

ISMGE 2020**II International Scientific and Practical Conference "Individual and Society in the Modern Geopolitical Environment"****INFORMATION OVERLOAD AS ONE OF THE ASPECTS OF MODERN SOCIETY**

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Abstract

The article regards the problems of modern society in terms of information overload and change of paradigm of thinking. The authors made an attempt to trace the historical development of the paradigm of thinking and find the facts which force the paradigm to change. The current research deals with such definitions as "Generation Z" and "clip thinking" which refer to humans who regard searching the information as a more important criterion than remembering it. Such a change in paradigm thinking can be regarded as a protective response to infoglut which is considered to be the reality of modern society. The impetus for the paradigm shift was the multimedia nature of the flow of information and its redundancy which leads to information fatigue of people who have linear thinking. The authors suggest developing and consolidating new ways of searching, analyzing and adequate use of information as a matter of actual practice. Linear thinking which represents the cognitive model of thinking of the written period complicates the orientation in the modern world of screen culture and information overload. Therefore, at present, it is not possible to transfer knowledge and cultural values from generation to generation in proven ways.

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1. Introduction

The reality of modern society produces constant infoglut. The main characteristic feature of infoglut is the unfiltered flow of information, with the decrease of its usefulness in direct proportion to the amount of data received. The sources of infoglut are primarily the modern media, which includes television, the Internet, radio, newspapers, all types of advertising, as well as the main information bulk involving the life of the modern society which represents in conversations, books, smartphones, signs, instructions, etc. In the context of information bulk, the information itself tends to be accessible, invaluable and nonfundamental. In compliance with the above mentioned, at present, it becomes necessary to search the information as well as organize and filter information flows in comparison with the previous actions displayed in acquiring information. This is due to the fact that the human brain can no longer absorb all the information available to the full extent. The ability to remember where and how this information is stored comes to the forefront. Thus, the human brain no longer builds causal relationships, does not want to analyze and perceive information, gets used to a simple information stream with zero assimilation.

2. Problem Statement

After the publication of "Information Anxiety" by Wurman (1989), the infoglut is nowadays defined as one of the aspects of modern society, on the one hand, and as an impending threat to humanity, on the other hand. The overabundance of information is often mentioned within medical terminology. The term "information fatigue syndrome" is increasingly used to describe this cultural problem. The main symptom of this disorder is the inability to concentrate, which is allegedly caused by an overload of the short-term memory of a person (Lewis, 1996).

Another title for the same cultural phenomenon was proposed by David Mikiks, the author of "Slow Reading in Hurried Age". He calls it "continued partial attention." Mikiks (2013) assumes that children grown up in the digital era, suffer from constantly scattered attention more than previous generations.

3. Research Questions

However, it is essential to recall that people have always been preoccupied with the possibility of searching and understanding information even from the very invention of writing. In compliance with the mentioned above, the real point in the perception of information is not in its quantity, but in the fact that skills in processing new information flows are absent. Nico MacDonald, a British Internet culture writer, considers infoglut as a consequence of what he calls Paradigm Underload (lack of paradigm). McDonald notes that society today is not faced with the question of the amount of information, but with the development of tools and paradigms to filter, prioritize, structure and understand information (as cited in O'Loughlin, 2014).

4. Purpose of the Study

The article regards the problems of modern society in terms of information overload and change of paradigm of thinking. We made an attempt to trace the historical development of the paradigm of thinking and find the facts which force the paradigm to change. The current research deals with such definitions as “Generation Z” and “clip thinking” which refer to humans who regard searching the information as a more important criterion than remembering it.

5. Research Methods

The perception of information as a special field of knowledge in terms of information, which is characterized by a specific experience of contact with reality (Lectorskij, 1980), has determined the paradigm of human thinking throughout the history of human development.

Zuev and Krotkov (2001) define the paradigm of thinking as a cognitive model that allows a person to "independently assess a life situation, formulate a task, search and evaluate the necessary information, find effective methods and means" of its use.

