

UDC 159.9 (075.8)  
doi: 10.15330/jpnu.1.4.123-135

## FOUNDATIONS OF DIAGNOSING AN INDIVIDUAL'S INTELLECTUAL AND CREATIVE GIFTEDNESS

ANATOLII PALII

**Abstract.** The article argues for the urgency of research on an individual's intellectual and creative giftedness and emphasizes the theoretical, psychological, pedagogic, and socio-economic significance of the problem. It is claimed that the psychological practices in education may result in negative consequences through lack of high validity methods of diagnosing mental (intellectual and creative) giftedness. The selection of relevant psychodiagnostic procedures and methods of working with gifted individuals must be determined by a psychologically substantiated **systemic theory of giftedness** which is based on contemporary ideas of uniqueness and originality of the above-mentioned integral phenomena of the human psyche.

The author provides a critical analysis of the psychometric (testometric) approach to diagnosing intellectual and creative giftedness (IQ index and creativity index). It is claimed that standardized tests are a priori unfit to objectively measure either the actual or the potential mental giftedness of an individual.

The article explores the classifications of giftedness types in terms of quantitative criteria (indices), personality traits, occupations, motivation. The author questions the correctness of positing 'creativity' as an independent type of giftedness. It is argued that mental (intellectual and creative) giftedness is an inseparable structural and functional unity, a systemic attribute of psyche and is revealed as talents, personality traits and metacognitive experience in various activities.

The author argues for the **cognitive style approach** to diagnosing mental giftedness. It is hypothesized that it can serve as a theoretical foundation for developing a systemic technique of diagnosing general giftedness, complies with the main principles of humanizing the educational space in Ukraine and is truly child-oriented, i.e. considers every individual's uniqueness and inimitability.

**Keywords:** giftedness, intellect, creativity, test, psychometric (testometric) approach, psychodiagnostics, cognitive styles, individuality.

All-round development, psychological, pedagogic and social care for gifted children, schoolers and students is the main priority in Ukraine's education system. The demand for specialists in this area necessitates more extensive psychological research in this direction. However, the global experience of working with gifted children shows that the absence of high validity methods of identifying giftedness may result in negative consequences. Thus psychologists face the urgent need to develop a scientifically substantiated systemic theory of giftedness which would serve as a theoretical, methodological and applied basis for practical work.

Systematizing, generalizing and analyzing various empirical data on the problem discussed involves adopting a novel approach which allows for a shift from fragmentary, static understanding of

intellectual potential and an individual's intellectual and creative giftedness to studying them from the perspective of humanism, anthropocentrism, systematicity, phenomenological integrity, age dynamicity and integrated psychological and pedagogical care for such individuals.

On the one hand, modern psychology aims to develop and substantiate a general theoretical conception of intellect and creativity; on the other hand, to resolve the applied tasks of diagnosing intellectual and creative giftedness at every age stage of ontogenesis, optimizing the processes of socialization and self-realization of gifted individuals. Though systematic research on *intellectual giftedness* (this general notion includes both intellect and creativity) emerged as early as the 20's of the last century, no agreement has been reached so far as to what constitutes intellectual giftedness; how it refers to creativity, talent, artistic talent; how to develop an optimal strategy of diagnosing them as integral psychic creations; what makes up the nature of their originality and uniqueness.

A special focus is required to address the training of psychology students in psychodiagnostics; in our opinion, it is reduced to a superficial study of various tests and methods (mostly created in the middle of the last century, built on outdated ideas of the human psyche, of the determinants and sources of an individual's intellectual and creative potential), which is reminiscent of the history of psychodiagnostics rather than training for professional activity in various spheres of social practice.

As regards the professional training of psychologists, the Russian psychologist M. Kholodna emphasizes, 'The professional training of most psychologists in this country does not entail either university education or practical internship for adopting a certain test methodology (in Israel, one year is allocated for studying the D. Wechsler methodology; in the USA, three years is required for studying H. Murray and C. Morgan's Thematic Apperception Test methodology, which is a projective approach to studying personality traits revealed in social interaction and communication)' [19, p. 70-71]. In our opinion, the author makes a somewhat snap judgment regarding the current state and level of testology development: 'I will dare for a risky claim: in fact psychodiagnostics as a branch does not exist since the current level of psychology does not allow for using an individual result a psychological test (the psychometric test of the intellect, a personality questionnaire, projective methodology, etc.) as a basis for proceeding to psychological diagnosis, to say nothing of making a prognosis of an individual's behaviour' [19, p. 66-67].

