Impact of Multimedia Components in Children Magazines on Psychological Profile: Case of Russian Online Editions

Impacto de los componentes multimedia en revistas infantiles sobre el perfil psicológico: caso de las ediciones rusas en línea

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ABSTRACT

The article analyzes the use of various multimedia components and reveals changes in the personal characteristics of children with varying degrees of Internet addiction, including those caused by the abundance of multimedia components in online publications, based on the analysis of multimedia components often found in Russian online magazines for children. All the analyzed media are classified into two categories: representing a copy of a printed magazine without any video materials and online games; an online magazine containing games, videos and graphic elements without any text content. The abundant use of multimedia components affects the level of child's Internet addiction that has an influence, in its turn, on personal psychological profile. The abundance of multimedia components in online magazines for children of different types causes an increase in the level of Internet addiction that affects, in its turn, child's personality.

Keywords: multimedia; interactivity; AR technology; Internet addiction; Russian online media for children.

RESUMEN

El artículo analiza el uso de varios componentes multimedia y revela cambios en las características personales de los niños con diversos grados de adicción a Internet, incluidos los causados por la abundancia de componentes multimedia en publicaciones en línea, basado en el análisis de componentes multimedia que a menudo se encuentran en línea en ruso. revistas para niños. Todos los medios analizados se clasifican en dos categorías: que representan una copia de una revista impresa sin ningún material de video y juegos en línea; una revista en línea que contiene juegos, videos y elementos gráficos sin ningún contenido de texto. El uso abundante de componentes multimedia afecta el nivel de adicción a Internet del niño que influye, a su vez, en el perfil psicológico personal. La abundancia de componentes multimedia en revistas en línea para niños de diferentes tipos provoca un aumento en el nivel de adicción a Internet que afecta, a su vez, la personalidad del niño.

Palabras clave: multimedia; interactividad Tecnología AR; Adicción a Internet; Medios rusos en línea para niños.

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Introduction

The development of information and communication technologies, technological devices has an impact on media, including editions for children. In recent decades, there has been an overload in the diversity of media available. New (mobile phones, smartphones, tablets, and social media) and traditional media (television) have come to dominate the lives of many children all over the world and adolescents and the spaces where they spend their leisure time (American Academy of Pediatrics Children, adolescents, and the media. Pediatrics, 2013). To fully satisfy increasing demands of the young reader, publishers all over the world try to adapt their content for the convenience of children as much as possible. First of all, it affects the development of multimedia that constantly manifests itself in new forms due to progress of modern technologies. Thus, multimedia may be defined as "full integration of modern information technology products: text, graphics, video, audio, photo and telecommunications (telephone, television, radio)" (Vul, 2003, 56). Currently, almost every online magazine tends to use multimedia components when placing materials on the Internet, as it affects the way children perceive the content. That is the reason why the use of audio, video and photo materials, as well as graphics, in the preparation of the content is of great importance today.

At the same time, it is obvious that children become one of the active users of the Internet, mostly through a smartphone or tablet. In the United States children and adolescents spend up to 1.5 hours per day with their computer. Half of this time is spent on social networking, playing games, or viewing videos. The American Academy of Pediatrics Children (2013) has recommended keeping Internet-connected electronic devices out of the child's bedroom and monitoring what type of media their children are using.

In Russia, due to the integration into the world community, the model of using smartphones is almost identical to global trends. The augmented reality (AR) system is predicted to often rely not just upon the processor on the device, but the processor on the server as well. A display will show the coexistence that users could sense the combination of physical world & virtual world. Based on these requirements of functions, the smart mobile phone or tablet seems to be the appropriate AR device compromising by a camera to capture, processors to process and a screen to display. The mobile device held by one hand could run different applications, which is moveable, easy to use and accessible from anywhere and anyplace (Liang, 2015).

