

## The specificities of the thinking process in adolescents. Clip thinking

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**Abstract.** The article describes the so-called clip thinking in adolescents. It has been established that, despite the existing data in the literature on the influence of the Internet on cognitive processes, a decrease in the speed of thought processes in adolescents has not been confirmed. At the same time, there were found a greater number of errors in the reproduction of information in adolescents compared to adults.

**Keywords:** clip thinking, attention, cognitive processes, adolescents, adults.

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## Particularitățile procesului de gândire la adolescenți. Gândirea clip

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**Rezumat.** Articolul descrie așa-numita gândire clip la adolescenți. S-a stabilit că, în ciuda datelor existente în literatura de specialitate privind influența Internetului asupra proceselor cognitive, o scădere a vitezei proceselor de gândire la adolescenți nu a fost confirmată. Totodată, s-au constatat un număr mai mare de erori în reproducerea informațiilor în rândul elevilor comparativ cu adulții.

**Cuvinte cheie:** gândire clip, atenție, procese cognitive, adolescenți, adulți.

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### 1. INTRODUCTION

The fast-paced life, the development of advanced technologies and, accordingly, the increase in the flow of information, the need to obtain and process a very large amount of information could not but affect the thinking of our contemporaries. An overloaded brain quickly loses the ability to analyze, choose and decide. This phenomenon especially affects young people, children, who sometimes cannot tear themselves away from the Internet, gadget, phone, etc. [2].

According to Daniel J. Levitin [4], in 2011, Americans were consuming five times as much information per day as they were in 1986—comparable in volume to 174 newspapers. Moreover, 21,274 TV channels produce 85,000 hours of original programming every day, which people watch on average about 5 hours a day, which is equivalent to 20 gigabytes of photo and video information. Every hour, 6,000 hours of video clips are posted on the YouTube channel. And, in total, according to Daniel Levitin, from 2005 to 2015,

mankind created about 300 exabits of information, which corresponds to six trillion War and Peace novels.

The human brain is capable of handling large amounts of information, but its performance comes at a cost. When it comes to separating important data from non-essential data, people face fatigue. Neurons that require oxygen and glucose to function are rapidly depleted.

The term “clip culture” was coined by Alvin Toffler in 1980 in response to a huge amount of information [6, 7, 8]. Clip thinking is a means of obtaining and assimilating information not in the form of a printed text, as people of previous generations used to, but in the form of images, fragments of unrelated facts that follow each other as in a kaleidoscope. While video games can develop visual recognition skills by quickly shifting attention from one image to another, the side effect is automation and reduced correctness of thought processes. The influence of PCs and mobile phones on attention does not disappear when they are turned off, as the cellular structure of the human brain adapts to the tools we use. Irrational clicks on network links, endless flickering of “catchy” headlines, commercials, short, unrelated texts, gadgets with scraps of information - all this makes our consciousness fragmented, cut off. Consequently, wanting to keep up with the fast pace of life, a person ceases to perceive information and receives only superficial facts, [Robert Epstein, 1].

According to the research, people who read information with embedded links understand less than those who read traditional texts [5]. Those who watch a multimedia presentation remember less than those who read information in a book. People who are daily distracted by emails, alerts, messages in programs understand the problem with greater difficulty than those who manage to control them and prioritize them correctly.

Finally, employees who perform many online tasks are less creative and less productive than those who are engaged in one thing that captures their focus entirely.

## 2. OBJECTIVES AND METHODS

The research objectives are determining the speed of the distribution of attention in adolescents and adults; determining the amount of information acquired from the Internet by adolescents and adults.

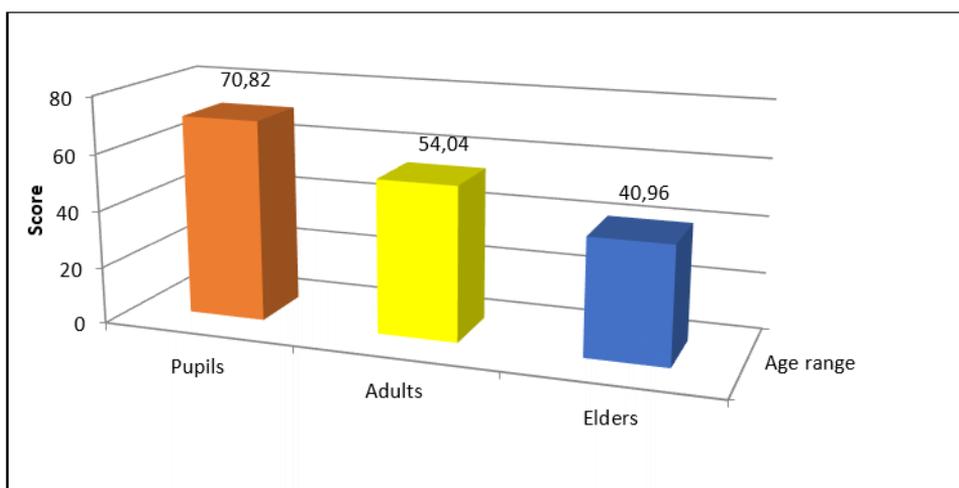
The studies were carried out at Republican Theoretical Lyceum “Aristotle” (teenagers) and at Tiraspol State University located in Chisinau (master degree students, adults).

