THEORETICAL AND METHODOLOGICAL PROBLEMS OF THE DIAGNOSIS OF INTELLIGENCE AND MENTAL DEVELOPMENT

Rysbekova Lazzat Kasymbekovna,
Senior Lecturer Khoja Ahmed Yasawi
International Kazakh-Turkish University
Barat Inkar Aldiyarovna,
1nd-year student Khoja Ahmed Yasawi
International Kazakh-Turkish University

Annotation. The article examines the relationship between mental development and intelligence, as well as the problems of their psychodiagnostic measurement. The author argues that intelligence is not only an innate trait, but also a dynamic process that depends on the environment, culture and teaching methods. The paper analyzes the history of the formation of IQ tests, the concepts of such scientists as A. Binet, R. Sternberg. The article analyzes the possibilities of intellectual tests in predicting school achievements and their limitations in the full assessment of personality development, justifies the need to use integrated approaches to diagnosis.

Keywords: mental development, intelligence, IQ coefficient, psychodiagnostics, verbal and non-verbal tasks, cognitive abilities, teaching methods. personality, learning, development, diagnosis, observation, analysis.

Introduction.

Mental development is characterized by a combination of educational, business and mental activities formed in the process of acquiring knowledge and skills. In fact, mental development is the content and form of human thought. Modern psychology and pedagogy asserts that the knowledge and business content that a teacher gives to students determine the level of thinking and intelligence. Mental development is the basis and foundation for the acquisition of new knowledge and skills, functioning with the advent of new mental activity.

Mental development is combined with a problem of intelligence or mental ability in general. Intelligence is not a collection of knowledge and deeds, but an aid in achieving and mastering them. The level of an individual's mental development depends on his intellectual abilities.

Nevertheless, mental development depends not only on intelligence, but is also determined by many factors: for example, culture, living conditions, the specifics of an educational institution, teaching methods, etc. In Russian psychology, holistic

research directions determine the relationship between the level of mental development and the content of learning, the nature and relationship of educational methods. Research on the role of teaching methods in the formation of thinking connects mental activity with the theory of stage formation. In the works based on these theories, the ways of managing the development of thinking and the planned impact on it are theoretically and methodologically worked out. It is wrong to consider the concepts of "level of mental development", "intelligence", "learning" side by side. The diagnosis of these psychological phenomena can be different.

A. Binet, C. Spearman, L. Potmen named intelligence - things that can be measured using an intelligent tester. Intelligence quotient (IQ) is becoming synonymous with intelligence. Psychodiagnostics have chosen different tasks or tasks to properly measure intelligence. Some chose abstract thinking tasks because they believed that they did not occur in real life and did not affect the knowledge they had learned in a previous life. Others, however, believed that intelligence was an artificial measurement error incompatible with life, which they had to extract from everyday life. (R. Sternberg). Some believed that using non-verbal tasks they measured intelligence, common factors independent of linguistic constructions. The opposite point of view is that verbal tasks allow you to evaluate intelligence, since it is closely related to language abilities.

