EDUCATION OF STUDENTS IN THE CONDITIONS OF DIGITALIZATION OF INCLUSIVE HIGHER EDUCATION

FORMAÇÃO DOS ALUNOS EM CONDIÇÕES DE DIGITALIZAÇÃO DO ENSINO SUPERIOR INCLUSIVO

EDUCACIÓN DE ESTUDIANTES EN LAS CONDICIONES DE DIGITALIZACIÓN DE LA EDUCACIÓN SUPERIOR INCLUSIVA

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ABSTRACT: The article reflects the problem of using virtual networks as a means of education in the educational process of the university, presents the results of experimental work aimed at determining the propensity to socially acceptable forms of addictions and their prevention in future psychologists and teachers-psychologists by means of psychotechnologies implemented within the framework of educational work in a remote format, which are aimed at forming the intrapersonal potential of ensuring a safe existence, psychological security in interpersonal interaction in the conditions of electronic communication and neutralization of threats and manipulation in the information space.


RESUMO: O artigo reflete o problema do uso de redes virtuais como meio de educação no processo educacional da universidade, apresenta os resultados de um trabalho experimental que visa determinar a propensão a formas socialmente aceitáveis de vícios e sua prevenção em futuros psicólogos e professores- psicólogos por meio de psicotecnologias implementadas no âmbito do trabalho educativo em formato remoto, que visam formar o potencial intrapessoal de garantir uma existência segura, segurança psicológica na interação interpessoal nas condições de comunicação eletrônica e neutralização de ameaças e manipulação nas espaços de informação.


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**RESUMEN:** El artículo refleja la problemática del uso de las redes virtuales como medio de educación en el proceso educativo de la universidad, presenta los resultados de un trabajo experimental encaminado a determinar la propensión a formas socialmente aceptables de adicciones y su prevención en futuros psicólogos y docentes, psicólogos por medio de psicotecnologías implementadas en el marco del trabajo educativo en formato a distancia, las cuales están dirigidas a formar el potencial intrapersonal de asegurar una existencia segura, seguridad psicológica en la interacción interpersonal en las condiciones de comunicación electrónica y neutralización de amenazas y manipulación en el espacio de información.


**Introduction**

Designing digital education is a priority direction of Russia's national policy. The processes of digital transformation in the field of education are regulated by the following projects: "Modern digital educational environment in the Russian Federation", "Digital Educational Environment" (Ministry of Education of Russia, 2019), "Strategies for the development of the information society in the Russian Federation for 2017-2030" (Decree of the President of the Russian Federation, 2017). They reveal the features of the organization of the educational process at the university in the era of digitalization, the specifics of the use of electronic educational resources in the socio-psychological adaptation of disabled students in a rapidly changing digital world. In accordance with the federal project "Digital Educational Environment", the e-education system should prepare qualified owners of digital technologies who have the competencies of the near future. In this regard, part of the priority policy of educational organizations at various levels is the transformation of the educational environment in accordance with advanced information technologies, increasing the digital competence of teachers, introducing new forms of interaction with students (ARTEMYEVA; VORONINA; ARTEMYEVA, 2020, p. 272).

The modern world has moved to the next level of development of new technologies. Digitalization of education involves the use of digital technologies by students in combination with the technologies of wireless networks of a new generation, significantly expanding the possibilities of presenting educational information, having a complex impact on the personality as a whole, making the educational process diverse and rich (ARTEMYEVA; UTYUMOVA; ARTEMYEVA, 2021). The productive introduction of digital technologies, the interactive involvement of students in the search and processing of information received, participation in collective work and project activities is based on the communicative and interactive exchange.
of information, contributing to the development of information culture and the formation of psychological skills (the art of intellectual search and working with a large flow of information), activating the adaptation of the individual in the modern information space (NIKULINA; STARichenko, 2018).

In modern conditions, the main goal of education is the upbringing and socialization of a growing subject, purposeful management of the process of its development by creating favorable conditions for this (LAPTEv; NOSKOva, 2018).

As part of the introduction of software and technical means of digital educational content, one of the main trends of modern education is the use of social networks as a means of education, conducting live broadcasts, trainings, events in remote mode (BABUSHKINA; ALYOSHINA, 2021).

Modern digital technologies carry a source of incredible progress: they are an integral opportunity to realize human abilities, provide communicative equality, interactivity of social contacts (SAFronOva; VERBITSKAYA; MOLCHAnov, 2018).

