

THE PHENOMENON OF ASSESSMENT AS A FUNCTION OF THE PSYCHE IN THE COGNITION PROCESS

Research article

Shmyreva O.I.^{1,*}

¹ ORCID : 0000-0001-9074-350X;

¹ Voronezh State University of Engineering Technologies, Voronezh, Russian Federation

* Corresponding author (oishmyreva[at]rambler.ru)

Abstract

The article presents the phenomenon of assessment in the context of the cognition process, with an emphasis on the emotional component of assessment. The intermediate status of the assessment and its dynamic character are shown. The assessment potential as a function of the brain can be widely used for solving many problems.

In the conditions of total digitalization, the desire for rapid assessment should be regulated. In pedagogical activity, emphasis should be placed on the emotional potential of assessing participants in the educational process in solving pedagogical problems. The use of the achievements of neurosciences, including neuromarketing technologies, can influence the regulation of the participants' mental state, their thinking and emotions in the educational process and form an approach to assessment. In the course of the educational process, it is advisable to apply training in multidimensional vision of objects and phenomena.

Keywords: assessment, cognition process, brain errors in assessment, emotions, education, pedagogical activity, creation, neuromarketing.

ФЕНОМЕН ОЦЕНКИ КАК ФУНКЦИЯ ПСИХИКИ В ПРОЦЕССЕ ПОЗНАНИЯ

Научная статья

Шмырева О.И.^{1,*}

¹ ORCID : 0000-0001-9074-350X;

¹ Воронежский государственный университет инженерных технологий, Воронеж, Российская Федерация

* Корреспондирующий автор (oishmyreva[at]rambler.ru)

Аннотация

В статье представлен феномен оценки в контексте процесса познания с акцентом на эмоциональном компоненте оценивания. Показан промежуточный статус оценки и ее динамический характер. Потенциал оценки как функции головного мозга может быть широко использован для решения многих задач.

В условиях тотальной цифровизации следует регулировать стремление к быстрому оцениванию. В педагогической деятельности следует делать упор на эмоциональный потенциал оценки участников образовательного процесса в решении педагогических задач. Использование достижений нейронаук, в том числе – технологий нейромаркетинга может оказывать влияние на регулирование психического состояния, мышления, эмоций участников образовательного процесса и формирует подход к оцениванию. В ходе образовательного процесса целесообразно применять обучение многомерному видению объектов и явлений.

Ключевые слова: оценка, познание, ошибки мозга в оценке, эмоции, образование, педагогическая деятельность, творчество, нейромаркетинг.

Introduction

One of the functions of the brain is the function of assessment, which has intellectual and emotional forms. Evaluation is a complex dynamic process of emotional and intellectual development, the study of an object, process or phenomenon in time. The variability of assessment is determined not only by the development of memory, thinking and emotions, but also by changes in the object of cognition itself. Destructive tendencies in the object of cognition lead to disappointment and devaluation of what was previously attractive. On the contrary, positive changes cause surprise and admiration, predetermine the high assessment of the object as complex and unpredictable.

The error can be represented in two important aspects of the assessment as a function of the brain: the incorrect solution of the problem and the brain's hint for development. Why does the brain use error? First, to reduce stress levels and adapt to the situation, which ultimately contributes to survival, for example, cooperation with other people. The wrong person is dangerous and safe, depending on the context of the situation and the severity of the task. In some cases, thanks to a mistake, he survives in difficult conditions or maintains a relationship. And, on the contrary, making a dangerous mistake that entails irreparable consequences, causes aggression on oneself, risks losing status, resources, life. Secondly, the brain uses error for further training and development. Awareness of a mistake changes the course and direction of thoughts, contributes to the ranking of tasks, revision of priorities, goals and values.

Trust as a kind of assessment is based on a verdict about the usefulness and absolute safety of another person, object or phenomenon. Faith serves as a criterion for the highest assessment, the presentation of an object as having an enormous potential for vitality, influence, eternity and transcendence. Trust can be triggered by an error in the brain, and its detection has a profound effect on personality development.