The drawbacks of such an approach appear obvious when we consider tests that 'measure' intelligence quotient on the basis of the psychometry methods developed by H. Eysenck, R. Amthauer, D. Wechsler, R. Cattell, G. Raven and others. Every test (system of tests) encodes a certain psychological symptom in the form of a degree of a certain intellect characteristic being expressed, which manifests itself in a specially constructed activity type, specific or generalized material, the subject's awareness of a certain situation (in terms of his or her knowledge, emotions, will, motivation, etc.). In fact, this refers to the resultative parameter which evaluates the correctness and speed of the reply. A natural question arises: is it possible to proceed from symptom to diagnosis?

With regard to this, the Ukrainian psychologist L. Burlachuk stresses, 'Psychological diagnosis is not given on the basis of a certain test or set of tests, no matter how good they may be. They can only help to select something; for instance, to identify a group individuals prone to impulsive behaviour, which, as the data show, prevents certain activities from being effective. This is a manifestation of a personal quality, and we know nothing of the reasons for such behaviour or of the stimuli causing it, etc.' [8, p. 66].

Relying on a psychological symptom in giving a diagnosis (evaluating the level of a subject's actual intellectual and creative abilities) and building a prognosis of further development can only be described as professional negligence. The American psychologist A. Anastasi, who is a world-known authority in psychodiagnostics and differential psychology, made a profound comment, 'A psychological test can measure nothing but behaviour. Whether such behaviour is going to be an effective predictor of other behaviour is determined empirically' [3, p. 20]. Thus what kind of 'prognostic diagnoses' of test measurements can we talk of?

The existing theoretical and experimental approaches to mental giftedness are so dramatically different that it is problematic to find general unifying principles because authors consciously distance themselves from them.

In researching individuality, intellect and the originality of talents, it is preferable to use ecologically valid methods of psychodiagnostics which deal with evaluating an individual's actual behaviour in an actual situation: analyzing activity products, observation, conversation, methods of identifying the cognitive and stylistic specifics of mental activity, expert evaluation by authoritative specialists, the natural experiment approach. It should be emphasized that the existing valid psychodiagnostic methods of identifying the level of intellectual development and giftedness are rather complicated; they require high qualification and special training [7, p. 27].

The British psychologist H. Eysenck claims, 'Determining intellect on the basis of psychometric characteristics identified with the help of IQ tests is easier and, for this reason, simpler' [1, p. 115]. However, the psychometric approach to diagnosing intellectual giftedness (IQ tests) and creative abilities (creativity tests), which prevail in psychodiagnostics, cannot, by definition, 'measure' the phenomena of an individual's psyche.

Therefore, identifying an individual's intellectual and creative giftedness cannot be done from a psychometry perspective. Unfortunately, school practices are often limited to testing IQ and academic performance. These tests (frequently coupled with creativity tests) are mostly used in placement procedures in forms and schools for 'gifted' children. In this case, it is disregarded that there are a number of limitations to using IQ and creativity tests:

- *Firstly*, most of such tests are designed not for identifying intellectual or creative giftedness but for different purposes. Thus D. Wechsler's intelligence scale is meant for identifying mental retardation; R. Amthauer's intelligence structure test, for career advising and professional selection; the DAT, for prognosing academic performance, and so on. Only two tests were intended for assessing the level of intellectual giftedness. They are the Cattell Culture Fair Intelligence Test (version C) and one of the versions of the Raven Matrices Test. However, their validity regarding diagnosing giftedness is also questioned [5; 10; 11]. As regards creativity tests, divergent productivity parameters are not the only and sufficient indicators of a child's creative potential.

- *Secondly*, many intelligence tests measure a discrete (single) intellectual ability, i.e. the formedness of concrete intellectual operations (analysis, synthesis, abstraction, mnemonic and perceptual actions, etc.). The current psychometric tests of intelligence, which identify its components (verbal and non-verbal, sensory-motor, numeric, spatial, etc.), do not capture the connections among components, nor do they grasp the systemic nature of expressing intellect per se.

