inflated opinions of themselves, and even characterize them as a narcissistic generation and the "me-generation". With a beautified, but untrue presentation, probably unconsciously, they

try to improve the perception of their own worth and self-respect, and they have a need to see themselves as valuable. It is an important motivator of their behavior, or in other words, their false self-representation (Tom & Hancock, 2013). As the young spend most of their time during the day browsing information about others (69.5%) and looking at their photos (58.7%) (Pempek et al., 2009), the possibility of comparison and peer critiques are endless, and all that can have a negative impact on their self-image. It is that they compare their real image with an idealized image of their peers without questioning if they also share beautified versions of themselves, which stimulates their self-evaluation to be negative. Thompson and Zuroff (2004) distinguish two types of self-criticism- internalized and comparative. Internalized self-criticism refers to a negative sense of self in relation to internal, personal standards, while comparative criticism can be defined as a negative self-image created when comparing with others who are seen to be in a better position, or as better, more handsome, more successful, superior, etc. Excessive self-criticism is not desirable, and is associated with fragile self-esteem, fear of failure and control, but also the problems of depression (Yamaguchi & Kim, 2013). One of the results of the behavior of children and adolescents on social networks can be excessive self-criticism and dissatisfaction, but also the use of the self-affirmation strategy which helps them maintain a positive self-image after a negative evaluation (Bodroža, 2011).

Therefore, it is a current and very intriguing question, not discussed much, how modern media influence the development of (no)self-criticism. It is well-known that self-criticism is an important upbringing quality (Jurčić, 2013), and encouraging healthy self-criticism in the sense of objective consideration of our own features as well as flaws, with the aim to take constructive measures for their correction, is an important task of upbringing. Therefore, there is a need for providing help to children and adolescents who can develop unhealthy self-criticism under the influence of modern media.

### ***Some Moral Aspects of Youth Learning and Online Behavior***

Together with false self-presentation, it is necessary to point to other morally unacceptable behaviors in virtual space, and Willard (1998) classifies them into five groups: respect for property, respect for privacy, self-respect, respect for others and respect for institutions.

Disrespect of intellectual property has individually become the most widely used destructive activity on the Internet (Keen, 2010, p. 154). Downloading works of others and presenting them as our own, remixing and copy-pasting has even lead to the term “Copy-Paste Mentality” (Tapavički Duronjić, 2011). Keen (2010) criticizes the ability of young generations to gather information and claims that they most often act as intellectual kleptomaniacs. They do not consider something that is online as someone else’s property but the common good (Brennan, 2011), therefore, downloading it is not considered stealing.

Keen (2010, p. 155) refers to the research conducted in the Center for Academic Integrity in the United States where it was established that 70% of students admitted being involved in downloading Internet content and cheating, and 77% do not consider it a serious matter. In a research study conducted by Bilić (2012) which involved students (N=534) from Croatian primary schools, it was determined that 58% of them download Internet content and present it as their own work. Based on such downloaded content, they get better grades, achieve better results, diplomas etc., and that is how they learn not to respect other people's property and without any problem take something that does not belong to them. Because of such widespread practices of appropriation and borrowing, it is becoming more difficult and sometimes impossible, to check the authenticity of ideas and original authorship. Intellectual consequences of such theft are deeply disturbing, and Keen (2010, p. 155) warns about the reshaping and distortion of values and how the digital revolution is creating generations of copycats and thieves.

### ***Self-Respect and Privacy***

Self-respect is closely related to public disclosure of personal data and private information. The young openly admit and give information about their personal greed, laziness, libidinous lust (Keen, 2010, p. 188), misconduct, which often even intensified in order to increase the effect. Even Tapscott (2011), as an advocate of the net-generation, believes that thanks to social networks, their lives are becoming less personal and privacy is becoming the fundamental and biggest problem that young people do not know enough about. Without thinking about long-term consequences, they post information about themselves and others online in order to publish what they consider interesting at the time, and at the same time ignore that the Internet does not forget. Even so, Tapscott (2011, pp. 66-68) states that 68% of British employers check posts of candidates who applied for a job. The reasons for their refusal include alcohol abuse, reckless and immoral behavior which they found on their profile. So, some posts can cause irreparable damage not only to their jobs and career but also to other domains in life. Although Tapscott (2011) praises the sincerity of members of the net-generation as a rare moral virtue, he expresses concern about their privacy and their relationship to themselves.

Respect for others is considered a great moral issue of young people in a virtual world. Attention is drawn to peer violence via electronic devices after the results of meta-analysis conducted by Tokunaga (2010) which shows that 20-40% of children are exposed to that kind of violence. Some studies (Phippen, 2011) show that 35% of teachers have also been exposed to electronic violence from their students. Bugeja (2006) talks about the culture of disrespect that has occurred thanks to the Internet. The widespread opinion, or better said, misconception, about the Internet is that it is a world of full freedom with no obstacles or limitations, and there are still no clear or certain rules for behavior in that space. It is one of the reasons that favors identity thefts, lies about oneself and others, spreading insults and untruths, destroying reputation

and relationships, and violence. Another factor is the anonymity that reduces the fear that the perpetrators will be found and brought to justice. One should also not forget the lack of affective feedback about the damage and the pain which perpetrators can cause their victims. In addition, some young people think that such behavior cannot be considered immoral because they do not have visible consequences, and the distance from the damage they cause with their actions encourages them to mainly perceive it as fun or humor. Keen (2010, p. 29) warns that Web 2.0 made it possible for “everyone to talk and no one to be responsible”. The question of upbringing for responsible behavior towards ourselves and others is crucial for the future of young people.