According to a survey conducted by the Internet Development Fund, the vast majority of Russian teenagers use the Internet at least 1-2 times a week, mostly every day or almost every day. (Internet in Russia in 2017. Status, trends and prospects. Industry report http://www.fapmc.ru/mobile/activities/reports/2018/teleradio.html). Thus, in 2010, the percentage of adolescents using the Internet every day reached 82%, in 2013 – 89%, and in 2018 – already 90%. The frequency of Internet use by children is still growing, but the age of entry into the online world is steadily declining – on average, generation Z adolescents began using the Internet at 8 (12-13 years old) and 10 (14-17 years old), and generation Y teenagers – mostly at 13 – 14 (Internet in Russia in 2017. Status, trends and prospects. Industry report). Therefore, the phenomenon of Internet addiction manifests itself in children more often, which, in its turn, affects their personal characteristics.

At the same time, it becomes obvious that the demands of the reader, including the young one, for the content in online magazines are growing. Taking into account the above mentioned, the primary scientific significance of the research is to analyze how the modern media, in its turn, meet these demands, particularly in terms of the manifestation of one of the determining, type-forming features – multimedia, and how the presence of multimedia components in online magazines affects the change of the personal traits of children with different degree of Internet addiction. The relevance of the research is confirmed by the modern requirements and the urgent social need, since the multimedia space, in which the future generation is grown, will directly affect the image of society in 10-20 years. Studies show that the multimedia component has a high probability of affecting the development of personality (Guntuku, Scott, Ghinea, Lin, 2016).

The objective of the research is identify changes in personal characteristics of children with various level of Internet addiction, including those that are caused by abundance of multimedia components in online media, based on the analysis of multimedia components frequently met in online magazines for children in Russia.

Literature Review

It can be noted that "the concept of multimedia has become one of the fundamental features of online media, including editions for children. Most researchers associate the concept of multimedia with the processes currently taking place in various fields and define it as a key factor in communication studies" (Andronnikova, Demina, 2017, 146).

Today, multimedia in the mass media, especially for children, is the most important factor of development.

Multimedia forms a figurative, visual representation of a described object, which helps children to explore and learn the world.

Before starting discussion on our topic, we must clarify the definition of "Multimedia". The word "Multimedia" is a reasonably new one in its field. It is used to describe several different mediums when they are merged together. We can define multimedia according to its common characteristics: texts, graphics, animations, video, and sound. These are all combine to create multimedia, but they can also be organized and presented differently. In other words, multimedia can be defined as numerous media elements combined into one whole subject, which produces fruitful outcomes for its end user. All these media elements are making communication more organized and clear than ever before.

Several researchers have provided definitions of multimedia. Moore, Burton, Mayer (1996) defined multimedia as follows: the use of numerous media devices in a coordinated manner, such as coordinated slides used with audiotape. Fenrich (1997) defined multimedia as follows, "multimedia is the exciting combination of computer hardware and software that allows you to integrate video, animation, audio, graphics, and test resources to develop effective presentations on an affordable desktop computer" (p. 47). Mayer (2001) defined multimedia as a form of media, which is used for the purpose of presentation, using text and images as the presentation materials. He later mentioned that multimedia is a form of media, which are generally, is implicitly incorporated and merged, with numerous components of several different media, such as sound, animation, text, graphics, and video. Finally, according to Vaughan (2008), "multimedia is any combination of text, sound, animation, and video delivered by computer or other electronic or digitally manipulated means. It is a woven combination of digitally manipulated text, photographs, graphic art, sound, animation, and video elements" (p. 221).

The development of multimedia makes the editor adapt the material for different digital platforms; it leads not only to new channels of communication, but also new forms of information representation. "We are experiencing one of these rare moments. This moment is characterized by the transformation of our "material culture" through the work of a new technological paradigm built around information technologies" (Castells, 1996, 6). In the information society, information itself becomes an object, means, tool, purpose and result of work, which, in its turn, is a separate independent component of the working process, as well as the processing, search, estimation, storage and distribution of information. It is the unique feature of information culture in modern society. "The process of information transfer goes through communication and information channels, which serve as a kind of a tool in the formation of proper conditions for successful communication and has a transformative impact on the formation of the individual's perception of the surrounding reality" (Luchinsky, Luchinskaya, Patyukova, Khutyz, Olomskaya, 2016, 3).