- *Thirdly*, such measurements are essentially dependent on the testing situation, an individual's emotional state. As a result, the more gifted a child (or adult) is, the greater the dependence is. For this reason, psychometric tests have a low capacity to forecast achievement in gifted individuals.

- *Fourthly*, a distinction should be made between testing and taking decisions as to a child's or adult's future. The diagnostic situation is the consequence of a number of factors, which is why a decision should be taken on the basis of the reasons which have led to the test results.

Errors in intelligence measurements, which are not at all random, can cause irreversible changes in the destiny and life of a person, especially a child. In fact, any form of selecting children on the basis of intelligence or creativity tests is invalid from a scientific perspective because by definition such tests are not instruments for diagnosing giftedness in general and intellectual giftedness in particular. One should consider the fact that the so-called 'passing scores' used in such tests (in the form of indicators of convergent and/or divergent productivity) have no clear theoretical or empirical arguments.

Creativity tests face a different situation. The social programme of identifying gifted individuals, which emerged in the USA in the 60's of the XX century, has not lost its topicality till today. The second half of the XX century saw a widespread opinion of 'creativity' as a distinct type of giftedness which is independent of intellect. Such a view is based on a range of inconsistencies in interpreting abilities and talents. It shows in a paradoxical phenomenology: a person with a high intellectual ability can be

uncreative, and, vice versa, it can frequently happen that a less educated and even less gifted person can be creative.

This example allows to concretize the problem: if skills and special abilities do not determine creative activity, then what is the clue to the 'creativity' of an individual's creative potential? Undoubtedly, it is easier to answer this question by appealing to special creative talent or to a special mental operation which determines it (for instance, *divergence* – the notion introduced by J. Guilford to refer to creative reasoning). The researcher's conception claims to understand the nature of creativity which is based on *divergent reasoning* factors. According to R. Sentenberg, 'For many years this model (J. Guilford's creativity conception) served as a foundation for studying creative reasoning without being either proved or disproved' [16, p. 112]. In both international and domestic psychology, there is almost no research which does not refer to J. Guilford and E. Torrance or use their tests as methodological foundations of studying creativity. One of the reasons is that the authors' theory is coupled with an 'easy-to-use' diagnostic procedure – diagnostic test methods (creativity tests) [24]. The simplicity and obvious truthfulness of the idea secure its tremendous popularity throughout the world.

In the second half of the XX century, 'divergence' turned into 'a symbol of faith' for not only western but also for domestic psychologists, with literally all kinds of creativity being connected with it. According to D. Bohoyavlenska [5], this is explained by a number of strengths in interpreting creativity as divergent productivity. Divergence, defined as 'the ability to think in various directions' meets the need for 'a wider space' in practical application, meets the needs of an individual because for a person with an average IQ index, low academic performance, low scores in subject tests, no education or work experience in a certain area, divergence helps to regard themselves as 'a creative individual'. For this reason, creativity came to be posited in opposition to intellect. Unlike the problematic situation method and IQ tests, this approach eliminates limitations to studying an individual's creative potential; its advantage also lies in the possibility of group testing. As per J. Guilford, the tests aimed at measuring the fluency, originality and flexibility of reasoning in non-verbal, symbolic, semantic and behavioural tasks reveal an individual's creative potential. Tasks such as 'name as many variants of the non-standard use of the stationery clip as possible' are most characteristic of tests which identify divergent semantic categories [24].

The Ukrainian psychologist V. Moliako, an expert in the psychology of creativity, points out, quite reasonably, that as a rule the results of testing divergent abilities (creativity) can rarely predict actual creative achievements in a person's everyday and professional life [11; 12]. Therefore, standardized test methods provide, if at all possible, only a heavy-handed measurement of creative abilities in the form of divergent reasoning, but they tell nothing of the originality of the creatively gifted child or adult.