Research methods and principles

The methodological basis of the research was formed by general scientific principles: dialectical logic (contradictions, consistency, unity of analysis and synthesis, ascent from the abstract to the concrete, comprehensive consideration); principles

of research complexity and complementarity; empirical methods: literature analysis, comparison and grouping method, interpretation. Together, their use makes it possible, from various angles, to study the state and capabilities of the assessment function, its development in time, the formation of a multidimensional vision of an object or phenomenon.

The theoretical basis was the work of domestic and foreign scientists working on the concept of personal concepts for the development and improvement of personality, cognition in the educational process, the concept of cognition and emotions, the psychology of creativity.

Main results

The enduring value of knowledge and assessment, its component, should be of incomparably greater value than technology and artificial intelligence for any prosperous society. Errors and miscalculations in the formation of the worldview, the intellectual capabilities of society can have various reasons, among which are insufficient ability to perceive and analyze what is happening, weakness of emotional experiences.

Increasing the ability to multidimensional assessment of events and phenomena should be carried out in the course of the educational process. Mentality and psychological attitudes in certain cases affect the formation of a picture of the world. The use of the emotional and intellectual components of the assessment involves reducing the risk of erroneous conclusions.

Analysis of information sources led to the following conclusions:

1. In the world community, due to the change in attitudes towards all types of education, it is becoming more and more obvious that education cannot be specialized, aimed at social, technical or economic progress [2]. The tendency to multidimensional assessment of what is happening is determined, the prerequisites for the volumetric vision of objects and phenomena are formed [13];

2. In the information society, algorithms for human resource management are being created. The role of modeling behavior, managing perception and assessment is important. Systemic informational influence forms stereotypes of thinking and increases error probability [15];

3. Assessment of stimuli and studied phenomena is carried out under the influence of neuromarketing technologies widely used in education [1], [8], [10], [16];

4. Interpretation at the contemplative-explanatory stage, both of the creative process and in the course of solving various problems, includes the assessment of objects and phenomena [14];

5. Emotions are a necessary component of the assessment and a resource of the intellectual sphere of a person, which can be used for cognition and building a picture of the world [15].

Discussion

A mixture of the physical, digital and biological worlds took place, as a result of which new opportunities appeared to influence the individual and mass consciousness, as well as the ability of the society to assess the events, objects and phenomena of reality. The development of technology makes it possible to control not only behavior. Someone else's assessment and opinion are offered, imposed on a person, especially in the virtual world. Since the status of the artificial often turns out to be higher than the natural one, a new approach to assessment using artificial intelligence is being formed, which seems to be more accurate, devoid of the spontaneity of emotions and, as a result, errors.

The dominance of high technologies has a strong impact on all spheres of social life, including the psyche of people. The relationship between the achievements of neuroscience and digitalization should be highlighted.

During the development of the digital economy, education continues to use technologies for influencing the psyche, since the modern digital economy remains an economy of impressions.

The influence of the psychological factor on the functioning of the training platform in the digital economy has been scientifically substantiated. Thus, in the work of Ch. Kreidl, U. Dittler the authors systematized ideas about the competitiveness of a graduate of higher education from the standpoint of European employers, showed that the use of digital services and communication devices by students in the classroom creates significant obstacles that impede the required competencies formation (for example, educational institutions in Germany, the Netherlands and Switzerland). A dense flow of information in the process of communicating with the "network" in 40% of cases is a serious hindrance to classes [9]. There is an overload of the operative memory with homogeneous information. Concentration of attention and the ability to assess temporarily decreases. As a result, it becomes difficult to perform educational tasks. At the same time, the perception of information is superficial and fragmentary.

Thinking as a nervous activity can arise under the influence of sound signals, tactile sensations, movement, background feelings (mood, emotions), peripheral images, color [16]. Neuromarketing technologies allow you to monitor the state of human consciousness in the intervals from the beginning of stimulation – the moment the information is presented – to the appearance of a reaction to it. At the same time, in the processes of consciousness, two conditional stages of information processing proceed: the first stage consists in the perception of stimuli and ends with the subsequent reaction; in the second stage, the decision-making process takes place.