One of the scantily researched concepts of presenting material in online editions for children by means of multimedia components is the use of AR technologies. AR has a long history since the 1980s, yet it is still in initial phase due to certain limitation in the technology, social acceptance (Mekni, Lemieux, 2014, 23).

The term "augmented reality" belongs to Thomas Preston Caudell, engineer of the Boeing research laboratory. In 1992, he applied the principles of this technology in a system designed to assist workers in installing electrical cables on aircrafts. Currently, researchers define augmented reality as "a technology of applying information in the form of text, graphics, audio and other visual objects to real objects in real time operations" (Yakovlev, Pustov, 2013, 485).

Special attention should be paid to the use of AR technologies, which are one of the newest ways of multimedia component in the mass media. Virtual content offered to readers by manufacturers through AR technologies can be of different types: 3D animation, 2D image, text, website, audio information. By superimposing digital information directly on real objects or environments, AR allows people to process the physical and digital simultaneously, eliminating the need to mentally bridge the two (Porter, James, 2017)

In order to detect the use of augmented reality technologies, we started from the definition given by two scientists Averkina and Lazareva (2015), who believe that "augmented reality can be easily found according to the following three criteria:

1. Combination of physical and virtual worlds;

2. Interactivity;

3. 3D animation".

These criteria are of fundamental importance for children's media. For example, the combination of physical and virtual worlds forms a game component, which enhances the perception of information by children. 3D animation helps visualize abstract concepts complicated for children's perception, and complements the learning process.

In order to apply AR, children's magazines using this technology offer to scan special code labels in the printed version of the edition, or download them from the website and print, then download the online magazine application with AR technology support from AppStore or GooglePlay. Thus, the reader uses several platforms of the magazine, and the publisher often connects offline and online versions.

AR technology is in high demand, for the use of augmented reality does not require expensive high-tech devices (unlike virtual reality technologies) and is quite compatible with tablets and smartphones. AR technology integrates virtual and physical worlds, thus attracting children and adolescents. Craig (2013) stated that AR technology is to provide artificial stimuli to cause the users to believe that something is occurring in the virtual world. AR technology is used in many areas, including periodicals for children, and is considered to be one of the most perspective forms of information presentation.

Market analysts, such as ABI Research, IDC and Digi-Capital, believe that augmented reality is on the cusp of going mainstream. They expect the total market for AR, currently valued at about $1.5 billion, to grow to $100 billion by 2020 (Corinna, 2018). In addition to recreational function, most of the children's media also perform educational and developmental ones. Therefore, the maximum visualization of an object to determine its spatial characteristics helps children perceive difficult information. It is the reason why the use of AR technology corresponds to the paradigm of constructivism, which implies student's own experience in teaching and facilitates to create conditions for acquiring new experience. This theory was invented by Jean Piaget (2013) in the 1980s.

Modern scientific works indicate that augmented reality can lead to certain changes in personality. At the same time, science at this stage of development does not give an unambiguous answer to the question, what consequences such technologies entail, since there are not any analogues of the current educational and technological paradigm in the history. The recent state of matters confirms the urgent need to analyze the impact of multimedia technologies on the younger generation, including attempts to presumably predict both positive and negative consequences.

Materials and Methods

120 Russian online magazines for children including entertaining, educational, sports editions have empirically been analyzed. Many of these online editions are quite popular and have a rich history, such as "Funny pictures", "Murzilka", "Shishkin les", "Klepa", "Klassniy journal", "Junior Sport", "Sport at school". All of them are federal and attract readers from both Russia and CIS countries, therefore it allows us to trace the main trends in the development of multimedia as a typological feature of online publications for children.