One should not disregard the problem of interpreting intelligence or creativity test results. Applying psychometric tests to these phenomena is based on the assumption that intellectual or creative ability is a linear (unipolar) dimension which can be described in terms of 'low parameter – high parameter'. In fact any psychic activity is a multidimensional construct with a complex structure. Individual intellectual resource ('intellect level') or creative resource ('creativity level') is determined by a balanced concatenation of various cognitive abilities, by the formedness of metacognitive experience, individual cognitive advantages, the cognitive and stylistic organization of psyche, motivational needs, intentions, etc. Additionally, the degree of the expressiveness of the intellect can be influenced by a great number of factors. Thus a low score obtained from the Wechsler method can result not only from an inadequate development of skills and knowledge but also from a low socialization level, intense anxiety, low motivation, highly developed creative abilities, and so on.

The practice of interpreting a low psychological test score as 'bad'; and high, as "good" is problematic. Such an interpretation is not quite correct. There are an infinite number of individual variations in the ways intellectual abilities are expressed; they cannot be accounted for by traditional testing norms (for instance, every child's individual cognitive style changes the profile of their abilities, which manifests itself in variations as to performing different types of intellectual activities). Accordingly, deviations of testing results towards increasing or decreasing should not be regarded as deviations from the norm. Finally, while testing a pre-schooler or schooler, it is important to consider

the fact that their actual abilities are revealed only in the process of psychic development; the speed of 'maturation and development' of psychic functions is individual for every child, to say nothing of the difference in the psychic development dynamics in boys and girls.

Psychological methods are intended for collecting information about every child in the *monitoring* mode, i.e. psychological examination must comply with the requirements of comprehensiveness, duration, multiplicity, ecological validity (must be conducted in a real-life situation), subject orientation (must be dialogical, include elements of emotional support, create conditions for a child to reveal their independence) [19, p. 69-70].

However, if intellect is not a criterion for creativity potential, then what determines it? J. Guilford gives an unambiguous answer – personality traits. This research perspective was supported by many psychologists; for instance, by D.W. MacKinnon [22, p. 273-281]. The contemporary American psychologist M. Runco, exploring the personological perspective on interpreting creativity, claims that studying the personality traits of famous authors is a more informative source of grasping creativity than studying their literary texts [26; 27].

The following trends in studying creativity can be tentatively identified in the personological perspective [4, p. 366-386]: a study of personality traits and motives; analysis of the I structure (I-image, I-conception) regarding creativity; exploring creativity in the context of an individual's self-actualization; studying a individual's intuition as a creativity mechanism; psychoanalytic perspective (emotional wounds of childhood, 'hidden' in the subconscious, as a source of creativity); studying the creativity of an individual on the verge of a psychotic breakdown (psychopathological or near-pathological phenomena).

Therefore, creativity is a general personality characteristic rather than a cognitive skill. According to E. Torrance's threshold hypothesis [28], if an IQ score is below 115-120 (it should be borne in mind that there is an informal rule – if a person's IQ is below 110 points, they are not capable of assimilating a college curriculum), intellect and creativity constitute a single factor; if an IQ is above 120 (higher than average), creativity becomes an independent value (IQ above average - 115-129). Thus there are no creative individuals with a low intellect, but there are intellectuals with a low creativity potential [14, p. 368-369].

J. Renzulli does not agree either with the cognitive or with the personological perspectives on giftedness; he advances the hypothesis that intellectual giftedness is not just outstanding abilities but also creativity as well as motivational engagement [25]. T. Gordeieva generally agrees with J. Renzulli's conception; however, she regards giftedness as a phenomenon which characterizes an individual who has great achievements in an activity. In other words, the main criterion for giftedness is an individual's achievements in a certain sphere – a real product of anything: learning, creative activity, labour, sport, art, and so forth. Intellectual and motivational factors are the main determinants of an individual's achievements. To be more exact, a high level of intellectual development is the main determinant, and motivation is the driving force of developing giftedness [9].