Thus, thinking operates according to a certain model formed by human experience. The processing of information coming from outside firstly consists in perception, which is defined as a system of actions of perception and identification and from Zinchenko's (1981) point of view, it is regarded as a complex operating structure with the following parameters:

1. object detection;
2. distinction, or basically perception: isolation of individual features in an object;
3. identification of the object with a standard recorded in memory;
4. recognition of familiar objects.

Secondly, within the processing of information, the experience gained is structured as assigning an object or event when it is perceived to a certain category (Bruner, 1977).

Categorization in the narrow sense is summarizing of a phenomenon, object, process into a certain rubric of experience, category and recognition by a member of this category; in a broader sense, it is the process of formation and separation of the categories themselves, the division of the external and internal world of a person according to ontological attributes (in accordance with the essential characteristics of existence). The categorization process is aimed at uniting units that show similarity for whatever reason or are characterized as identical ones into larger categories (Rudakova, 2004).

In the human mind, the experience can be formed in various ways:

1. sensually through perception by the senses;
2. from the subject of human activity occurring through interaction with various objects;
3. from the interaction of existing knowledge in the human mind that occurs as a result of human thinking operations;
4. directly from verbal contacts with other people;
5. from independent human activities focused on cognition (Rudakova, 2004).

However, the paradigm of thinking is determined by the nature of the predominantly processed information. Specific features of information may determine the ways it is processed.

Several periods can be distinguished in terms of methods of processing the perceived knowledge. The certain cognitive paradigms of understanding information are specific for these periods.

6. Findings

6.1. Pre-literate cognitive model of data (information) perception and processing

Each stage of historical development corresponds to special principles of sign reality fixation. Initially, information was perceived audibly in accordance with the particularities of information flows of the pre-literate era.

The only form of communication at that period was oral communication. Oral communication was closely related to the traditional type of information transfer. Here, the information was accumulated in human experience and presented in a verbal version, which was not alienated into a sign form, and, of course, was oriented toward reproduction. Pre-literate perception did not imply the need for training in information processing methods, that is, reading and writing. The analytical prioritization and structuring of information was of a practical nature and purpose and was not considered to be the result of complex mental work. This can be proved by the fact that children in the pre-literate era were considered to be small adults from the moment they started walking since the dominant paradigm of thinking did not imply a stage of learning as a transition to the adult stage.

6.2. The Cognitive model of the perception of a written text

A cognitive paradigm shift took place with the introduction of written speech. The invention of writing systems, as a rule, corresponds to the emergence of civilization as a social device with a complex social hierarchy, extensive differentiated knowledge, and developed laws. It can be argued that the needs of civilization almost inevitably cause writing. Separation of the information from the subject producing it led to the formation of abstract thinking. The perception of information was not only audible. The fact is that a written text as a system of signs was first perceived visually, then it was deciphered, turning into meanings, and after it was spoken out by an internal speech and simultaneously listened to. Thus, with a paradigm shift, the focus of understanding information has changed from audio perception to decoding information which contains in a sign system. This method of processing information requires the acquisition of a whole range of skills. We can distinguish the following mechanisms of a written text:

1. the mechanism of internal pronunciation (a person does not only see the text, but he/she says it to himself/herself and at the same time he/she hears himself/herself from the side and as a result the organs of vision and hearing interact: the imposition of a graphic image on the auditory causes an associative perception of the meaning);
2. probabilistic forecasting, which is manifested at the semantic and verbal levels;
3. semantic forecasting is the ability to predict, anticipate the events described in the text by the name of the text, to guess about the further development of events according to its first sentences;

4. verbal forecasting is the ability to guess the word by the initial letters, guess the syntactic construction of the sentence by the first words, and further construction of the paragraph by the first sentence (or sentences). Thus, a new paradigm of thinking suggested learning as a step towards the development of the cognitive paradigm of individual thinking.

It is not surprising that the introduction of a written speech into the system of perception of information prompted in highlighting a special stage in the human development that is childhood as a period of learning how to perceive, understand and use information adequately.