The survey sample:

Our research is based on data received from the survey of teenage pupils at secondary schools in Krasnodar, who are active users of the Internet:

- respondents aged 7-12, pupils of 1-5 forms, including 29 boys and 31 girls – users of various chats;

- respondents at the age of 13-16, pupils of 6-11 forms, including 22 boys and 38 girls – also users of various chats.

The total survey sample is 120 people.

The sample can be divided into two groups:

- ordinary teenage Internet users with low level of Internet-addiction (1.5 -2 hours; control group);

- teenagers with medium-high level of Internet-addiction (2.5-4 hours; experimental group).

Furthermore, the survey showed that teenagers (control group) with low level of Internet addiction spend more free time on visiting additional classes, such as choreography, music, fine arts, arts and crafts, than teenagers with medium-high level (experimental group).

In the process of the research we used empirical methods: correlation study, testing, discussions; methods of mathematical and statistical data processing: descriptive statistics, estimation of normality of data distribution, parametric method for assessing differences in the severity of traits in two independent samples using Student's T-test. While carrying out the analysis, the comparison was focused on the following criteria: 1) the most important, significant (in terms of a specific cognitive task) feature – multimedia; 2) influencing degree of multimedia components on children.

By analyzing online editions for children the following basic multimedia-forming media indicators were compared:

video materials (full-length and short animated films, educational lessons, stories);

- graphic elements;

- online games;

- AR technology.

To identify the Internet addiction we used the Russian-language version of Kimberley S. Young's test (translated and edited by V.A. Burovaya). The test includes 20 questions with the following answers: never or quite rarely (1 point), sometimes (2 points), from time to time (3 points), often (4 points), always (5 points). According to the amount of points the following results are possible:

- 20-49 points correspond to the level of an ordinary Internet user who knows how to control himself;

- 50-79 points show some problems associated with excessive passion for the Internet;

- 80-100 points presumably indicate serious problems caused by the use the Internet that can require visit to a specialist.

Personal traits were analyzed through The Standardized Sixteen Personality Factor Questionnaire (16 PF) by Raymond B. Cattell (version for children). MS Excel for Windows XP and SPSS 13 were used for data processing.

Results

Analyzing online editions for children of different type (developmental, entertaining, sports) on the basis of multimedia criteria, we came to the conclusion that all of them more or less contain multimedia components in their structure.

As multimedia components online editions often use:

- graphics - 112;

- photos - 71;

- interactive tasks - 36 (including games - 11, quests - 1);

- video - 19;

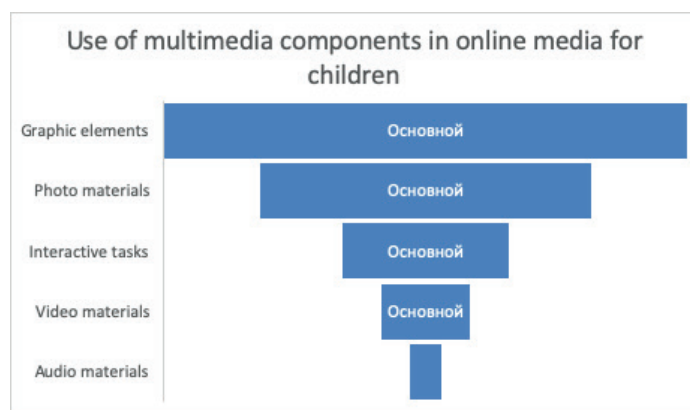- audio materials - 7;

- AR technology – 2.

Figure 1. Use of multimedia components in online media for children in Russia

The most common component for all the analyzed magazines was graphic elements – subject illustrations drawn by a professional artist that make up the "core" of each magazine with a clearly-traced central character of the edition – the girl named Klepa, Murzilka, Pencil. Some editions (the "Murzilka") completely designed their websites with graphic elements, illustrating each tab with a picture.

