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ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РЕСПУБЛИКИ КАЗАХСТАН

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ҰЛТТЫҚ ИНЖЕНЕРЛІК АКАДЕМИЯСЫ
НАЦИОНАЛЬНАЯ ИНЖЕНЕРНАЯ АКАДЕМИЯ РЕСПУБЛИКИ КАЗАХСТАН

АТЫРАУ ОБЛЫСЫ ӘКІМДІГІ
АКИМАТ АТЫРАУСКОЙ ОБЛАСТИ

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НАО «АТЫРАУСКИЙ УНИВЕРСИТЕТ НЕФТИ И ГАЗА ИМЕНИ С. УТЕБАЕВА»

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XIV МЕЖДУНАРОДНЫХ НАУЧНЫХ НАДИРОВСКИХ ЧТЕНИЙ «ЯРКИЙ ПРИМЕР ПРЕЕМСТВЕННОСТИ НАУЧНЫХ ТРАДИЦИЙ И ВЕРНОСТИ ПРОФЕССИИ», посвященных 90-летию Академика НАН РК, выдающемуся ученому, основателю научной школы нефтехимии Казахстана Надирову Надиру Каримовичу

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В Чтениях участвовали представители ВУЗов и организаций Российской Федерации, Республики Азербайджан, Республики Узбекистан и Республики Казахстан. Сборник содержит статьи, посвященные результатам научных и инновационных исследований в области разведки, бурения и разработки месторождений нефти и газа, технологии транспортировки и переработки углеводородов, социально-экономических и экологических проблем.

Издание предназначено для бакалавров, магистров, преподавателей учебных заведений, специалистов нефтегазохимической отрасли и научных работников.

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СЕКЦИЯ 8
ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ. БЕЗОПАСНОСТЬ

УДК: 371.3.004.73.151

METHODS OF INFORMATION TECHNOLOGIES FORMATION AND IDENTIFICATION

Murodova Zarina Rashidovna,
Hasanova Dilafruz Buronovna

Abstract. Intellect is a concept that is defined quite heterogeneously, but in general terms it refers to individual characteristics related to the field of cognitive, primarily to thinking, memory, perception, attention, etc.

Key words: *information technology, virtual laboratory, workshop, modeling packages, innovation, information, educational and methodical material, learning tools, multimedia.*

Аннотация. Познание – это совершенно другое понятие, но в целом оно относится к области знаний, прежде всего к индивидуальным характеристикам, связанным с мышлением, памятью, восприятием, вниманием и т.

Ключевые слова: *информационные технологии, виртуальная лаборатория, практикум, модельные пакеты, инновация, информация, учебно-методические материалы, средства обучения, мультимедиа.*

A certain level of development of the mental activity of a person is implied, which provides the opportunity to acquire all new knowledge and effectively use them in the course of life, the ability to carry out the process of cognition and to effectively solve problems, in particular when mastering a new circle of life tasks. Intelligence is a relatively stable structure of the individual's mental abilities. In a number of psychological concepts, he is identified:

1) with a system of mental operations;

2) with a style and strategy for solving problems;

3) with the effectiveness of an individual approach to a situation requiring cognitive activity;

There are a number of fundamentally different interpretations of intelligence: 1) in the structurally genetic approach of J. Piaget, intelligence is interpreted as the highest way of balancing the subject with the environment, characteristic of universality; 2) in the cognitive approach, intelligence is considered as a set of cognitive operations; 3) in the factor-analytical approach, on the basis of many test indicators, stable intelligence factors are found (C. Spearman, L. Thurstone, X. Eisenck, S. Bart, D. Wexler, F. Vernoy). It is now accepted that general intelligence exists as a universal psychic ability, which can be based on the genetically determined property of the nervous system to process information with a certain speed and accuracy (X. Eysenck). In particular, in psychogenetic studies it was shown that the proportion of genetic factors calculated from the variance of the results of performing intellectual tests is quite large - this indicator has a value from 0.5 to 0.8. In this case, verbal intelligence is especially dependent on genetically. The main criteria by which the development of intelligence is assessed are the depth, generalization and mobility of knowledge, knowledge of the methods of coding, transcoding, integration and generalization of sensory experience at the level of representations and concepts. In the structure of intelligence, the importance of the activity of speech and especially internal speech is great. A special role belongs to observation, operations of abstraction, generalization, and comparison, creating internal conditions for combining diverse information about the world of things and phenomena into a single system of views that determine the moral position of a person, contributing to the formation of its orientation, abilities and character.

In Western psychology, an understanding of intelligence as a biopsychic adaptation to the circumstances of life is especially widespread. An attempt to study the productive creative components of intelligence was undertaken by representatives of gestalt psychology, who developed the concept of insight. At the beginning of the XX century. Much attention is paid to the study of the relationship between practical and theoretical intelligence, their dependence on the emotional-emotional characteristics of the individual.

There are a number of fundamentally different interpretations of intelligence. In the structural genetic approach of J. Piaget, intelligence is interpreted as the highest way of balancing the subject with the environment, characterized by universality. With the cognitive approach, intelligence is seen as a set of cognitive operations. In the factor-analytical approach, on the basis of a variety of test indicators, stable factors are found (C. Spearman, L. Terstone, H. Aizenck, S. Bart, D. Wexler, F. Vernon). Eisenck believed that there is a general intellect as a universal ability, which can be based on the genetically determined property of an unequal system to process information with a certain speed and accuracy. In psychogenetic studies, it was shown that the proportion of genetic factors calculated by the variance of the results of performing intellectual tests is quite large, this indicator has a value from 0.5 to 0.8. In this case, the most genetically dependent is verbal intelligence.