A new stimulus, in this context it is an impression, helps to attract and retain attention, situationally enhances cognitive functions. If at the same time there is an effect of sympathy for the unfamiliar, associated with a "mistake" or a hint of the brain, then in assessing a new situation, it can successfully precede productive activity in changing conditions [11]. Therefore, attention management should rely not only on sensory stimulation, but also on emotions [3], [4], [12].

Total digitalization creates a number of social problems, causes difficulties in social adaptation. It increases the number and scale of new types of discrimination, social inequality and an increase in social tension [7]. Independent assessments and actions in the global information space are difficult and often lead to erroneous judgments and uncritical assimilation of other people's thoughts, opinions, due to virtual rather than real contact with society. At the same time, an objective assessment turns out to be unlikely, and the formation of the ability to assess becomes a difficult task, on the verge of a creative breakthrough.

Creativity is still the lot of the few who are inclined to independent thinking. Creativity is also an indisputable resource and the result of the development of human intelligence.

A creative approach in education considers pedagogical activity as creative, in essence, focused on the development of unique personality characteristics. An intuitive solution is typical for all types of human creativity [14], including pedagogical, in the process of which emotional energy is transformed into creative. The emotional component of creativity is the personal resource of each participant in the educational process – both teachers and students. The energy of emotions is widely used to solve pedagogical problems [13].

Advances in neuroscience have a massive impact on social processes. In particular, the expanded use of neuromarketing technologies accelerates the steady movement of the world towards virtual reality. For a quick transition of a person to a new mode of functioning, it is advisable to increase the speed of information processing. At the same time, the movement of the world towards virtual reality increases the risk of deformation of the psyche, which society has not learned to prevent and regulate yet.

Education traditionally relies on a psychological approach, using, along with other resources of the personality, the potential of emotions. Emotional development contributes to the formation of activity characteristics in many areas of personality activity [14]. Learning about multidimensional assessment in the course of cognition should take into account the positive effects of emotions on cognition and motivation [6]. Emotions are manifested in the form of assessing events and phenomena, and also act as the energy component of any action, motivating for changes.

Achievements of neuroscience and the use of neuromarketing in education theoretically can and should increase the efficiency of using traditional methods. Neuromarketing is relatively neutral, anti-dogmatic, open and versatile [10], its technologies have proven to be effective means of modeling behavior, including in education [1], [8]. However, the distance education format and the lack of live communication reduce the emotional component of the pedagogical process. As a result, the assessment process is often accelerated, the potential risks of missing signals increase, and the quality of processing the incoming information decreases. Haste in solving problems as a cause of error often occurs in a multitasking environment.

The consequences of an inaccurate assessment / underestimation / overestimation can be: fixation of attention on unimportant, missing signals about danger and other important information, untimely solution of problems – a common phenomenon of procrastination, a mistake as a hint of the unconscious for the biological or social survival of an individual.

At first glance, the error is regressive. However, subsequently, a person is forced to return and correct previously made mistakes, improve this brain function.

Investing in human potential is traditionally the driving force behind the development of society and education [5]. At the same time, attention should be paid to teaching multidimensional assessment, taking into account the procedural nature of objects and phenomena. Assessment is an indicator of a person's emotional and intellectual abilities and affects the processes of both individual and social consciousness. Acquaintance with many phenomena occurs through the prism of other people's perceptions, opinions and assessments.

Experiences and reflections contribute to the search for answers to difficult questions, the opportunity to see what escapes others, reduce the likelihood of errors and help formulate correct conclusions. Depending on the psychotype, the assessment takes place in different ways. The introverted type concentrates on the problem and becomes relatively independent in the course of the assessment. The extroverted type shows a predisposition to being involved in the process of evaluating other people. The emotional type of personality is able to infect the emotions of others with energy, immerse them in a certain emotional state, and induce the creative process. The thinking personality type in some cases can help those who find themselves in a difficult situation. Ignoring any recommendations at the initial stages of the search does not contribute to solving problems.