Depending on the target audience graphics is evolving in online editions. Thus, characters of fairy tales, anime and cartoons take first places as to magazines for children from 4 to10 years old. In magazines with target audience from 11 to 17 graphic elements are mainly found in the form of infographics.

One of vivid examples is the online magazine «Blog shkol'nogo vseznayki» ("School know-it-all's blog") which infographic elements illustrate educational articles of various topics, such as "What electricity is in the European light bulb". The magazine website "Young ethnographer" contains historical infographics, such as "Calendar of significant dates of the Patriotic war in 1812".

Such multimedia element as photo materials is also widely used by a large number of online media for children. As a rule, the editor publishes not only photos on the topic of the article, but also photo reports from various events.

Interactive tasks, including online games are not so widespread in online media for children. These components can be placed as separate tabs as in case of the magazines "Klepa", "Murzilka", "Shishkin les", containing flash games, interactive puzzles, riddles, crosswords and even online colourings. The maximum number of interactive tasks can be found in the online media for children that are created in the form of an Internet application or presented in social networks. It should be noted that some online magazines have not registered their pages in social networks and it is quite reasonable in our opinion, because, as the researchers rightly state: "Social networks can only have an impact on those persons who have a need to obtain a specific kind of information. Social networks are not able to exert a fundamental influence on person's value system, they just function as generators of the information that particular subject needs in a certain information environment" (Patykova, Minskaya, Sergienko, Tarasenko, 2018, 423).

Considering the fact, that the main function of online magazines for children is still to form a value system, social networks are not integral to it. It can also be pointed out that interactive tasks and game elements, as a rule, are placed by publishers of online magazines aimed at the target audience of preschool and primary school age. Tasks can also be changed depending on the age of the audience that certain online edition is designed for: online magazines for children from 4 to 11 basically contain games, educational tasks, crosswords and puzzles, whereas online media for children of secondary and senior school age – online tests of various subjects.

Video materials are also rare to be placed on websites. For example, the magazine "Klepa" carries over videos in a separate section, where the reader can watch cartoons created by the magazine staff, where the main character is a central image the magazine – a girl named Klepa. The "Murzilka" hosts in its video tab not only cartoons (mostly Soviet), small stories from various events held by the magazine staff – meetings at the library, awarding winners of different competitions, but also feature films about school life. It is worth noting the online magazine "Shishkin les" as its website consists entirely of graphic animation elements and video materials, text content is minimized.

Some online editions display video materials on a specially created TV channel on YouTube, for it does not overload the main site and at the same time allows to provide subscribers with a large number of videos, including archival ones. On its video channel, the magazine "Kvantik" offers its readers the recordings of classes in mathematics, physics and other natural sciences, conducted by the magazine employees. At the same time, these classes are held online and every registered user can ask questions in the chat in course of the lesson. The online magazine "Klepa" puts on his channel "klepklub" in Youtube author's educational cartoons, where the main character is Klepa.

Only a small percentage of children's online magazines use audio materials. Publishers offer the reader audio versions of Russian folk tales, modern stories for children. The magazine "Smeshariki" is worth noting in this regard because the publisher took care of the youngest readers: each page is voiced by a professional speaker.

Special attention should be paid to AR technology in online media for children. This form of presenting information is used only in the children's magazine "Fixiki": after downloading the application into the smartphone and pointing the camera at a special icon in the printed version of the magazine, the reader can see "animated" characters talking and inviting to continue the game. The project "Masha in the city", based on a cartoon "Masha and the Bear", offers to download the code labels on the official website, and then, by printing and placing them on the table, the reader can use the application to get some information. It is worth noting the multimedia features for reproducing different content by means of AR technology. Thus, if taking into account the technological process

of creating a magazine based on AR technology, the key point in this process is the preparation of illustrations by the artist, then their digitization and downloading into an application. As a result, when the user points their camera of a tablet or mobile phone at the picture, an object automatically appears in different formats: audio, video, animation, 3D graphics. Consequently, when combining virtual data with real, the reader gets an easy access to the full range of multimedia components essential for children's magazines. However, the cost of using AR technology is high and modern online magazines cannot afford to apply this technology every month. The abundance of multimedia components forms the basis of the most common online editions being preferred to be read by children with different levels of Internet addiction.