The concept of I. as a general mental ability is used as a generalization of behavioral characteristics associated with successful adaptation to new life tasks.

R. Sternberg identified 3 forms of intellectual behavior: 1) verbal I. (stock of words, erudition, the ability to understand what was read); 2) the ability to solve problems; 3) practical I. (the ability to achieve goals, etc.). In the beginning. XX century I. was considered as a level of mental development reached by a certain age, which manifests itself in the formation of cognitive functions, as well as in the degree of assimilation of mental skills and knowledge. At present, a dispositional interpretation of I. as a mental property (ability) is accepted in testology: predispositions to act rationally in a new situation. There is also an operational interpretation of I., going back to A. Bin: I. is "what tests measure".I. is studied in various psychological disciplines: for example, in general, age, engineering and differential psychology, pathopsychology and neuropsychology, in psychogenetics, etc. Several theoretical approaches to the study of I. and its development can be distinguished. The structural-genetic approach is based on the ideas of J. Piaget, who considered I. as the highest universal way of balancing the subject with the environment. Piaget singled out 4 types of forms of interaction between subject and environment: 1) forms of the lower type, formed by instinct and directly resulting from the anatomical and physiological structure of the body; 2) holistic forms formed by skill and perception; 3) integral irreversible forms of operation formed by figurative (intuitive) preoperative thinking; 4) mobile, reversible forms that can be grouped into various complex complexes formed by the "operational" I. Thurstone developed a multifactorial model of I., according to which there are 7 relatively independent primary intellectual abilities. However, the research of G. Eysenck and others showed that there are close ties between them and when processing the data received by Thurstone himself, a common factor is highlighted.

The hierarchical models of S. Bart, D. Wexler and F. Vernon also gained fame, in which intellectual factors are arranged in a hierarchy according to the levels of generalization. The concept of amer is also among the most common. psychologist R. Kettell about 2 types of I. (corresponding to 2 factors allocated to them): "fluid" (fluid) and "crystallized" (cristallized). This concept occupies, as it were, an intermediate position between views on I. as a single common ability and ideas about him as a set of mental abilities. Research of I. at advanced age confirms the In addition, he singled out the ability to divergent thinking (the ability to generate many original and non-standard solutions) as the basis of creativity; the indicated ability is opposed to the ability to convergent thinking, which is revealed in tasks requiring an unambiguous solution, found using learned algorithms.

Today, despite attempts to single out ever new "elementary intellectual abilities," most researchers agree that general I. exists as a universal psychic ability. According to Eysenck, it is based on the genetically determined property of n. p., determining the speed and accuracy of information processing. In connection with the successes in the development of cybernetics, systems theory, information theory, artificial I., etc., there has been a tendency to understand Today there is no unified scientific theory of intelligence, but there is a kind of fan of conflicting trends from which the most desperate eclectics find it difficult to deduce the vector. To this day, all attempts to enrich the theory come down to expanding the fan, leaving the practical psychologist with a difficult choice: which of the tendencies to prefer in the absence of a single theoretical platform.

The scientific development of the problem of intelligence has a very short history and a long background. From time immemorial, the answers to these questions have been sought by thinkers of

all times and peoples. However, in their research they relied mainly on their own everyday observations, speculative reasoning, generalizations of everyday experience. For millennia, the task of a detailed scientific study of such subtle matter as the human mind was practically not even posed as insoluble in principle. Only in this century did psychologists venture to approach her. And, I must admit, a lot of success in experimental and theoretical developments, in the production of hypotheses, models and definitions. Which, however, allowed them very close to get away from the vague philosophical maxims of the past and the ingrained worldly ideas. Today there is no unified scientific theory of intelligence, but there is a kind of fan of conflicting trends from which the most desperate eclectics find it difficult to deduce the vector.

To this day, all attempts to enrich the theory come down to expanding the fan, leaving the practical psychologist with a difficult choice: which of the tendencies to prefer in the absence of a single theoretical platform. The first real step from discussing the nature of the mind to its practical research was the creation in 1905 by A. Binet and T. Simon of a set of test problems to assess the level of mental development. In 1916 L. Termen modified the Binet-Simon test, using the concept of intelligence coefficient - IQ introduced three years earlier by V. Stern. Even before reaching a consensus on what is intelligence, psychologists from different countries began to design their own tools for its quantitative measurement. But it soon became apparent that the use of seemingly similar, but somewhat dissimilar tools yields uneven results. This stimulated a lively (albeit somewhat belated) discussion about the subject of measurement. For example, E. Thorndike in an openly behavioral manner reduced intelligence to the ability to operate life experience, that is, an acquired set of stimulus-reactive connections. However, this idea was supported by few. Using factor analysis in the structure of intelligence, different authors identified a different number of basic factors - from 2 to 120. It is easy to guess that this approach was very difficult to diagnose in practice, making it too cumbersome. One of the innovative approaches was the study of so-called creativity, or creative abilities. In a number of experiments, it was found that the ability to solve non-standard, creative problems weakly correlates with the intelligence measured by IQ tests. On this basis, it was suggested that general intelligence (G-factor) and creativity are relatively independent psychological phenomena. To "measure" creativity, a number of original tests were developed, consisting of tasks that required unexpected solutions. However, supporters of the traditional approach continued to insist, quite reasonably (certain correlations were nevertheless revealed) that creativity is nothing more than one of the characteristics of the good old G-factor. Preliminary data confirming this connection were obtained by Vent. The child’s successes in school, play and in other situations help him create an idea of himself, and his idea of himself at this stage affects his subsequent performance of activities, etc. in a spiral. In this sense, self-image is a kind of individually self.

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