The brain constantly processes the incoming and available information in various parts of the memory. Assessment is an integral part of information processing and depends on the degree of complexity of the problem being solved, the availability of time, mental and other resources. Assessment can be more or less objective, multidimensional and one-sided, timely and late. The accuracy of the assessment is influenced by the mindset, the cognitive style of activity, the intuitive or rational methods of information processing, the speed of assimilation, retrieval and processing of information, the skills of solving problems of a certain type, the readiness to solve, the actual mental and psychophysical state, the inclusion of psychological defense mechanisms, the presence or absence of other people and other factors.

The reasons for errors in the assessment can be as follows: an excess of sensory stimulation and excessive information flow (sounds, noises, exposure to advertising, video games, watching video content and television broadcasts – in the aggregate, rebuilding the ability to concentrate, which is necessary for a conscious assessment); lifestyle (chronic lack of sleep, avoidance of mental stress); unpreparedness to solve the problem (lack of resources, fatigue, character traits and habits – suspicion, gullibility, rigidity of thinking, conformism, laziness, procrastination). Thus, the process of estimation itself begins to occur in conditions of interference, leading to a distortion of the image of the reflected object or phenomenon. It is also possible to consciously reject the assessment and cognition of the object in order to avoid mistakes and maintain self-esteem, since admitting a mistake requires courage, which is the necessary personal resource.

Trust is the result of an intermediate assessment and its variety. As a kind of assessment, it is based on a verdict about the usefulness and absolute safety of another person, object or phenomenon. Trust can be the result of an incomplete or superficial assessment, an unconscious comparison of an object with something similar, recorded in previous experience. Faith serves as a criterion for the highest assessment, representing an object as having an enormous potential for vitality, influence, eternity and transcendence. Trust can be triggered by an error in the brain, and its detection has a profound effect on personality development.

The consequences of mistakes are incorrect problem solving and subsequent development. Awareness of a mistake changes the course and direction of thoughts, contributes to the ranking of tasks, revision of priorities, goals and values. In general, the assessment is intermediate, and knowledge is infinite, mistakes lead to the search for new solutions.

Conclusion

The assessment is procedural and intermediate in nature. Depending on the degree of complexity of the problem being solved, the availability of temporary, mental and other resources, the assessment can be more or less objective, timely or late, conscious and unconscious.

The accuracy of the assessment is influenced by the mindset, cognitive style of activity, intuitive or rational methods of information processing, the speed of assimilation, retrieval and processing of information, skills of solving problems of a certain type, readiness to solve, the inclusion of psychological defense mechanisms, emotions of success and failure, actual mental and psychophysical condition, presence or absence of other people and some other factors.

A kind of assessment is trust, as a result of brain processing of information and making judgments about the safety and usefulness of an object.

Конфликт интересов

Не указан.

Рецензия

Все статьи проходят рецензирование. Но рецензент или автор статьи предпочли не публиковать рецензию к этой статье в открытом доступе. Рецензия может быть предоставлена компетентным органам по запросу.

Conflict of Interest

None declared.

Review

All articles are peer-reviewed. But the reviewer or the author of the article chose not to publish a review of this article in the public domain. The review can be provided to the competent authorities upon request.