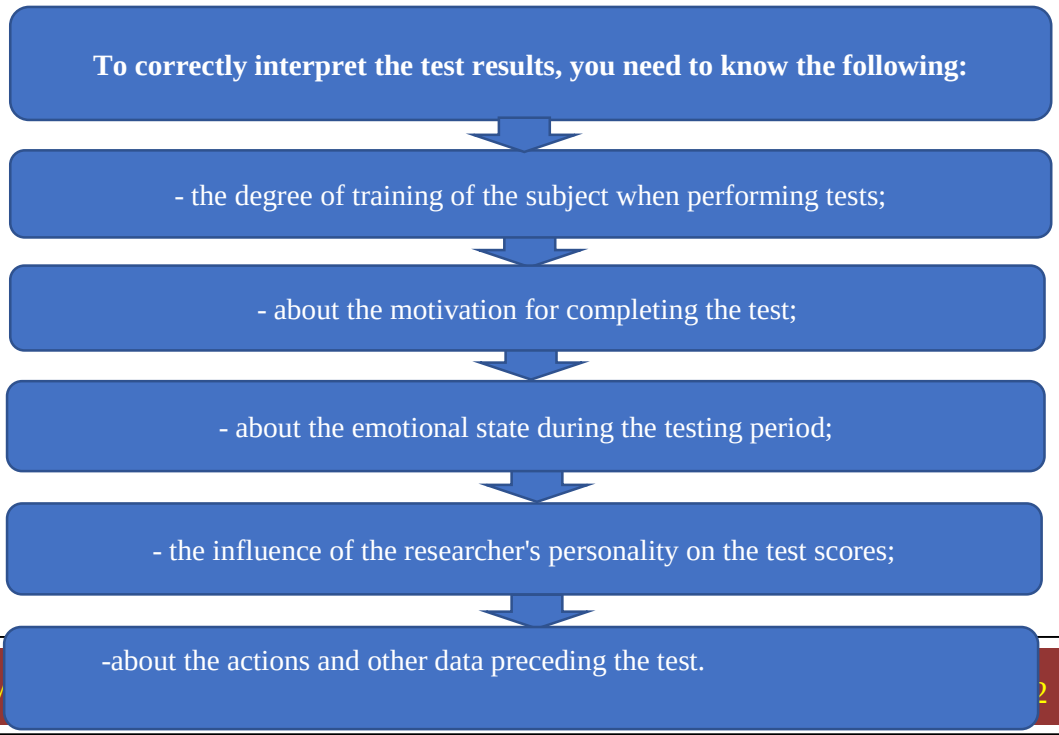
Intelligence balanced IQ, and psychologists in the first half of the twentieth century said that it was an innate and hereditary trait, independent of developmental conditions. Hence, the opinion has been formed about its immutability and constancy for a long time. It was believed that IQ did not increase with age. To determine a person's IQ score, the tester will need to perform a number of tasks that require building logical relationships between specified objects. Converts the total score of correctly completed tasks to the standard. That's the IQ score. A standard IQ indicates that an individual indicator corresponds to a statistical norm. According to its performance indicators, it establishes the place occupied by the individual on the axis of the set of group testing results. In order to properly use and evaluate the result of an intellectual test, it is necessary to answer the question of how stable is the place obtained by a person according to the test indicators. More recent research has led to ideas that recognize that intelligence tests are determined not by natural differences between people, but by the level of knowledge and mental agility that were formed before the time of testing.

Currently, intelligence tests have failed to justify themselves as general abilities or as a means of measuring intelligence as a group of abilities. Some psychologists, understanding general abilities as "intelligence," refused to consider IQ as an indicator of intelligence. In their opinion, in order to evaluate intelligence, it is

necessary to observe a person's behavior over a long period of time in various situations and evaluate it by analyzing how he has achieved success in various actions. There are no strict methods for its diagnosis.

As for intelligent testing, psychodiagnostics are currently engaged in proving the meaningful validity of an intelligent test and limiting the goals of its practical application. The question of the reliability of the content arises due to the understanding of the limitations of the set of test findings, the dependence of intellectual assessments on the nature of these tasks, as well as on the solutions used by the individual, his dependence on motivational and other personal characteristics, therefore psychodiagnostics sought to clearly limit the mental area diagnosed by each intellectual test. Many psychologists recognize that intellectual tests currently measure the level of intellectual skills that depend on knowledge, but also on a person's natural abilities. But it is impossible to distinguish one from the other from the test results, which shows the dependence of test scores on the environment, their instability, and variability. The ability to understand this leads to a change in the main purpose of testing.

Results and discussion. While previously it was supposed to classify subjects according to intelligence tests, they are currently being used to predict school achievement using intelligence tests and to enroll students in various types of schools. Of course, the assumptions underlying IQ scores in such a narrow field are not always accurate. Thus, psychologists show that a test score is not enough to get a balanced assessment of a person's mental development. To do this, the test results must be supplemented with data obtained from other sources: observations, analysis of learning characteristics.