Based on the analysis of the survey data, we found out that the level of addiction corresponds to average values. In this case, the survey sample can be divided into two groups: ordinary Internet users and users with a medium level of Internet addiction. The average level of Internet addiction among users of young adolescents was 28 points, older adolescents – 32 points; users with a medium-high level of Internet addiction: young adolescents – 51 points, older adolescents – 53 points.

The respondents are characterized with low levels of B factor (intelligence), L factor (trusting), N factor (naivety), Q1 factor (conservatism), Q3 factor (self-opinion); average values of the A factor (schizothymia), C factor (ego-strength), E factor (authoritativeness), F factor (concern), G factor (superego), H factor (determination), I factor (sensitivity), M factor (practicality), O factor (sense of guilt), Q2 factor (group dependence) and Q4 factor (ego-tension).

Table 3. Results of the comparative analysis of individual psychological characteristics of children with different levels of Internet addiction

Cattell's parameters	Medium-high		Low		t emp. Student's criteria	p - signif. level
	Exp. val.	St. dev.	Exp. val.	St. dev.		
A factor (schizothymia)	**3,1**	**0,56**	**6,4**	**0,45**	3,89	**p < 0,001**
B factor (intelligence)	4,2	0,67	5	0,34	1,34	**p >0,05**
C factor (ego-strength)	**4,0**	**0,34**	**6,5**	**0,56**	2,23	**p < 0,05**
E factor (authoritativeness)	5,5	0,45	6,3	0,23	0,98	**p >0,05**
F factor (concern)	**4,8**	**0,33**	**6,5**	**0,61**	2,76	**p <0,01**
G factor (superego)	**4,4**	**0,56**	**6,0**	**0,32**	3,78	**p <0,001**
H factor (determination)	**4,4**	**0,45**	**6,2**	**0,45**	2,80	**p <0,01**

I factor (sensitivity)	4,2	0,88	4,8	0,51	1,45	**p >0,05**
L factor (trusting)	4,5	0,98	4,3	0,34	1,29	**p >0,05**
M factor (practicality)	4,5	0,57	4,7	0.39	1,32	**p >0,05**
N factor (naivety)	4,0	0,44	4,2	0,45	1,21	**p >0,05**
O factor (sense of guilt)	**6,2**	**0,33**	**4,0**	**0,43**	2,78	**p <0,01**

Q1 factor (conservatism)	4,0	0,45	4,8	0,52	0,89	**p** *>0,05*
Q2 factor (group dependence)	3,8	0.24	4,2	0,22	0,87	**p** *>0,05*
Q3 factor (self-opinion)	**2,2**	**0,12**	**6,2**	**0,45**	3,67	**p** *<0,001*
Q4 factor (ego-tension)	**7,0**	**0,99**	**4,6**	**0,34**	3,89	**p<** 0,001

Note: parameters in bold are clearly distinguishable.

Compared to adolescent respondents with a low level of Internet-addiction, respondents with a medium-high level of Internet addiction are characterized by higher values of O factor (anxiety) and Q4 factor (relaxation-tension), and lower values of C factor (Ego weakness, emotional instability), G factor (susceptibility to feelings), Q3 factor (self-esteem, self-control), A factor (sociability), H factor (courage), F factor (expressiveness).