Список литературы / References

1. Абабкова М.Ю. Технологии нейромаркетинга в образовании / М.Ю. Абабкова. — М., 2017. — 290 с.
2. Афанасенко И.Д. Цифровая экономика и социально-этические ценности / И.Д. Афанасенко, В.В. Борисова // Известия СПбГЭУ. — 2018. — № 5(113). — С. 7-11.
3. Aldao A. One versus Many: Capturing the Use of Multiple Emotion Regulation Strategies in Response to an Emotion-Eliciting Stimulus / A. Aldao, S. Nolen-Hoeksema // *Cognition and Emotion*. — 2013. — № 27. — P. 753-760. — DOI: 10.1080/02699931.2012.739998.
4. Danielsson M. Global Self-Esteem and the Processing of Positive Information about the Self / M. Danielsson, H. Bengtsson // *Personality and Individual Differences*. — 2016. — № 99. — P. 325-330. — DOI: 10.1016/j.paid.2016.05.014.
5. Endovitsky D.A. Statistical analysis as the Basis for the Practice of Modernizing Personnel Management: International Experience / D.A. Endovitsky, I.B. Durakova // *International Journal of Engineering and Technology (UAE)*. — 2018. — Vol. 7. — № 4.38. — P. 145-151. — DOI: 10.14419/ijet.v7i4.38.24341.
6. Ford B.Q. Preferring Familiar Emotions: As You Want (and like) it? / B.Q. Ford, M. Tamir // *Cognition and Emotion*. — 2014. — Vol. 28. — Iss. 2. — P. 311-324. — DOI: 10.1080/02699931.2013.823381
7. Guryanova A.V. Socio-Ethical Problems of the Digital Economy: Challenges and Risks / A.V. Guryanova, I.V. Smotrova, A.E. Makhovikov et al. // *Digital Transformation of the Economy: Challenges, Trends and New Opportunities*. — Springer Cham, 2020. — P. 96-102.
8. Каплунов Д. Нейрокопирайтинг. 100 приёмов влияния с помощью текста / Д. Каплунов. — М.: Бомбора, 2017. — 352 с.
9. Kreidl Ch. Wo stehen wir? Ergebnisse einer umfassenden empirischen Studie zu Lernen und Unterricht an Hochschulen heute / Ch. Kreidl, U. Dittler // *Hochschule der Zukunft. Beiträge zur zukunftsorientierten Gestaltung von Hochschulen*. — Wiesbaden, 2018. — 307 S.
10. Лескова Е.Д. Этичность применения нейромаркетинговых технологий / Е.Д. Лескова // *Ученые заметки ТОГУ*. — № 1. — С. 250-256.
11. Markovitch N. What You Like is What You Try to Get: Attitudes toward Emotions and Situation Selection / N. Markovitch, L. Netzer, M. Tamir // *Emotion*. — 2017. — № 17(4). — P. 728-739. — DOI: 10.1037/emo0000272
12. Scott H.H. Individual Differences in Motives for Regulating affect Intensity: Positive Trait Affect and the Value of Trait-Consistent Affect / H.H. Scott, R.H. Colin // *Cognition and Emotion*. — 2020. — Vol. 28. — DOI: 10.1007/s11031-020-09844-4
13. Shmyreva O. Education, Information Ethics and Emotion during the Development of the Digital Economy / O. Shmyreva // *Proceedings Of Intcess 2021 8th International Conference On Education And Education Of Social Sciences*. — 2021. — P. 484-488. — DOI: 10.51508/intcess.2021193.
14. Shmyreva O. Transformation of Emotions into Creativity as a Way of Solving Problems / O. Shmyreva // *Revista Inclusiones*. — 2020. — Vol. 7. — P. 464-476.
15. Shmyreva O.I. Information Ethics as a Factor in the Development of the Digital Economy / O.I. Shmyreva, I.V. Chernigovskikh, E.Y. Ponomareva // *Advances in Economics, Business and Management Research*. Atlantis Press. — 2020. — DOI: 10.2991/aebmr.k.200730.112.
16. Жунина В.И. Современный нейромаркетинг: особенности и перспективы применения / В.И. Жунина // *ЭГО: Экономика. Государство. Общество*. — 2018. — № 2(33).

Список литературы на английском языке / References in English

1. Ababkova M.Ju. Tehnologii nejromarketinga v obrazovanii [Neuromarketing Technologies in Education] / M.Ju. Ababkova. — М., 2017. — 290 p. [in Russian]
2. Afanasenko I.D. Cifrovaja jekonomika i social'no-jeticheskie cennosti [Digital Economy and Social and Ethical Values] / I.D. Afanasenko, V.V. Borisova // *Izvestija SPbGJeU [News of St. Petersburg State University of Economics]*. — 2018. — № 5(113). — P. 7-11. [in Russian]
3. Aldao A. One versus Many: Capturing the Use of Multiple Emotion Regulation Strategies in Response to an Emotion-Eliciting Stimulus / A. Aldao, S. Nolen-Hoeksema // *Cognition and Emotion*. — 2013. — № 27. — P. 753-760. — DOI: 10.1080/02699931.2012.739998.