Taking all this into account, we conclude that an intellectual test can be used to describe the true posture of certain skills and abilities, and it is also possible to see changes and shifts in a person's mental development.

The concept of an intellectual test was first coined by the American psychologist J. R. R. Tolkien.Kettel introduced it. Later, a new step was taken by the French physician, psychologist Alfred Binet (1857-1911). While the Binet–Simon test, known as the Stanford-Binet scale, has used intellectual abilities as its main measurement tool for many years, the first form of the intelligence measurement scale, developed by American psychologist D. Wexler, was published in 1939. He had methodological errors, which were then reworked. In 1955, the last adult scale was released. It consists of 11 subtests. The 6th subtest is a verbal scale, and the 5th is a scale of movements. His verbal scale includes a subtest to find an understanding of arithmetic similarity, to determine vocabulary for memorizing numbers.

Materials and methods. The motion scale includes the subtests "digital labels", "image completion", "column creation", "image placement", and "object assembly". The sample for the standardization of the Wexler scale consisted of 1,700 researchers. Men and women have the same number of people between the ages of 16 and 64, divided into the male level. Geographical areas and educational levels were taken into account. In addition to the adult scale, Wexler created a scale for children (from 6.5 to 16.5 years old). The last one was released in 1974. In comparison with the scale for fidgets, the first additional subtest, "mazes", was introduced into the scale for children. Wexler created a scale (4-6.5 g) for preschoolers and elementary school students. It was released in 1967 and consists of 11 subtests. The 8th subtest is a simplified form of a subtest for children, and the 3rd is a new "sentences" (a memory test in which the child has to repeat each spoken sentence after the researcher). In the "animal house" and "numerical signs" subtest, the teacher suggests that the child copy 10 simple segments of "geometric shapes". Currently, there are three forms of the Wexler scale. It is characterized by a high formal index. What distinguishes this scale from the Stanford-Binet scale is that:

- tasks of the same type in the test are grouped by age, combined into a subtest.
- Subtests are divided into verbal (verbal scale) and motor (scale of movements), with an individual IQ displayed on each scale. Together with the measurement of general intelligence, it is used as an auxiliary tool for psychomotor diagnostics.

One of the well-known group tests widely used in the German country is the Rudolf Amthauer Intelligence Structure test. It was released in 1953. The test is designed to measure the level of intellectual development of people aged 13-61

years. The test consists of 9 subtests. They are focused on measuring various functions of intelligence. 6 subtest-diagnoses the verbal field (sphere), 2 – spatial imagination, 1-auditory.

The total time of the study (preliminary preparation and researchers). Each subtest takes 6-10 minutes to complete. Currently, an adapted version of the R. Amthauer test is used to study students in grades 8-10 in urban and rural schools. Data on high reliability and suitability were obtained. R. Amthauer interpreted the test result and said that it could be used to talk about the structure of the subject's intelligence. (based on the results of each subtest). After calculating the results of the first 4 subtests, they said that the result of the 5 subtests should be counted individually. It was believed that if the sum of the first 4 subtests subsequently exceeds the sum of 5 subtests, the subject developed theoretical abilities, and if the opposite is the case, practical abilities.

When conducting psychodiagnostic work, a comprehensive examination of children is carried out. Its purpose is to identify ways of personal communication with the student in the educational process.

Collecting data on the individual characteristics of a student has a beneficial effect on his self-education on the path of growth. The specifics of the student's perception and assimilation of new material reflect the result of the techniques and techniques used by the teacher. It helps to improve the quality of education and expertise of experience.

Therefore, continuous observation of the student's actions over a certain period of time requires, first of all, to rely on scientific positions. The most important of them is the position of checking the psyche in activity, since an individual is shaped by the type of actions in his life. For a student, such activities are considered to be: play, study, work, etc.