In modern society, students become the most unprotected social community, since their socialization at the university implemented against the background of the mandatory use of the Internet as a tool for educational activities in a situation. Students perceive the Internet as an effective means of interactive search, personal communication and education (TOPIlSKAYA, 2021).

The current generation of young people is inseparable from electronic devices. The system of higher education has firmly incorporated mixed learning, which combines face-to-face training with online training on various Internet platforms. This approach to education is aimed at an ideal combination of full-time education and online activities (ARTEMYEVA; UTYUMOVA; ARTEMYEVA, 2021).

When students delve into the digital space, a number of new interests and expectations arise, various forms of media activity that are associated with the virtualization of living space and interaction. The virtual electronic environment as a comprehensive communication zone of the subjects of the educational process will provide a huge personal-developing and educational potential.

The use of digital technologies provides an opportunity to meet the communicative needs, the realization of human abilities. The characteristic features of educational practice using social networks are the increase in its technological effectiveness, mobility, dialogicity, flexibility.
Young people entering an active social life, in order not to drown in the information flow, must learn to correctly perceive, analyze and exclude unnecessary information, including critical thinking. Only personal experience is not enough for the organization of life activities. Young people are acquiring more and more necessary information from the Internet. However, young people are increasingly exposed to destructive information influences that are gaining activity in the space of the Internet (SAFRONOVA; VERBITSKAYA; MOLCHANOV, 2018).

The discussed problem of education is primarily related to overcoming the negative effects of the electronic environment on the younger generation. However, uncontrolled use of the Internet space can have a negative impact that can harm a person's social, mental and physical health. The destructive provocative impact of virtual space is a pre-planned process of destructive changes in consciousness, psychological deformation of the value-semantic sphere of the individual, which leads to the desocialization of the personality of a young person (computer games, death groups, etc.) (SAFRONOVA; VERBITSKAYA; MOLCHANOV, 2018), which causes irreparable harm to the psychosocial health of a young person. The relevance of the article is due to the need to review the materials on the issue of strategic guidelines in the education of the digital generation.

N. Postman, one of the representatives of the critical approach, in 1982 revealed the phenomenon caused by the development of electronic means (in particular, electronic media), who designated it as "the disappearance of childhood". Total digitalization changes the process of socialization of children, blurring the border between childhood and adulthood. Just as the printing press created childhood in its time, so electronic media lead to its disappearance (POSTMAN, 1982).

The American publicist and Internet expert N. Carr (2008) in his work "Is Google making us stupid?" revealed the process of the negative impact of the constant use of digital tools on reading, oral speech, oral presentation of stories, on memory and concentration of attention, and many other aspects of human activity.

Some researchers believe that digitalization technologies contribute to a multiple increase in human thinking abilities. Other scientists, on the contrary, support N. Carr's point of view about the not always positive transformation of not only the ways of activity, but also the thinking of modern people: about the loss of deep reading skills, which cannot but affect the nature of perception and processing of information (MUELLER; OPPENHEIMER, 2016). Thus, P. A. Muller and D. M. Oppenheimer, comparing the advantages and costs of taking notes by hand and recording lectures in a computer, found that the former is more effective for learning. Although a laptop allows students to record a larger amount of educational material,
it is processed rather superficially; and students who take notes by hand, on the contrary, understand the content of lectures better (WOLF, 2009).

The harm that the digital environment causes to human health can be expressed in such negatively colored concepts as "electronic smog", "digital drug addiction" and even "digital dementia" or "digital dementia" (MUELLER; OPPENHEIMER, 2016).

N. Carr (2008) suggested that, using artificial intelligence, a person does not notice how his own intelligence also partially becomes artificial, obeying, for example, the logic of algorithmization consistently carried out by Google.

The excess of contradictory information in the digital space has a negative impact on the mental health of young people. It should be emphasized that the world and society as a whole are moving towards a hyperactive society, where the thirst for novelty and exoticism prevails, reduced patience and tolerance, increased conflict and the desire to get everything at once without effort. Clip thinking is nothing but a protective reaction of the individual to rapidly changing conditions and an overabundance of information (SPITZER, 2014).

The Internet and digital technologies wean us from reading real literature, which is replaced by digests, viewing blogs, and information in chat rooms. New technologies give rise to clip thinking, which shifts perception towards visualization, not without prejudice to the logic of thinking. People lose the ability to think independently ("Google makes us stupid" (SERAZHETDINOVA, 2020)). In digital reality, the world becomes transparent, and a person's life can be under constant control. Finally, there are direct threats to the security of individuals, organizations and states (PISHCHULINA; LOSHKAREV; CHURAKOVA, 2018).