The psychology of giftedness gradually moved to recognizing the role of motivational and personality factors; at present motivation is represented in all current theories of giftedness (J. Renzulli's Three-Ring Conception, or the Enrichment Triad Model; F. Mönks' Multifactor Model; the Munich Model of Giftedness developed by K. Heller; etc.) as well as in theories of creativity (T. Amabile's Three-Component Model, R. Sentenberg and T. Lubart's Investment Theory of Creativity). The evaluation criteria for giftedness have changed – it is regarded as a high or outstanding achievement level (or competency) in a chosen field. The percentage of individuals considered to be gifted depends on how narrow the level of achievement is. According to J. Renzulli, from 1-3 to 20 percent of the population is regarded as gifted by various researchers, with 5 percent being the average figure [9; 23]. Drawing on significant (yet small) correlations between IQ tests and J. Guilford's divergent reasoning tests, H. Eysenck expressed the opinion that creativity is a component of general intellectual giftedness [2]. Therefore, a high level of intellectual development presupposes a high level of creative abilities, and vice versa. There does not exist a creative process as a specific form of psychic activity which is not connected with an individual's intellectual potential.

**The problem of differentiating types of giftedness** requires particular focus. At present the educational systems of the USA and many European countries use the classification of giftedness levels according to IQ scores. According to it, all gifted children can belong to one of the following five levels: (1) IQ of 115 points and higher – ‘bright’; (2) IQ of 130 and higher – ‘gifted’; (3) 145 and higher – ‘highly gifted’; (4) 160 and higher – ‘exceptionally gifted’; (5) 175 and higher – ‘profoundly gifted’ [4, p. 41]. However, many psychologists reject a high IQ score as a sole criterion for diagnosing intellectual ability. For instance, E. Winner [29] discusses various views on the problem and makes a generalization that all of them can be reduced to identifying ‘special types’ of giftedness on the basis of the classification of special abilities (sensory-motor, perceptual, attentional, mnemonic, mental, imaginative, communicative, mathematical, musical, linguistic, sporting, artistic, etc.). J. Guilford’s Structure of Intellect Model is a representative example of such an approach. The researcher postulated 120 narrowly specialized independent abilities with the help of factor analysis used as validation of consistency with the constructed theoretical model of intellect. In building the Structure of Intellect Model, the researcher used three main criteria in order to provide a detailed description of the three aspects of intellectual ability: (1) type of mental operation; (2) content of intellectual activity; (3) types of end product [13; 14; 24].

J. Guilford strongly rejected the general factor of intellect citing low correlations between various intellect test scores. However, further verification of the Structure of Intellect Model by our domestic researchers showed the following: (1) while checking the reliability of the tests used by J. Guilford, it was found that 98 per cent of the test figures positively correlate with each other at various levels of significance; (2) the figures of independent measurements are in fact united into more general factors; for instance, the assessment of semantic memory abilities requires taking into account end product varieties whereas measuring the effectiveness of semantic processes requires taking into account all types of operations and products [6]. In our opinion, the above-mentioned classifications (based on types of abilities, psychic processes or activities) overlook the main fact: the interpretation of giftedness as a unique phenomenological construct of a harmonious individuality but not as a set of processual, cognitive, productive, motivational or behavioural constituents.

The one-sidedness of the psychometric approach to giftedness has resulted in the fact that the US Federal Department of Education identifies six types of giftedness on the basis of the same abilities/activities: (1) high general intellect (IQ under 130); (2) high special abilities (mathematical, linguistic, etc.); (3) high creativity (advancing new ideas, creating new products, constructing new devices, etc.); (4) leadership qualities (high social intellect, various talents); (5) inclinations for fine and applied arts (artistic talents); (6) psychomotor abilities (sporting achievements) [21]. According to M. Kholodna, it is possible to identify at least six types of intellectual behaviour (the researcher gives them figurative names) which refer to intellectual giftedness within various research approaches [20, p. 169]:

- individuals with a high level of ‘general intellect’ (IQ over 135-140) identified on the basis of psychometric intellect tests (‘witty’);
- individuals with a high level of academic performance in the form of academic achievements (‘brilliant students’);
- individuals with a high level of divergent abilities revealed in the parameters of spontaneity and originality of generated ideas (‘creatives’);
- individuals with a high success rate in performing concrete activities, extensive subject-specific knowledge and considerable practical experience in a corresponding area (‘competent’);
- individuals with extraordinary intellectual achievements applied to real novel universally recognized types and spheres of social practice (‘talented’);
- individuals with extraordinary intellectual abilities connected with analyzing, evaluating, and predicting events or everyday, social, and political life (‘wise’).