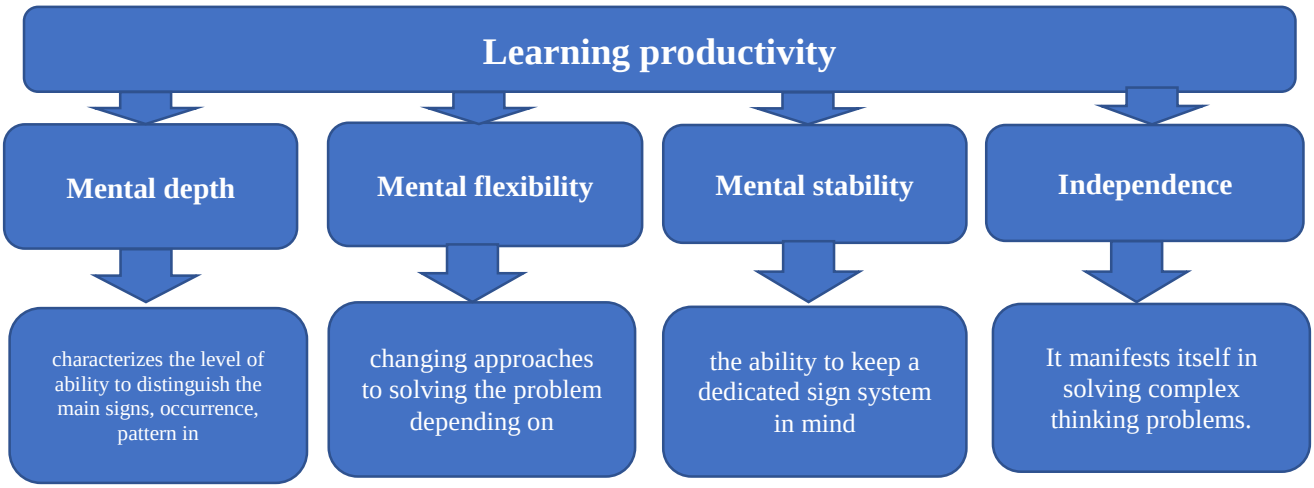
The principles are implemented using specific methods and techniques.They are divided into research and detection methods. Research methods are designed to solve scientific problems, and definition is a diagnostic method in which a person, a team, checks a certain group for practical purposes. In this case, concepts with well-known theories are used in science.

The methods consist of control and experiment and are divided into natural and laboratory methods. A convenient experiment in the school environment is monitoring, interviewing, student activity products, and questionnaires. These methods have been widely used in practice and have shown real results.

Its success requires holistic human abilities: the ability to classify the data provided and the desired result and build a situation; the ability to identify, summarize,

summarize important signs and patterns of relationships; the ability to model materials in the form of tables, diagrams, drawings – this will help in other situations.

The legal relations of phenomena and objects, of some classes, expressed in the form of concepts, require a certain level of knowledge, that is, a set of important features fixed in human consciousness by words. All these shafts are formed in the child at different levels. Mental retardation is higher when the correct state of brain development and the socio-cultural influence of the environment are positively influenced, and learning occurs productively. There is a defect in the brain, and the child's ability to develop mentally is limited if the child's environment is uncomfortable.



The mind is also associated with the development of the field of cognition at a certain level, and not with the above-mentioned consciousnesses.

When determining the level of a child's mental development, it is necessary to take into account such "personal indicators" as the desire to learn, interest, and the ability to evaluate one's own mental abilities. Depending on the abilities, the causes of academic failure are identified .

In diagnostics, there are many types of tests related to mental development. These are types of activity test (target personality) and situational test. Most often, tests and questionnaires are used, in which figures are presented.

Exploring the Mind

Task number 1 Is to determine the level of development of thinking.