These results are quite justified by the very nature of multimedia media and augmented reality technology. As noted in the literature review, a growing part of our life is spent in the virtual space. This phenomenon affects the younger generation in a greater extent than adults. However, despite the technological progress, the virtual world is still unlike the real one, affecting the development of certain personal aspects when technologies replace real interaction with the surrounding world as such. For example, successful completion of tests and encouragement of participants in all sorts of praise can form an inadequate self-esteem to the reality and influence their self-opinion. This is also the case with other factors.

Discussions

Taking into consideration the age of the audience, the dominance of graphic elements is reasonable enough and, of course, attracts young readers. Among the "outsiders" we can point out the 60-years-old magazine "Funny pictures" – it contains a few pictures made especially for the website; the others are just scanned versions from the printed editions of various years. Nevertheless, the publisher's approach stems from the fact that over the years there were such famous artists as Ivan Semenov, Vladimir Suteev, Vitaly Statsinsky, Aminadav Kanevsky, Konstantin Rotov, Mikhail Bitny, Yuri Fedorov, Anatoliy Eliseev, Victor Chizhikov, Boris Fridkin and others, who worked for the magazine and whose drawings are still considered as models of pictures for children.

The second trend to be traced is a complete refusal to post videos on websites. Of course, it is due to finances – buying a license of the right holder for placing even a short-animated film makes another item of expenditure. In the environment where online editions for children are not a commercially viable project, additional costs can lead to the closure of the site. Another reason is the technical capabilities of the website. Not every online media is able to post a sufficient number of multimedia materials, for it can result in a slow page load, which eventually will scare away users. For example, in the video tab the "Klassniy journal" posts text announcements of top-grossing full-length animations of recent years, such as "Three Warriors and the King of Sea", "Sing", "The LEGO movie". There are also no video materials on its website.

Thus, it can be noted that multimedia may become one of the fundamental typological features of modern online magazines for children, because the inclusion of new typological element can expand their audience and attract new readers to the site. However, not every online magazine for children manages to use multimedia to the full extent. Thus, we can classify all the analyzed media into two categories:

1. children's online edition is a copy of the printed version and doesn't contain any video materials and online games ("Funny pictures", "JuniorSport");

2. children's online edition does not practically contain any text content, but includes games, video and graphic elements ("Shishkin les").

Special attention should be paid to the use of AR technology in online media for children in Russia. If this function is already familiar to the world community, the use of augmented reality technology has just started to develop in Russia.

Furthermore, at present time we can point out several features in the use of multimedia components in online editions for children:

1. limited use of multimedia components (photos, graphic elements) to compensate the lack of visual information by means of PDF pages of the printed version of the edition ("Funny pictures", "JuniorSport").

2. abundance of multimedia components in various formats instead of text content ("Shishkin les").

Such options, of course, are extreme, but in both cases, the expectations of the young reader are not justified: in the first case, they do not find visual information, in the second – the content component suffers. That is why the best approach is to integrate all the multimedia components so as to fully develop children's online media. In addition, the abundant use of multimedia components increases the level of children's Internet addiction, which, in its turn, has an influence on the personal psychological profile. According to the results of the research, we have found the following:

-children with a higher level of Internet addiction have increased rates of O factor (anxiety), namely, they are anxious, depressive, vulnerable, impressionable;

- children with a higher level of Internet addiction have increased rates of Q4 factor (relaxation-tension), namely increased level of excitement and tension, frustration;

- children with a higher level of Internet addiction have lower rates of C factor (Ego weakness, emotional instability), that is, they are emotionally unstable, susceptible to feelings, changeable in relationships and unstable in their interests;

- children with a higher level of Internet addiction have lower rates for G factor (susceptibility to feelings), namely, they are susceptible to feelings, as well as influence of circumstances, unorganized, irresponsible, unscrupulous, undisciplined, careless, inaccurate, effortless to meet group requirements and norms;

- children with a higher level of Internet addiction have lower rates of Q3 factor (self-esteem, self-control), namely they are undisciplined, careless, inaccurate, following their motives, regardless to social rules, untrustworthy in the collective;

