

---

## DESIGN AND CYBERPSYCHOLOGICAL PROBLEMS OF THE DIGITIZATION OF THE EDUCATION SYSTEM

**Turkan Alibeyli\***

Department of Mathematics and Computer Science, Nakhchivan University,  
Nakhchivan, Azerbaijan

---

**Abstract.** What changes in people's behavior have led to the emergence of social networks as a result of the advent of computers and the Internet? What psychological problems have users started to face, staying between their virtual and real personalities? Thus, at the same time, issues such as convenient and proper use of the Internet by high school students receiving education in a distance form arose. In the process of digitization of the education system, the creation of online learning groups that successfully function in social networks is the subject of special attention. And the main question that arises in this process is how online learning groups affect their psychology when students benefit from the Internet. We can find the answer to this question in the field of cyberpsychology. Cyberpsychology is a field created in our time to understand the social and psychological consequences of experiences gained from the Internet.

---

**Keywords:** Education, cyberpsychology, social networks, student, online learning groups.

**\*Corresponding author:** Turkan Alibeyli, Department of Mathematics and Computer Science, Nakhchivan University, Nakhchivan, Azerbaijan, Tel.: +994702626238, e-mail: [elibeyliturkan@gmail.com](mailto:elibeyliturkan@gmail.com)

*Received: 15 October 2022; Revised: 11 November 2022; Accepted: 10 December 2022;*

*Published: 13 January 2023.*

---

## 1 Introduction

The term virtual space is especially widely used by the younger generation today. In recent years, as a result of the emerging pandemic, the process of digitization of the education system has accelerated. As a result of the digitization process, new terms have entered into our lives, such as internetization, online education, media education. Students now spend more time in cyberspace using the internet. On the other hand, the main sites that attract the attention of students in the virtual space are the sites used for teaching. To ensure proper online learning, it is necessary to create websites that support education and distract their attention from other entertainment sites (Castells, 1996). To create a successfully functioning educational website, it is necessary to pay attention to some aspects:

- Educational needs must be met- a website corresponding to its education system must be created in each state;
- The website should be easy to use - The website should be easy to create for personal use;
- There must be a proper correct instruction for usage the internet.

The aspects we have listed relate to the 4E model (Collis & Moonen, 2001). This model was developed in 2001 taking into account the factors of Ease of use, Involvement (or Engagement), Educational Effectiveness and Environment. During the application of the model, the

interaction of learning with technology is analyzed. No matter how accessible e-education is for everyone nowadays, it is impossible to talk about it in those areas where problems arise with the functioning of the Internet and ICT.

Websites usually depend on the requests of the users who visit them. Because students don't continue reading if they don't understand when they first read any articles on the website. For this reason, the article first concludes that the student should attract his attention, and then other important information should be provided. Students usually want to see the words and sentences they need in advance.

This is called the inverted pyramid method. Nielsen expresses his opinion about this approach (Nielsen, 1996): "in cyberspace, it is important to use the reverse pyramid method, because users often read the upper part of this article. If the user wants to delve into this topic, he will get full information by going to the lower parts of the article".

According to Nielsen, there are good reasons why users behave this way:

- Reading from a computer screen tires the eyes and is about 25 percent slower than reading from a sheet;
- Since cyberspace is a user-controlled environment, users feel the need to constantly move around the screen;
- And at the same time, people do not want to spend more time reading information instead entertaining (Nielsen, 1996).

The main goal is to create a user-oriented design so that such a design can increase the usefulness of everything that people interact with. To create a learning site at a good level, you must follow certain rules:

- Appearance - helps users create the right mental model of the information they need;
- Memory load - the site should reduce the load on users' memory;
- Contacts - the site must respond to user actions;
- Accessibility - the user should get the necessary information as quickly and easily as possible;
- Navigation - the user should not feel lost on the site;
- Errors - the website should minimize user errors and use a mechanism that eliminates them when they make a mistake;
- Satisfaction-using the site should make a pleasant impression;
- Visual design (Katz-Haas, 1998).