Such a negative influence of the digital space can be contrasted with the extracurricular educational environment of the university, as a tool for professional education and maximum self-expression of young people through electronic means of communication.

K. Zirera emphasizes that the risks of digitalization in education can be avoided if the leading place is occupied not by technology, but by the teacher and pedagogy. The main goal of Russian education has always been the development of a person and his formation as a person. This pedagogical approach should also be applied in relation to the digitalization of education. Digital technologies cannot be considered a substitute for the pedagogical component of the educational process. Rather, digitalization should be subordinated to the pedagogical component of the educational process (ZIERER, 2019). Thanks to modern didactic developments, it is understood that the teacher and real pedagogical communication cannot be completely replaced by digital technologies.
A.A. Verbitsky (2019), who deals with digital learning, notes that there is no concept of "digital education", since education in the educational process should include communication, interpersonal interaction of subjects, and an emotional and value attitude to situations of moral choice based on moral norms accepted in society. V.V. Artemieva, L.V. Voronina, E.A. Utyumova (2020) points out that the educational potential of the educational process at the university should be based on digital means of communication when modeling situations of upcoming practical or professional activities.

Materials and methods

In order to determine the propensity to socially acceptable forms of addictions and their prevention in future psychologists and educational psychologists, an experimental study was conducted. The experimental base of the research was the Moscow State University of Humanities and Economics. The study involved 36 students of the Faculty of Psychology and Pedagogy.

On the basis of this university, a developing program "Illusions of communicative security" was implemented among students of the Faculty of Psychology and Pedagogy of the training areas "Psychological and pedagogical Education" and "Psychology". The purpose of the program is the prevention of socially acceptable addictions, which consists in the formation of students' social and competence resources of personality, in mastering the methods of psychological protection against manipulative influences in the virtual space. The program included preventive classes aimed at preventing threats associated with excessive enthusiasm for staying in the virtual space, as well as mastering modern psychotechnologies for preventing Internet addiction. There were 16 classes, 2 times a week with a duration of 45 minutes. The program structure included 4 series of classes: coordination (diagnosis of Internet addiction; creation of a group; discussion of the rules of work in a group), educational and educational (providing information about the mechanisms of occurrence, psychological causes of Internet addiction, methods of its prevention), developmental and operational (trainings for the development of social and communicative skills, confident behavior, strong-willed self-control, a master class on Internet psychology, on the prevention of occupational health, on the formation of strategies for solving educational and professional problems, on the formation of professional value orientations, etc.), evaluation (analysis and discussion of results, control diagnostics).
Results and discussion

At the beginning of the academic year, we conducted a primary diagnosis to determine the propensity for socially acceptable forms of addictions in future psychologists and educational psychologists, at the end—a control diagnostic section to determine the effectiveness of the work carried out.

We used the tests "Diagnostics of Internet addiction" by K. Young (in the original "Internet Addiction Test" – a test for Internet addiction) (PSYCHOJOURNAL, n.d.) and the questionnaire "Cybercommunicative dependence" by A.V. Toncheva (LEZHNEVA, 2014), the test "Definition of communicative social competence" (All about social networks, n.d.), the questionnaire "Definition of integral forms of communicative aggressiveness" by V. V. Boyko (FETISKIN; KOZLOV; MANUILOV, 2002).

The results of the test "Diagnostics of Internet addiction" K. The Yangs are reflected in Fig. 1.

Figure 1 – Dynamics of indicators of dependence on the Internet of students according to the method of K. Yang

Source: Prepared by the authors

The analysis of the data presented in Fig. 1 shows a positive dynamics of the indicator of the scale "Ordinary Internet user" from 43.3%, the number of subjects increased to 70.3% (an increase of 27%), on the scale "There are some problems with excessive Internet addiction", the number of respondents decreased from 48.5% to 24.2% (a decrease of 24.3%), the number of subjects on the scale "Internet addiction" decreased from 8.2% to 5.5% (a decrease of 2.7%).
Further, Table 1 presents an analysis of the differences in psychological indicators of Internet addiction in the group before and after the formative stage of the experiment using the criterion \( \phi \)-Fisher angular transformation.