Additionally, it is possible to interpret the above-mentioned phenomenology without applying the notion of creative giftedness as an explanatory principle since this phenomenon is discussed within its framework. A different contribution of the main components to the structure of intellectual giftedness

can produce a paradoxical picture when success in mastering an activity (the level of achievements), intellect (wit) and creativity do not coincide in their expression. The facts of such discrepancy in the expression of giftedness do not conclusively argue for dividing it into types (academic, intellectual, and creative), but, on the contrary, allow for seeing the role and place of these components in the structure of giftedness and account for the paradox of the human psyche without involving a special type of talent – creative giftedness.

It is known that an activity is always performed by an individual. Its objectives and motives influence the level of performing it. If an individual's objectives lie outside activity, that is a student prepares for lessons only in order not to be given a bad mark or not to lose the prestige of an excellent student, then activity is at best performed diligently; even in the case of a brilliant performance, its outcome does not exceed the normatively necessary product. The abilities of such a child have no bearing on giftedness because the latter entails being interested in the subject, overwhelmed with an activity. In this case, an activity is not stopped even when the necessary task is fulfilled or the primary goal is achieved. If a child loves an activity, they constantly improve it by realizing new ideas generated in the process of performing it. As a result, the new product of their activity definitely exceeds the original plan. In this case there is 'a development of an activity'. Creativity is the development of an activity initiated by a child themselves [7, p. 16-17].

Under such interpretation, the notions *giftedness* and *creative giftedness* are synonyms. Therefore, creative giftedness is not regarded as a special type of activity independent of giftedness; it is not a separate modality; it is characteristic of any type of work. Creative giftedness is not only a feature of a higher level of performing an activity but also of its change and development.

Such a theoretical approach has an important practical implication: the development of giftedness should not be reduced to curriculum planning (speeding, complicating); it is necessary to create conditions for forming an intrinsic motivation for an activity, an individual's goals and a system of values which constitute the basis of spiritual development. The Russian psychologist N. Leites, whose research focused on intellectually gifted children, stressed that they have extremely high intellectual activity. The researcher emphasized that such children have an exceptional need for intellectual activeness, a passion (no exaggeration) for acquiring knowledge. This is the main need of a gifted child regardless of age, temperament, character, interests, sex, health condition, and so forth. In other words, striving for knowledge acquisition is the most salient feature of any gifted child. This is a real cognitive need – it is unselfish, for the sake of interest as such [10].

This entails an important pedagogical aspect of bringing up gifted children. Intellectual activeness, which is a prominent characteristic of any gifted child, has a direct bearing on the development of their abilities. But abilities grow and develop from inclinations on one indispensable condition. The activity a child is engaged in should be connected with positive emotions; in other words, it should bring joy, satisfaction. If there is joy, inclinations develop; if there is no joy from intellectual activity, there will not be any outstanding abilities. Long-lasting joyless imposed or self-imposed activities will lead to excellent marks, appraisal, even knowledge, but the main thing will be missing - a high level of ability development. The connection between ability development and positive emotions has been validated not only in psychological but also in purely physiological experiments [10]. Therefore, if intellectual and creative abilities develop only in a labour of love, then the long-lasting classes which a child is forced to attend (additional classes given by a tutor) are either useless or harmless in terms of ability development because forced activity enhances a negative attitude. It is not accidental that the Ukrainian practising educationist V. Sukhomlynsky called the school which he headed and where he taught for years 'the school of joy'.

The criticism regarding the psychometric approach does not entail rejecting tests in practice but requires to apply them correctly in working especially with gifted children:

- psychometric tests should be applied **not for or before** making a decision regarding the level of giftedness but **after** the procedure of identifying a child as gifted with a view to exploring their strong and weak psychological qualities and organizing necessary individualized psychological and pedagogical assistance;

- psychometric tests can appear useful for recording/observing age-specific dynamics of giftedness in concrete children (for instance, under conditions of psychological and pedagogical monitoring).

Therefore, tests can be used as one of the numerous sources of additional information within the framework of identifying a child as gifted but not as a sole criterion for deciding whether a child is gifted, not gifted, or intellectually challenged.