Currently, students are increasingly in need of using the Internet due to the social and psychological processes caused by the pandemic. In the modern education system, students usually want to determine their future direction personally. Understanding the needs of students is a complex process. In fact, they intuitively know what schools want to do for them. Nevertheless, the Internet is a space for students that has aspects such as interactivity, social and informational. Another reason why a student can use the Internet is the educational environment, which in some cases does not satisfy parents. As a result of the research, it is found that the education received from the Internet is more useful for the student, so parents choose such education. Usually, students are more willing to work on the topic that is taught practically on the Internet than to listen to the teacher passively. In particular, subjects that pose difficulties for students, such as physics or chemistry, are better understood from the Internet. This is due to the fact

that visualization of experiments that cannot be carried out in laboratory conditions in schools facilitates perception. At the same time, thanks to research conducted on the Internet, students can get access to the information they need in full. The selection and analysis of the correct data from among the collected develops the analytical abilities of students.

In this way, students become intelligent consumers of the information they receive. Using the Internet also gives a teenager access to many educational sites without losing a lot of money. Each course that requires a lot of time and money to attend is attracting students by organizing online courses. Class blogs, created for students to stay in constant communication with each other and their teachers using the Internet, help parents to be aware of the events in education. And most importantly, the Internet plays an invaluable role in getting a teenager interested in any professional field that interests him. Students who want to rediscover their "self" that they have buried under their consciousness and have social interaction are more willing to use cyberspace.

## 2 The main psychological features of cyberspace

The emergence and spread of cyberspace has eliminated the gap between man and machine, providing an attractive environment for communication and personality discovery. At the same time, classes in high schools were conducted remotely for a while, resulting in students accessing cyberspace usually without parental supervision.

To study the influence of cyberpsychology on the psychology of students, four cyberpsychological dimensions are taken as a basis - the main psychological characteristics of cyberpsychology, the psychology of individuals, group dynamics in cyberpsychology and relationships.

When analyzing the behavior of students, it is necessary to separately take into account the psychological dimensions of all spaces on the Internet. Thus, they use the factors of consciousness and subconsciousness on the Internet. While the conscious mind reminds them of their true goals of accessing the Internet, the subconscious mind creates a desire to enter the magical atmosphere that they create in their own world. In constant interaction, the parent and the school should monitor the use of the Internet by the student and not allow him to get a psychological shock, having reached the degree of dependence.

In cyberspace, it is also necessary to take into account the individual psychology of the student. Individual psychology should be considered in two directions:

- User psychology during human-computer interaction;
- This is how a user identifies himself in cyberspace.

When interacting with a person and a computer, you can face serious problems, such as dependence on a computer or the Internet, confusing real life with virtual one. The sections of testing and evaluation, consultations for classes that we see on educational websites, may eventually turn into chat groups. Students can also escape from real life by creating their own virtual identity. At this point, the student feels free on the Internet and begins to use features such as anonymity. Considering the age factor, we see that sometimes teenagers use several personalities in cyberspace. Addiction, which occurs when personality diversity becomes an anonymous phenomenon, can reach the same level as gambling and drug addiction (Turkle, 1997).

It would be inaccurate to express judgments about people's emotions in online interactions. Because only from the reaction to the text or images, the user's state of mind can be guessed. During group discussions, students begin to think analytically, which affects their social self. Generally speaking, group dynamics in cyberspace refers to discussion sites created on the Internet. These online groups consist of four components: people, purpose, policy, and software.

A balance is created when they all work together, in addition to cases where the four components interact with each other depending on the conversation and discussion. Since these components are based on the Internet, the software can be considered the main one. But since the users who make up the online group can change the direction and purpose of their software, it goes beyond that.

As a result of the rapid digitization of educational and social life, dependence on the virtual world has become stronger, and students have various forms of psychological trauma. As a rule, the biggest problem that arises due to the fact that students spend a lot of time in cyberspace is Internet addiction taken together. Psychologically, addiction is a feeling of overwhelming need for something else that jeopardizes the main goal. The syndrome of mental dependence has a serious impact on the healthy and normal functioning of a teenager, especially in society. During distance learning at home, a student who does not have a normal relationship with a parent does not want to leave the digital world. Because he uses Internet resources, he hides the trauma. In fact, the way to hide one addiction is another addiction, the teenager covers the trauma he received from his parents with internet addiction. However, this does not eliminate both (Turkle, 1997).