**Table 1** – Analysis of the differences in the indicators of dependence on the Internet among students according to the method of K. Using the criterion \( \phi \)-Fisher angular transformation before and after the formative stage of the experiment

<table>
<thead>
<tr>
<th>Scales of the method</th>
<th>The magnitude and significance of the ( \phi )-criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>0,466</td>
</tr>
<tr>
<td>There are problems associated with excessive Internet addiction</td>
<td>2,203*</td>
</tr>
<tr>
<td>An ordinary Internet user</td>
<td>2,388**</td>
</tr>
</tbody>
</table>

Note: *-1.64 (p \( \leq \)0.05), **-2.28 (p \( \leq \)0.01)
Source: Prepared by the authors

Analysis of differences in psychological indicators using the criterion \( \phi \)-Fisher's angular transformation showed that statistically significant differences were found at the 1% significance level in the group where the formative stage of the experiment was conducted, according to the indicator "The presence of problems associated with excessive Internet addiction" at the control stage of the experiment, statistically significant differences were found at the 5% significance level. Hence, the implementation of a psychological program for the prevention of socially acceptable forms of addictions contributed to a decrease in the number of subjects who are excessively addicted to the Internet and are prone to Internet addiction.

Then we used the questionnaire" Cybercommunicative dependence" by A.V. Toncheva, the results are shown in Fig. 2.

**Figure 2** – Dynamics of the levels of cybercommunicative dependence of students according to the method of A.V. Toncheva

Source: Prepared by the authors
The analysis of the data presented in Table 2 shows the dynamics of the levels of cybercommunication dependence: the number of subjects with a high level decreased from 43.3% to 21.5% (a decrease of 21.8%), the number of subjects with an average level increased from 37.9% to 48.7% (an increase of 10.8%), the number of subjects with a low level increased from 18.8% to 29.8% of respondents (an increase of 11%).

Further, Table 2 presents an analysis of the differences in psychological indicators of cybercommunicative dependence on the Internet in the group before and after the formative stage of the experiment using the criterion $\phi$ - Fisher angular transformation.

**Table 2** – Analysis of differences in the indicators of students' cybercommunicative dependence according to the method of A.V. Toncheva using the criterion $\phi$-Fisher angular transformation before and after the formative stage of the experiment

<table>
<thead>
<tr>
<th>Scales of the methodology</th>
<th>The magnitude and significance of the $\phi$-criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level</td>
<td>2.008*</td>
</tr>
<tr>
<td>Intermediate level</td>
<td>0.943</td>
</tr>
<tr>
<td>Low level</td>
<td>1.087</td>
</tr>
</tbody>
</table>

Note: *-1.64 (p ≤0.05), **-2.28 (p ≤0.01).

Source: Prepared by the authors

The analysis of differences in psychological parameters in the group using the criterion $\phi$ - angular Fisher transformation showed that after the forming stage of the experiment group in terms of "high level" cybercommunications based on statistically significant differences at the 5% level of significance.

For this purpose, we used the questionnaire "Definition of integral forms of communicative aggressiveness" by V. V. Boyko. The results are shown in Fig. 3.

**Figure 3** – Indicators of integral forms of communicative aggression in students according to the method of V. V. Boyko at the ascertaining and control stages of the experiment

Source: Prepared by the authors
The analysis of the data presented in Fig. 3 showed that it indicates the dynamics of the levels of communicative aggression: on the scale of "very low level of aggression", the number of respondents increased by 2.7%, on the scale of "low level of aggression", the number of subjects increased by 10.8%, on the scale of "average level of aggression", the number of subjects increased by 18.9%, on the scale of "increased level of aggression", the number of respondents decreased by 16.3%, on the scale of "very high level of aggression", the number of respondents decreased by 16.2%.

Further, Table 3 presents an analysis of the differences in psychological indicators of integral forms of communicative aggression according to the method of V. V. Boyko in the group before and after the formative stage of the experiment using the criterion φ - Fisher angular transformation.

**Table 3** – Analysis of differences in the indicators of integral forms of students’ communicative aggression according to the method of V. V. Boyko using the criterion φ-Fisher angular transformation before and after the formative stage of the experiment

<table>
<thead>
<tr>
<th>Scales of the methodology</th>
<th>The magnitude and significance of the φ-criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low level of aggression</td>
<td>0.400</td>
</tr>
<tr>
<td>Low level of aggression</td>
<td>1.200</td>
</tr>
<tr>
<td>The average level of aggression</td>
<td>1.677*</td>
</tr>
<tr>
<td>Increased level of aggression</td>
<td>1.828*</td>
</tr>
<tr>
<td>Very high level of aggression</td>
<td>2.142*</td>
</tr>
</tbody>
</table>

Note: *-1.64 (p ≤0.05), **-2.28 (p ≤0.01)
Source: Prepared by the authors

Analysis of the differences in psychological indicators in the group using the criterion φ - Fisher's angular transformation showed that after the formative stage of the experiment, statistically significant differences were revealed at the 5% significance level in the group according to the indicators "average level", "increased level of aggression" and "very high level of aggression".