(A variant of the "4th extra" method) this method is designed so that students can show the essential features of the subject, on the basis of which they can draw general conclusions. The student determines the level of ability to correctly substantiate their conclusions. Based on this technique, it is possible to determine the delay in the student's mental development. The method is beneficial to use in elementary school and when a child enters school. The practice is conducted

individually.A handout card is prepared for the experiment, and an image of three objects with common markings is applied to the handout card. And the 4th one will be superfluous. The child must separate the 3 items that have a common mark from these 4 items and remove the excess.

1. Boots, boots, shoes.
2 . Razor, pen, knife.
3.Umbrella,military headdress,pistol,drum.
4.Electric light,sun,candle.
5. Envelope,radio, phone,guitar.
6.Watch,glasses,thermometer scales.
7. globe, book, desk,briefcase
8. ski, cup, glass, thermometer

Before conducting the experiment, the children are instructed: "There are 4 items in the handout. Highlight them. (children can find out their familiarity with the objects by naming them). 3 things are mutually similar in nature.Judging by the general signs, they can be given 1 name.And the 4th point is superfluous..You find the extra ones, and tell me how to name the other three." You need to show by example. The rest is done by the students themselves-the shoes, the extra foot, the student's analysis is recorded in the protocol.

Task number 2. Elements of logical and imaginative thinking development diagnostics.

The method determines the peculiarities of the perception of attention and color, the type of the child's abilities for analysis and synthesis. The child is given a sheet with an image of 6 different pairs of gloves lying in a mess, and he is instructed to find the second pair of these gloves. 4 features of these gloves are compared (color, lying position, size, details of the pattern, location of the thumbs).

Hint " " listen, how could the kids change their gloves? Help them find the other half of their gloves "

Evaluation of completed works:

Couldn't find any.....0 points
We managed to find only one correct .....1 point
We managed to find only two correct on.....2 points
I managed to find everything correctly.....3 points

Determination of the level of development of small finger joints.

To perform the test, you will need a piece of paper, a pencil, and a pen. Place the child on the edge of the table and give him a piece of paper in front of him. On this page, the child should place his palms, waving his arms with both hands. Swipe between your fingers with a pencil and pen. Then take his hand and let him draw the

handle of the scratched hand again.After that, explain the task.We're both playing now.I'm showing your fingers, you should only show your index finger, not the other fingers, without taking your hands off the paper. As soon as you know that the child has understood the task, start.

Show the pencil and any finger of the child " " this finger, now this..." (you should start with your right hand).

The child's finger can be indicated in the following sequence:: 5.-1.-2.-4.-3. Then we transfer the test to the left arm. And then to the right, to the left, and so on. The competition is held twice in each hand.

Usually, when you point at the right finger during an experiment, the other finger also rises together. It goes beyond the child's will. This excessive movement is called synkinesia. Synkinesia occurs due to the inability to coordinate movements correctly.

Drawing a circle. The child is asked to draw a circle with a diameter of 3-3.5 cm with one movement of his hand. If a child has a poorly developed joint, he cannot hold his right hand at the table, he cannot complete the task. Draws a smaller circle. The fact that children draw a circle very small is a reflection of the fact that movement is blocked and stopped.

Painting. The development of movements of small finger muscles can be observed by looking at a child's drawing. If a child draws a drawing without moving his hands during drawing, but on the contrary, rotating the drawing, the development of small finger joints is not adequate enough, requires training work. Without timely warning of this situation, there will undoubtedly be serious difficulties in mastering writing skills at school.

There is a relationship between finger movement and spoken language. Researcher Koltsova M. M. has shown that children's speech develops in contact with the impulses of their fingers. According to him, the speech of a ten-month-old baby will be in the very last part of the finger. It offers a simple method for monitoring the child's speech development.

The child is recommended to show the first one, then two, three fingers. Children who can show these fingers individually belong to the group of "talking children" if they cannot show their fingers, if they cannot show them, if they are upset, if they do not understand. The child's finger movements are free, speech development is impossible.