In some cases, teenagers are faced with propaganda of sexual violence against children and the use of alcoholic beverages with images that do not correspond to their age, with content that instill nuances that contradict undesirable moral and moral qualities in the Internet environment. The use of psychotropic substances, abuse, aggression and suicide, disrespect for the family, deception, lies and talking in slang terms are also frequent cases in cyberspace. Sometimes children and teenagers connect with people they don't know over the Internet, and in most cases they meet these people in real life. As a result, the Internet, where a person can easily hide his true identity and is difficult to control, becomes a place where children become an easy target, where they are left defenseless and unsecure.

Even social networks allow teenagers to break away from the real world, because they are an important part of their lives. Not only teenagers, but also all age groups depend on cyberspace in this way and the problem of how to eliminate addiction is the most urgent issue of modern times. "Information hygiene" should be applied in the educational process and in other areas. This includes the following methods:

- Collaboration with qualified psychotherapists to eliminate dependence on cyberspace;
- Reduce the amount of information received from the media;
- Apply Digital Detoxification;
- Creating psychologically safe educational websites for all students;
- Receiving psychological support for students.

One of the most important nuances among them is digital detoxification. The application of this will lead to sufficient changes in the behavior of your teenager.

Researchers have found that digital detoxification improves children's ability to read the emotional expressions of others. The study began with the fact that people aged 11 to 13 years wanted to determine the emotional expression of other people in photos and videos.

Then half of the group was sent to an open camp, where they were not allowed to use electronics. The other half continued to use the normal display time.

Five days later, both groups were tested again for the ability to read people's emotions. There were no changes in the group that continued to use their digital devices. However, the group that joined the camp showed a significant improvement in the ability to recognize other people's emotions.

The researchers realized that face-to-face time is important for children's social skills. These emotional and social skills play an important role in behavior management. When children understand how others feel, it also manifests itself in their behavior.

There are several strategies for creating digital detoxification:

A week pause electronics - a camping trip, a vacation in the mountains, or a week in a remote cabin can get everyone away from electronics. Getting away from technology can reveal everyone's talent in other things.

Electronic Free Weekend -you can save it for the weekend if you can't disconnect from the internet due to problems with work or education. You can do a digital detoxing by spending a few weekends a year without the internet.

Monthly Digital Day - Here you can make a digital detoxing day that you assign to the family every month. Celebrating that day as a family day and spending time with your child will have a positive effect both on your child's mood and yours.

Never try to take a teenager away from a single electorate, from the Internet. Teenagers usually choose their parents as role models. You will not get the desired results if you spend time on the Internet on your phone or computer, and forbid the child to do it. The parents should also practice digital detoxification along with their child.

### 3 Conclusion

As a result, parents must control how long and for what purpose their children use the Internet. Emerging psychological problems can lead to more serious problems in the later life of young people. Nowadays, the use of the Internet, both in the education system and in our daily lives, cannot be stopped once and for all. At the same time, a complete ban on the use of cyberspace will lead to more serious conflicts between parents and children.

Spending time in cyberspace, taking into account psychological indicators on properly designed educational sites, will have a positive impact on the student's knowledge. Considering that the Internet as a whole benefits many areas of modern problems in the education system, we must move the country's education system forward by eliminating shortcomings and using them.

### References

- Castells, M. (1996). *The Rise of the Network Society, Information Age: Economy, Society and Culture*. Volume I, Cambridge: Blackwell Publishers.
- Collis, B., Moonen, J. (2001). *Flexible learning in a digital world: experiences and expectations*. London: Kogan Page Publishers.
- Nielsen, J. (1996). *Inverted Pyramids in Cyberspace*. [Online] Available: <http://www.useit.com/alertbox/9606.html>.
- Katz-Haas, R. (1998). User-centered design and web development. *Usability Interface*, 5(1), 12-13.
- Turkle, S. (1997). *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.