- (1) Test for determining the level of attention “Prague” (Prague Psychotechnical Institute [3],

- (2) Determining the amount of information acquired from the Internet by adolescents and adults. A questionnaire entitled “Diamonds” is proposed with 10 questions on an unknown topic for respondents. Within 7 minutes, the subject must correctly answer the maximum possible number of questions. The answers to the questionnaire can be found in various sources on the Internet.
- (3) Statistical data processing was carried out using the SPSS (Statistical Package for the Social Sciences) program.

### 3. RESULTS AND DISCUSSIONS

The data obtained as a result of the Prague test are shown in Fig. 1. Thus, clear differences in the redistribution of attention in people of different ages were revealed.

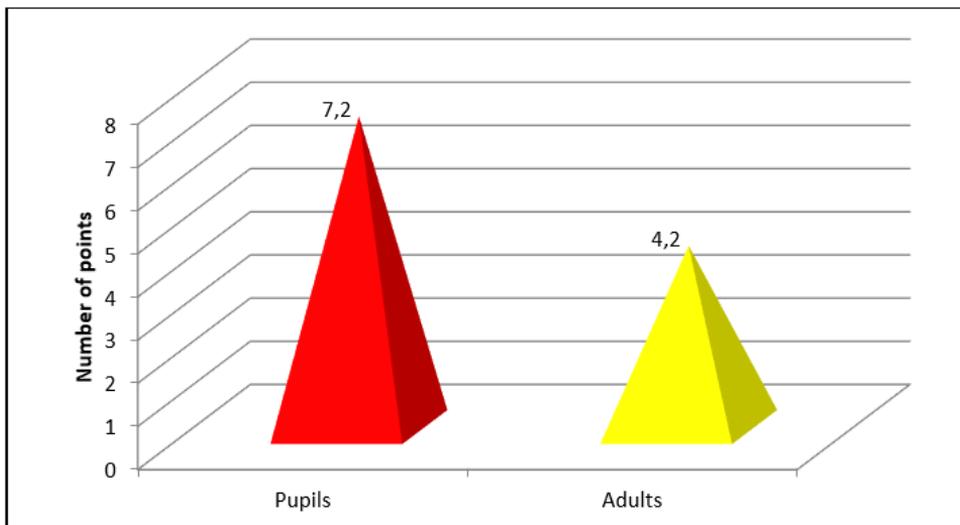


**Figure 1.** Average score obtained in the Prague Test.

The best result, 70.82 points, was shown by 28 students aged 13-18. The second most important result, 54.04 points, was shown by 25 students aged 38-42. These results revealed significant differences between the student and adult 38-42 sample mean in favor of students, as the mean of this sample is  $70.82 > 54.04$  ( $p = 0.000 \leq 0.05$ ).

The third most important result, 39.4 points, was shown by 25 adults aged 65-69 years. These results show significant differences between the averages of the samples of pupils and adults aged 65-69 in favor of pupils, since the average of this sample is  $70.82 > 40.96$ . ( $p = 0.000 \leq 0.05$ ). To study the speed of cognitive processes, we invited the subjects to study various sources on the topic “Diamonds” on the Internet for 7 minutes, after which

they had to answer the maximum possible number of questions on the topic. The research results are presented in Fig.2.



**Figure 2.** The number of correct answers (in points) for the "Diamonds" test.

Thus, the adolescents showed the greatest number of correct answers - 7.2 points, while the adults scored a significantly smaller number - 2.5 points. These results show significant differences between adolescents and adults sample averages in favour of the adolescents, since the mean of this sample is  $7.096 > 4.204$  ( $p = 0.000 \leq 0.05$ ). The original hypothesis was that younger people would score lower than adults or older people as they would be more distracted and find it harder to focus their attention.

Contrary to expectations, the average score of 17-18-year-olds was 7.2, which is much higher than that of 27-51-year-olds, who scored 4.20. More interestingly, among the answers provided, 7.48% were incorrect in the case of young people, and only 4.44% in the case of older people. That is, the latter answered fewer questions, but with somewhat greater accuracy. Thus, this experiment confirmed the presence of accelerated thinking in young people, which, due to the high speed of cognitive processes, makes it possible to cover a wider area of the subject being studied, but has a big drawback – the superficiality of assimilated information.

In general, based on the results of the two experiments, it can be argued that young people did not demonstrate such features of cognitive processes that specialists operate with, such as lack of concentration, short attention span, or superficiality (at least when reading some classical texts). Their flexible thinking is easier to navigate in a large flow of information, given the environment in which they grew up in. However, some aspects

of clip thinking may be present, due to somewhat less accuracy in completing complex and tedious tasks, as in the last experiment, but offset by the greater number of tasks they can perform. This is a useful adaptation in technology and information.

#### 4. CONCLUSIONS

- (1) The best result in the Prague test was shown by people aged 13-18 - 70.82 points. On the second place, we have the adults with a score of 54.04 points, and on the third place - the elderly participants with a score of 40.96 points.
- (2) It was confirmed that young people have accelerated thinking, which, due to the speed of cognitive processes, allows them to cover a wider area of the subject being studied, but has a big drawback - the superficiality of the information being assimilated.

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