### ***Threatening the Institutions***

Some authors warn about the use of modern technology which nowadays calls into question respect for institutions (Willard, 1998). Keen (2010, p. 60) points out that ubiquity of free content, such as Wikipedia, created by the users themselves without any checks or necessary argumentations, “threatens the core of our professional and scientific” institutions.

So, even though, on the one hand, there are some qualities of the net-generation in relation to their process of learning and behavior, such as mutual help, support cooperation, honesty and tolerance, on the other hand, responsible behavior towards themselves and others, and mutual respect is at great risk.

## **Conclusion**

Together with finding a way to make best use of the unimaginable possibilities and advantages of modern technology in encouraging learning and improving teaching, at the same time it is necessary to pay attention to potential pitfalls and risks which are a side effect of such developments. The possibility of negative implications arises from the fact that “technology is taking over the most vital functions of human activity”, it shapes and forms the new generation and is becoming an important force in shaping modern society (Bajić, 2014).

Since knowledge about the net-generation is still developing, together with understanding of the effect of using digital technology on the outcomes of education, it is also necessary to focus attention to recognizing the effects on the upbringing outcomes.

Therefore, this paper draws attention to the effects that modern media have on forming habits and creating new patterns of behavior that are practiced in learning and everyday life, such as speed, multitasking, searching for information and their immediate profitability and wide span of attention. This then results in the expected changes in a person who is being brought up, such as lack of patience and perseverance, chronic superficiality, thoughtlessness and physical and mental laziness.

Although the new wave of using the Internet, which is associated with Web 2.0 technology, is being used for learning and new forms of sociability and with positive

upbringing qualities such as sharing, mutual helping, support, honesty and tolerance, it is necessary to point out its negative aspects, especially irresponsible and unfair treatment of others (electronic violence, disrespect for intellectual rights), and ourselves (false self-presentation and (no)self-criticism, invasion of privacy).

It also needs to be mentioned that technology should not be blamed for all of these problems; it just made it easier to, for example, download content or made false self-presentation more attractive. We should be realistic in considering where the ones who bring up (digital immigrants) were late, failed, or did not realize on time the strength of non-intentional influences, or were just unprepared for all of that.

Because of the prevalence and neglect of the aforementioned problems, it is recommended that schools take the lead in preparing young people for the digital age, bearing in mind the upbringing qualities and forming a decent relationship with oneself and others in the real and virtual world. The analyzed upbringing qualities are a presumption for life and school achievements, and building human communities where the human being is the biggest value. That is also an important goal of the educational process. Possibilities and advantages of modern technology should not only be looked at as educational and information resources, but as a potential that could be used in a constructive way that is in line with the upbringing outcomes, in order to convey the values and refine the upbringing qualities of the generations to whom the future belongs.

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**Vesna Bilić**

Faculty of Teacher Education,  
University of Zagreb  
Savska cesta 77, 10000 Zagreb, Croatia  
[vesna.bilic@ufzg.hr](mailto:vesna.bilic@ufzg.hr)

# Načini učenja, online aktivnosti i ishodi odgoja net-generacije

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## **Sažetak**

*Pripadnici net generacije rođeni su i odrastaju u digitalnom svijetu, a razlikuju se od svojih digitalno „priučenih“ roditelja i učitelja po stavovima i ponašanju. U uvodnom dijelu analiziraju se njihova tipična obilježja, poseban neomilenijski stil učenja i stjecanja znanja. Te osobine podržane vodećim suvremenim paradigmatima (konstruktivizmom i konektivizmom) potaknule su zanimljive promjene u teoriji i praksi obrazovanja, ali se pritom učestalo zanemaruju ishodi odgoja.*

*Stoga se u ovom radu na temelju literature ispituju mogući utjecaji digitalnih medija na oblikovanje navika i stvaranje novih obrazaca ponašanja koji se prakticiraju u učenju i svakodnevnim aktivnostima kao što su brzina, istodobno obavljanje više zadataka, traženje informacija i njihova trenutna isplativost, širok raspon pažnje, a što rezultira nedostatkom strpljivosti, ustrajnosti, površnosti, nepromišljenosti, tjelesnom i mentalnom lijenost. Iako se novi val upotrebe interneta povezuje uz pozitivne odgojne kvalitete kao što su dijeljenje, međusobno pomaganje, podršku, iskrenost i toleranciju, upozorava se i na negativnosti, osobito neodgovorno i nekorektno postupanje prema drugima (elektroničko nasilje, nepoštivanje vlasništva), ali i prema sebi (lažno predstavljanje i (ne)samokritičnost, ugrožavanje privatnosti).*

*Budući da moderna tehnologija oblikuje mladu generaciju te postaje važna snaga u oblikovanju suvremenog društva, u zaključku se ističe da uz pozitivne pomake u obrazovnoj domeni pozornost treba posvetiti i ishodima odgoja, osobito upornosti, dosljednosti, strpljivosti, kritičnosti i samokritičnost, odgovornom ponašanju, međusobnom poštovanju i uvažavanju.*

**Ključne riječi:** *ishodi odgoja; moralno ponašanje; odgojne kvalitete; strpljivost; ustrajnost.*