An integrated approach to identifying gifted children is preferable. A wide spectrum of various methods can be involved: (a) varieties of the observation method used with children (in laboratory conditions, at school, during extra-curricula activities, etc.); (b) methods of identifying the cognitive-stylistic peculiarities of cognizing and interpreting reality; (c) special psychodiagnostic training sessions, expert evaluation of children's behaviour performed by teachers, parents, mentors; (d) 'trial lessons' given within special curricula as well as special learning games and subject-oriented lessons; (e) expert evaluation of concrete products of children's creative activity (pictures, poems, essays, technical models); (f) various intellectual and subject contests, conferences, sports competitions, artistic contests, festivals, reviews, and so forth; (g) psychodiagnostic investigation employing various psychometric methods depending on the objective of analyzing a concrete case of giftedness.

However, an integrated approach to identifying giftedness is not safe from errors. A gifted child can be left behind or, on the contrary, a child can first be considered gifted but later they will be unable to confirm such a characteristic (cases of discrepancy between prognosis and diagnosis). N. Leites points out that labels such as 'gifted' or 'ordinary' are unacceptable not only due to the danger of error in diagnostic conclusions. Labels of such kind can have a negative impact on a child's development, shape low or excessive ambitions, disorient a child, their parents and teachers. In this respect, the researcher suggests using the formulation 'a child with signs of giftedness', which is correct from the perspective of ethics and more objective from a scientific perspective [10].

Identifying a child as gifted should not be an end in itself; it should be connected with the objectives of their teaching and upbringing, as well as with providing them with psychological assistance and support. The latter aspect allows to considerably extend the sphere of psychodiagnostic methods and take into account the following: interaction of children with peers and adults; the existence or absence of various forms of desynchrony (unbalance) in the development of a gifted child; the development and operation of a child's affective sphere [7, p. 31]. Recognizing the importance of the social conditions in which a child develops entails the need for developing specialized methods of identifying giftedness with regard to a number of factors (age-specific, social and economic, cultural, national and ethnic, familial, including a child's physical health and socialization).

A separate trend is represented by experimental psychological research on giftedness; it is conducted with a view to obtaining new theoretical and empirical data on the nature of child giftedness. Such research can employ various psychological methods aimed at identifying types of giftedness as well as regularities of a child's interaction with social environment. In this respect, it should be borne in mind that giftedness criteria cannot be recorded once and for all – they are dynamic.

In our opinion, many problems in the psychological and pedagogical monitoring of gifted children can be avoided through using the potential of the **cognitive-stylistic approach** to diagnosing intellectual giftedness, creative abilities, inclinations and specific mental and personality traits of an individual. The objectiveness of the approach is based on diagnosing individual cognitive styles by means of experimental methods which are used exclusively individually (unlike standardized tests) and identify 'the peculiarities of the structure and operation of individual intellect' [18, p. 8]. In this respect, M. Kholodna points out the following: 'Let us analyze this situation! The operational level of measuring various cognitive styles employs rather simple procedures aimed at identifying (as it seems) separate individual differences in cognitive activity (the speed of finding a simple detail in a complex figure; the degree of interference of verbal and linguistic, sensory and perceptual functions; reliance on narrow or wide categories in understanding reality; accuracy of perceptual scanning, etc.)' [18, p. 265].

The low diagnostic and prognostic capacity of psychometric examinations (testing) and their one-sidedness urged psychologists to adopt a cognitive-stylistic perspective on studying an individual's

integral psychic phenomena.. This approach proved effective for diagnosing intellectual and creative giftedness in both children of different ages and adults as well as for the psychological and pedagogical monitoring of such individuals at various stages of ontogenesis. The reason is that the status and phenomenology of cognitive styles (hereinafter abbreviated as CS), intellectual and personality characteristics connected with them are determined by a number of principal factors: (a) being a property of cognitive processes, CS are regarded as an expression of personality organization as a whole since individual ways of information processing appear to be closely connected with motivational, affective, volitional and other spheres of an individual; (b) CS act as the main 'intermediary' between the situational influences of natural and social environment and an individual's behavioural reactions and acts. Additionally, the knowledge of the specifics of evaluating and processing information by an individual has significant practical implications since it allows for making prognostic conclusions regarding an individual's behaviour in concrete life situations. The research findings on CS have become the basis of building cognitive theories of personality. In contrast to personological trends, they claim that the determinant of personality traits and the peculiarity of individual behaviour are embedded in the ways of perceiving, structuring, encoding, categorizing, interpreting, predicting and understanding reality [14; 17; 18].