4. Danielsson M. Global Self-Esteem and the Processing of Positive Information about the Self / M. Danielsson, H. Bengtsson // *Personality and Individual Differences*. — 2016. — № 99. — P. 325-330. — DOI: 10.1016/j.paid.2016.05.014.
5. Endovitsky D.A. Statistical analysis as the Basis for the Practice of Modernizing Personnel Management: International Experience / D.A. Endovitsky, I.B. Durakova // *International Journal of Engineering and Technology (UAE)*. — 2018. — Vol. 7. — № 4.38. — P. 145-151. — DOI: 10.14419/ijet.v7i4.38.24341.
6. Ford B.Q. Preferring Familiar Emotions: As You Want (and like) it? / B.Q. Ford, M. Tamir // *Cognition and Emotion*. — 2014. — Vol. 28. — Iss. 2. — P. 311-324. — DOI: 10.1080/02699931.2013.823381
7. Guryanova A.V. Socio-Ethical Problems of the Digital Economy: Challenges and Risks / A.V. Guryanova, I.V. Smotrova, A.E. Makhovikov et al. // *Digital Transformation of the Economy: Challenges, Trends and New Opportunities*. — Springer Cham, 2020. — P. 96-102.
8. Kaplunov D. Nejrokopirajting. 100 prijomov vlijanja s pomoshh'ju teksta [Neurocopywriting. 100 Methods of Influence with the Help of Text] / D. Kaplunov. — M.: Bombora, 2017. — 352 p. [in Russian]
9. Kreidl Ch. Wo stehen wir? Ergebnisse einer umfassenden empirischen Studie zu Lernen und Unterricht an Hochschulen heute [Where Do We Stand? Results of a Comprehensive Empirical Study on Learning and Teaching at Universities Today] / Ch. Kreidl, U. Dittler // *Hochschule der Zukunft. Beiträge zur zukunftsorientierten Gestaltung von Hochschulen [University of the Future. Contributions to the Future-Oriented Design of Universities]*. — Wiesbaden, 2018. — 307 p. [in German]
10. Leskova E.D. Jetichnost' primenenija nejromarketingovyh tehnologij [Ethical Application of Neuromarketing Technologies] / E.D. Leskova // *Uchenye zametki TOGU [Scientific Notes of PNU]*. — № 1. — P. 250-256. [in Russian]
11. Markovitch N. What You Like is What You Try to Get: Attitudes toward Emotions and Situation Selection / N. Markovitch, L. Netzer, M. Tamir // *Emotion*. — 2017. — № 17(4). — P. 728-739. — DOI: 10.1037/emo0000272
12. Scott H.H. Individual Differences in Motives for Regulating affect Intensity: Positive Trait Affect and the Value of Trait-Consistent Affect / H.H. Scott, R.H. Colin // *Cognition and Emotion*. — 2020. — Vol. 28. — DOI: 10.1007/s11031-020-09844-4
13. Shmyreva O. Education, Information Ethics and Emotion during the Development of the Digital Economy / O. Shmyreva // *Proceedings Of Intcess 2021 8th International Conference On Education And Education Of Social Sciences*. — 2021. — P. 484-488. — DOI: 10.51508/intcess.2021193.
14. Shmyreva O. Transformation of Emotions into Creativity as a Way of Solving Problems / O. Shmyreva // *Revista Inclusiones*. — 2020. — Vol. 7. — P. 464-476.
15. Shmyreva O.I. Information Ethics as a Factor in the Development of the Digital Economy / O.I. Shmyreva, I.V. Chernigovskikh, E.Y. Ponomareva // *Advances in Economics, Business and Management Research*. Atlantis Press. — 2020. — DOI: 10.2991/aebmr.k.200730.112.
16. Zhunina V.I. Sovremennyj nejromarketing: osobennosti i perspektivy primenenija [Modern Neuromarketing: Features and Prospects of Application]/ V.I. Zhunina // *JeGO: Jekonomika. Gosudarstvo. Obshhestvo [ESS: Economics. State. Society]*. — 2018. — № 2(33). [in Russian]