The reasons for academic failure. The study showed that when determining the level of mental development, it is necessary to take into account such "personal indicators" of the student as the attitude to study, interests, self-esteem, the level of development of cognitive interests, mental work capacity, skills, inclinations,

perseverance. There are various reasons for academic failure. Therefore, due to the nature of mental retardation, a special type of academic failure has been identified. The main form of academic failure begins in a child from an early age, even before school. The second one has been observed consistently since the child's primary school age. The third type is manifested during the transition from the initial stage to the middle stage. Academic failure sometimes starts underfoot, sometimes slowly, gradually. The change can be prevented if the teacher notices the changes early and applies individual approaches while working with the child. Such an existence is found in the works of Z. I. Kalmykova. It shows two main types of underachievers.

The first type is students who cannot be educated, have a lack of education, but are capable of learning. The failure in their studies is especially evident during the transition to the secondary level. Such children develop mental abilities, they did not study in elementary school with great effort. As a result, such children do not master general learning, knowledge, skills, and the knowledge system. For these reasons, there is a misunderstanding between the student and the teacher. Such children have the opportunity to help in time, to adjust their academic performance a little. It should be borne in mind that if a child does not have his own motivation, then academic performance is not adjusted, despite the fact that he is under strict control.

The second type is students with low academic performance. This species has several groups of its own.

Group 1 includes children who cannot be educated from an early age. Among such children, it is very common to find children in orphanages. Children belonging to this group need the help and support of their elders from an early age. The child was not given enough attention. In this case, the child's intelligence slows down. It takes a long time to even turn on the game. He's doing something I don't like.

Even approaching school age, the child can neither draw nor fantasize, the spoken language is very narrow. In dealing with his ranks, he acts slowly, acts as a performer during the game, or stays out of the game. Children of this type are not suitable for development because of their age. Children aged 6-7 are focused on the development of a 3-year-old child. Concepts are not fully formed, they cannot identify the most important ones, distinguish colors, classify familiar objects, such children immediately fall into the number of underachievers at school.

When a teacher works individually with this type of child, showing perseverance, development progresses immediately. In the absence of correctional work at an early age, such children experience developmental delays, and progress becomes impossible.

The 2nd group includes practical students with low academic performance.

By their very nature, these children have clear concepts, what they see is preserved in their minds, they are able to convey a single verbal game. Abstract thinking is well developed. However, their training requires constant use of visual aids. When introducing a new concept, it is necessary to proceed from the already acquired knowledge. Recognition of the new is necessarily carried out by moving from the real to the abstract concept, slowly, from one abstract concept to another abstract one. He can draw well, but abstract thinking lags behind, so such students often have poor academic performance. Such children can overcome all their shortcomings from the first year if they are given enough attention, remembering their psyche.

Group 3 includes children with mental retardation, low academic performance, and various disorders of the nervous system. Such children are characterized by a high level of fatigue, a prolonged inability to stabilize their mood for one thing, mental instability, and mental retardation. Such children are social selfies. Imaginative thinking develops slowly.

The intellectual disability of students is determined by the kindergarten teacher during training, as is the case with parents who are defectologists. However, slow development is not immediately observed, the species can only be determined in the 1st son. The teacher, noticing the flaw, conducts only control. Diagnosis of mental development conducting an experiment Fair support assistance. This justice is called the "4-plus". Be able to understand proverbs and misconceptions, perform subject analysis tasks

There are 2 students in the thinking. In group 1, students' thinking was based on patterns, and munday students are called artists. Group 2 includes students who call them "thinkers." As children get younger, they memorize works based on visual aids and drawings.

The collection of data on the personal characteristics of the student testifies to his nobility in self-education. The specifics of the student's perception and assimilation of new material reflect the result of the teacher's artificial justice. He was kind to improving the quality of training and expertise of experience.

Conclusion. As a result, it is necessary to rely, first of all, on scientific acumen, in order to control the amount of time that signals the student's actions. Their inner meaning is the psyche in action, and the individual gets stuck in various activities in his life.

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