6.3. Cognitive model of perception and processing of multimedia content

Modern culture is often called as “on-screen culture” which has replaced oral and written culture. A new stage in the development of civilization, becoming a “civilization of vision”, a “civilization of the screen”, is associated with the latest discoveries in the field of communication technologies, which directly affect the nature of reproduction of culture, as well as the methods of its transmission. The transition from text to the screen had a direct consequence of a change in thinking.

The written culture was associated with a word, which essence consists in its ability to turn phenomena into ideal images. Words do not mean specific phenomena, but their generalized images. While imagining an object, we mentally construct it and it is not assigned to us initially, but created in speculative reality. A similar ability to give rise to specific images under the influence of a certain set of signs, which is a word, as well as aiming for linear sequential reading of such sign systems, has formed a certain way of thinking that is abstract, connected and logical.

If there are abstract concepts, meanings and meanings invisible to the eye behind the visual perception of the text of the book, then the visual and sound images of the screen culture are self-sufficient and do not require additional decryption because their meaning lies in them. Information era, that is, the current state of information oversaturation of society, has changed the ways we perceive and process information. The availability of information, the lack of its reliability guarantee, the low percentage of the usefulness of available information, its entertainment function and the multimedia nature of the presentation with the advantage of visual embodiment have become the causes of failure of the previous methods of perception, filtering, processing and use of information.

The phenomenon that most psychologists, linguists and educators today perceive as informational fatigue or prolonged partial attention, in fact, represents the next shift in the cognitive paradigm of thinking (Politsinskaya et al, 2019).

The aforementioned characteristics of modern content, namely its multimedia nature, redundancy and inaccuracy, have led to changes in the paradigm of cognitive properties of thinking of the modern generation, which are responsible for posing the problem, searching and selecting information, structuring and adequate using of the information. Modern technologies and methods of presenting information return a person to the pre-text era. The linear sequence of signs ceases to be the basis of culture (Gorobets & Kovalev, 2015). However, the role of the visual image is growing, and it results from the general reorientation of human culture towards visualization.

The visible and intelligible parts in the image are merged together, but the first one clearly dominates in the new cognitive paradigm.

6.4. Generation “Z” and clip thinking

From the socio-cognitive point of view, the modern generation, which is called “generation Z” Strauss and Howe (1991), has its own characteristics, due to the fact that its representatives are surrounded by electronic devices from the very beginning and it directly affects their views of life. In this case, self-awareness, values, a fundamental change of the image of the world are taking place (Bubnova & Krasnykh, 2014). Scientists agree that this generation demonstrates a quick reaction to what is happening as well as a desire for direct and continuous interaction.

The Internet affects fundamentally the formation of higher mental processes in children. Before the introduction of modern technologies, their formation was defined through the direct interaction of children with children, children with adults. At present social interactions are happening through new technologies (Nikolaeva, 2015).

The main changes in the paradigm of thinking occurred in the perception and memorization of information. Generation Z does not remember the content, but it memorises the location of the content and the possibility to find it. The attention of representatives of this generation is characterized by high switchability on the one hand and the inability to keep attention on one subject for more than 10-15 minutes on the other hand. Thus, they often talk about the so-called clip thinking, which is understood as the ability to reflect the variety of properties of an object, without taking into account the relationship between these properties (Gorobets & Kovalev, 2015). This process of displaying the characteristics is described by the fragmentation and heterogeneity of the incoming information. Therefore, there is a complete lack of integrity of perception of the world around. In fact, the perception of information of a person with clip thinking can be compared with switching TV channels, since pictures and images are not fixed in memory for a long time, they quickly switch one after another and do not have a strong connection with each other and, as a result, are quickly forgotten (Kuleshova & Ovcharenko, 2018).

A person does not have the ability to think in a concentrated manner, which interferes with the performance of a certain mental work, that is, conscious viewing, understanding the topic of reasoning, analysis, generalization, formulating conclusions, and the sequence of reasoning. The focus on understanding information shifts from a decoding text to visual symbols (Kostenko, 2015).