The data obtained indicate that the majority of students are characterized by spontaneous aggression, in which they can switch to other objects and change activities. Thus, the "risk" of dependent behavior has decreased, in which a person "psychologically plunges" into the world Wide Web, where he tries to find friends, build relationships, thereby plunging into the illusion of communicative security, real emotional relationships with people lose their significance.

Next, we used the questionnaire “Diagnostics of communicative social competence (CSC)”. The results are shown in Fig. 4.
The analysis of the data presented in Fig. 4 showed that after the formative stage of the experiment, the number of subjects in the group increased by 5.4% on the "maximum level of competence" scale, the number of subjects increased by 5.4% on the "predominant severity of competence factors" scale, the number of subjects increased by 13.4% on the "average level of competence" scale, and the number of subjects decreased by 24.2% on the "low level of impulsivity" scale.

Further, Table 4 presents an analysis of the differences in psychological communicative social competence in the group before and after the formative stage of the experiment using the criterion φ - Fisher angular transformation.

**Table 4 – Analysis of differences in indicators of students’ communicative social competence using the criterion φ-Fisher angular transformation before and after the formative stage of the experiment**

<table>
<thead>
<tr>
<th>Scales of the methodology</th>
<th>The magnitude and significance of the φ-criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level of social competence</td>
<td>2.375**</td>
</tr>
<tr>
<td>The average level of social competence</td>
<td>1.227</td>
</tr>
<tr>
<td>The predominant severity of social competence factors</td>
<td>0.564</td>
</tr>
<tr>
<td>The maximum level of social competence</td>
<td>0.638</td>
</tr>
</tbody>
</table>

Note: *-1.64 (p ≤0.05), **-2.28 (p ≤0.01)
Source: Prepared by the authors

The analysis of the differences in psychological indicators using the criterion φ - Fisher's angular transformation showed that after the formative stage of the experiment, statistically significant differences at the 1% significance level were revealed in the group according to the
indicator "low level of social competence". There were no statistically significant differences in other indicators. Thus, after the formative stage of the experiment, the number of respondents with an average and moderate level of impulsivity significantly increased, which indicates their purposefulness, perseverance in achieving their goals, and the desire to finish what they started. These data confirm that students have become more prone to high behavioral self-reflection and goal-setting.

The study of special psychological literature on the influence of socio-psychological factors on the occurrence of Internet addiction among students has shown that in higher educational institutions there are students who are prone to Internet addiction. Getting into the Internet environment, they develop the following competencies: the ability to use computer technologies and the need to obtain reliable information. The virtual environment of the Internet has a number of characteristics that are very attractive for students who are prone to dependent behavior. This has a negative impact on their mental state, in particular, and on educational activities in general, accelerating the addictive processes. The results of the experimental work confirmed the need for educational work with students at the university, even in a distant format.

The results of secondary diagnostics should be the basis for the development of preventive measures with students aimed at forming their social and competence resources of the individual. We believe that the implementation of the psychological prevention program in a remote format, including a complex of psychological and pedagogical forms and technologies, will contribute to the formation of a responsible attitude to information from the Internet, increase the level of communication, self-confidence and stress resistance, create conditions for optimizing the time they spend online, reducing their dependence, acquiring highly effective behavioral strategies and personal resources, effective interpersonal communication skills and solving everyday situations.

Conclusions

Thus, the implementation of the program for the prevention of socially acceptable addictions of students contributed to the reduction of subjects, having a high level of cybercommunicative dependence, and an increase in the composition of students with the maximum and average level of communicative social competence, the indicators of integral forms of communicative aggression of students decreased. The listed communicative factors prevent the emergence of dependent behavior. The use of
psychotechnologies in educational work carried out in a distant format helps to preserve the professional health of future psychologists and teachers-psychologists, increase the effectiveness of their educational and professional activities, make it possible to get out of a state of isolation and loneliness, feeling unity with other people; strengthen faith in yourself and your abilities; teach you to make decisions, both independently and together with other people, thereby effectively teach new behaviors.

REFERENCES


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