-children with a higher level of Internet addiction have lower rates of A factor (sociability), namely they are unsociable, indifferent, closed;

- children with a higher level of Internet addiction have lower rates of H factor (courage), namely they are shy, unconfident, restrained, timid, introverted;

- children with a higher level of Internet addiction have lower rates of F factor (expressiveness), namely they are careful, pessimistic in the perception of reality and tend to complicate everything;

Summing up the above mentioned, the results show an alarming trend. At the present level of "internetization" traits revealed in the course of the research threaten to become psychological dominants of our society, it can lead to the formation of a disadapted society, having difficulties in coordinating inside activities and possessing no methods of socialization necessary for its adequate functioning (Castells, 1996).

This research, perhaps, is the first to point at the need of monitoring the contribution of online media to the formation of children's personality.

Conclusion

Thus, innovative processes in online media for children, driven by the convergence of mobile media and functioning today with the help of digital technologies in Russia are developing rapidly. Determinative multimedia features of online media for children of different type (including entertaining, developmental and sports) are primarily realized through the inclusion of graphic elements that undergo modification depending on the age of the reader, for the category of 4-10 years old children the first place takes the characters of fairy tales, anime, cartoons. In editions for teenagers aged 11-17 graphic elements are present mainly in the form of infographics. Interactive components are most evident in online media for children, which have the form of an Internet application and are also modified according to the age of the reader. The group of magazines designed for the children at the age of 4-11 publishers' preference diverts to games and educational tasks, crosswords, puzzles. Online tests on various

topics are used in online magazines aimed at children from 14 to 17. Some websites of online magazines do not contain any video materials, since there are several reasons: first of all, financials, and the high cost of a license to host a full-length animated film, and not every online magazine is ready to meet such expenses; another reason is technical capabilities of websites: technical characteristics of some online media are unable to place videos, or it may cause too slow page load, which will eventually reduce the number of page views. Audio materials are outsiders among other multimedia components; many publishers underestimate the advantages of this format, or do not have sufficient technical capabilities to place this component in their online magazines. As for the AR technology, the Russian online media for children are making their first steps in the use of this component. Only two online magazines, which are the most commercially profitable Russian projects today, have started to use augmented reality technology. The adoption of these technologies is significantly influenced by both the economic factor (high cost) and human aspect, namely the ability to explain to the child how to use an application.

As a result, we can conclude that multimedia components in online media for children in Russia are used unevenly and not always for the designed purpose, that is primarily connected with finances of a publishing house. Only a few online magazines are commercially viable projects among Russian media for children, while the rest are supported by the Federal Agency for press and mass communications, but it does not cover the costs of developing online media for children. At the same time, it should be noted that the abundance of multimedia components in the online editions for children generates an increase in the level of Internet addiction, which, in its turn, affects child's personality.

Based on the results of the research, we have come to the conclusion that an Internet-addict is anxious, depressive, vulnerable, impressionable, characterized by an increased level of excitement and tension, frustrated, emotionally unstable, susceptible to feelings, influence of circumstances, changeable in their relations and interests, unstable, unorganized, irresponsible, unscrupulous, undisciplined, careless, effortless in complying group requirements and standards, as well as underestimates himself and his abilities. These results suggest there is a need to develop a unified method of using multimedia components in online magazines, which could complement text content without replacing it. Considering the difficult financial situation of media for children in Russia, this problem can only be solved with the help of state support.

The results of the research can be applicable in pedagogical, correctional, psychological practices. As the current generation is rapidly adopting technologies, often running ahead of their teachers and educators, it will be useful for the latter to understand the trends emerging in society in order to take them into account in time and possibly anticipate undesirable consequences. Obviously, the personality characteristics discovered by the tests conducted require close attention of specialists.

Further research may be aimed at expanding the range of characteristics identified in Internet-addicts, for example, describing their professional qualities, as well as include longitudinal testing; in addition, it is advisable to study possible methods of correction in the described violations of personality.

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