6.5. Clip thinking as a protective response to information overload

One of the features of clip thinking is that a person can “leave” the flow of information without feeling incomplete, and then “merge” into the stream again. In a way, clip thinking should be considered as a protective reaction to the information overload of the brain (Semenovskikh, 2014). In addition, a paradigm shift in thinking involves the acquisition of new cognitive characteristics. Generation Z describes, first of all, the ability to accomplish multitasks, switch quickly between sources of information and use them correctly.

Whereas a lot of information exists in the public domain, one must be able to find the right information and filter out the inapplicable piece of it quickly. People with such thinking are more in

demand in modern society, while a delayed reaction with any qualification cannot be a positive quality. Switching to the perception of visual symbols does not demonstrate the inability to perceive, understand and use the necessary information in an adequate way by the new generation. The visual symbol which is at the top of the perception of reality by generation Z represents the same sign that was deciphered in the text by the previous generation, and it has a form and content that one is able to decipher, recognize and use.

7. Conclusion

Thus, the historical development of society was the basis of the invention and formation of three cognitive models of information perception and its processing. The emergence of new sources of information became the reason for the change in the paradigm of thinking. Currently, we are witnessing another transformation of the system of perception and information processing by thinking. The impetus for the paradigm shift was the multimedia nature of the flow of information and its redundancy which lead to information fatigue of people who have linear thinking.

The modern generation is characterized by clip thinking with the following distinct features: the perception of information in small volumes and quick switchability. Such features have become a protective response of human consciousness to information overload.

Unfortunately, the shift of the paradigm of thinking has divided the older and younger generations. Today, linear thinking which represents the cognitive model of thinking of the written period complicates the orientation in the modern world of screen culture and information overload. Therefore, at present, it is not possible to transfer knowledge and cultural values from generation to generation in old proven ways. For these purposes, it is necessary to develop and consolidate new ways of searching, analyzing and using adequately information as a matter of actual practice.

References

- Bruner, G. (1977). *Psychology of cognition. Beyond the direct information*. Progress.
- Bubnova, I. A., & Krasnykh, V. V. (2014). Man and his image of the world as an object and subject of modern integrative research: traditions and innovations. *Vestnik MGPU. Ser. "Philology. Theory of language. Language education"*, 4, 80-88.
- Gorobets, T. N., & Kovalev, V. V. (2015). Clip thinking" as a reflection of perceptual processes and sensory memory. *World of Psychology*, 2, 94-100.
- Kostenko, A. F. (2015). Clip thinking - "pros" and "cons". *Scientific almanac*, 12-1(14), 528-535.
- Kuleshova, A.V., & Ovcharenko, A. V. (2018). Features of the perception of information by modern students. *Social relations*, 2(25), 22-31.
- Lectorskij, V. A. (1980). *Subject. An object. Cognition*. Nauka.
- Lewis, D. (1996). *Dying for Information?*. Reuters Business Information.
- Mikiks, D. (2013). *Slow Reading in a Hurried Age*. Harvard University Press.
- Nikolaeva, E. S. (2015). To the question of the psychological characteristics of generation Z. *Problem field of the modern family. Materials of the international scientific-practical conference of Moscow State University*, 151-155.
- O'Loughlin, B. (2014). *The Internet and Political Disruption*.
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1758-5899.2011.00137.x>

- Politsinskaya, E., Lizunkov, V., & Ergunova, O. (2019). Organization of student project based activities through individual learning routes. *International Journal of Emerging Technologies in Learning*, 14 (11), 186-193.
- Rudakova, A. V. (2004). *Cognitology and cognitive linguistics*. Voronezh.
- Semenovskikh, T. V. (2014). The phenomenon of "clip thinking" in the educational environment of the university. *Internet journal "Science of Science"*, 5(24), 134.
<https://naukovedenie.ru/PDF/105PVN514.pdf>
- Strauss, W., & Howe, N. (1991). *Generations: The History of America's Future 1584 to 2069*. William Morrow.
- Wurman, R. S. (1989). *Information Anxiety*. Doubleday.
- Zinchenko, V. P. (1981). *Identification and coding*. Leningrad University.
- Zuev, K. A., & Krotkov, E. L. (2001). The Paradigm of Thinking and the Limits of Rationality. *Social Sciences and the Present*, 1, 104-114.