At present psychology has described approximately twenty various structural components of coherent CS of an individual, with most researched being *field dependence / field independence, narrow / wide range of equivalence, narrowness / latitude of categorization, rigidity / flexibility of cognitive control, tolerance to unrealistic experience, narrowness / latitude of scanning, smoothness / exacerbation, impulsivity / reflectivity, concrete / abstract conceptualization, cognitive simplicity / complexity*.

Current psychology views cognitive styles as specific ways of information processing by an individual regarding their environment; as stable means of organizing cognitive processes which are expressed in a mental hierarchy which affects all levels, including personality characteristics; as an integral characteristic of individuality connected with the type of reacting or choosing behaviour strategies and peculiarities of controlling an individual's cognitive processes, which encompasses a number of cognitive activity characteristics in the course of an individual's development and can be identified in an empirical way [18, p. 40].

However, various definitions of cognitive style have a common denominator connected with expressing a number of distinctive features [18, p. 40].

- CS is a structural feature of the cognitive sphere which shows the peculiarities of its organization and has no direct relation to its content;
- CS refers to individual specific means of obtaining a cognitive product; it is the instrumental feature of intellectual activity, which can be contrasted with its productive feature;
- In contrast to traditional unipolar psychological dimensions, CS is a bipolar dimension within which each CS is described in terms of two extreme forms of intellectual behaviour (polar dependence/independence, etc.);
- Evaluative judgments are not applicable to CS since the representatives of one style pole or other have advantages in the situations where their individual characteristics facilitate effective adaptation;
- CS is a stable characteristic of an individual expressed at various levels of intellectual activity and in various situations;
- CS is the preference of a certain way of intellectual behaviour (i.e. an individual can choose any way of processing information but they involuntarily give preference to a certain way of perceiving and analyzing what is happening and best corresponds to their psychological abilities.

Research on style finally developed a dramatically novel methodological apparatus. Research on individual differences in intellectual activity used to be based on the task method (mostly tests). In style-based research, subjects did not solve tasks in the literal sense of the word; they were asked to deal with a rather simple situation without any rigid preset conditions, requirements or time limits with an open instruction according to which the subject could choose their own most convenient and natural solution (to arrange objects into groups they way they will, to express their opinion of the

situation suggested, to approve decisions at their natural pace, etc.). Style-based research did not use normative evaluations of an individual result. Subjects were allocated to one of the two poles of a cognitive style on the basis of the median criterion. Thus in the traditional research on individual intellectual differences, the subject was consciously treated as an object which was easily manipulated; but in style-based research, the subject was treated as a subject who had an opportunity to show their ways of perceiving, analyzing and interpreting an experimental situation.

Let us consider another argument in support of the cognitive style approach – its humanistic, child-centered perspective, which is in line with the pedagogic postulate ‘there are no ungifted children’; it does not employ the IQ-based mythological criterion in order to classify children into elite, second and third classes. The effectiveness of the cognitive style approach to intellectual giftedness, and to creative abilities related to it, is determined by the following:

- Ability characterizes the level of achievements in an intellectual activity (i.e. it is its resultative feature). Style is a way of performing an intellectual activity (i.e. its processual feature). Therefore, various styles can determine equally successful solutions to a certain problem.
- Ability is a unipolar dimension (individual ability parameters are arranged along a vertical scale from minimal to maximal values). Style is a bipolar dimension (the individual parameters of style are arranged on two poles of a horizontal scale which are identified with the help of the median value).
- Abilities always have an evaluative context (developing abilities is always good). Style-based phenomena cannot be evaluated since any pole of a certain style is equally important in terms of effective intellectual adaptation.
- Ability is changeable over time (ability levels change depending on age, education, experience, etc.). Style is a stable characteristic of an individual which is inherent at various stages of ontogenesis and in various conditions of socialization.
- Ability is specific to the content of a certain activity. Style is generally revealed in various types of psychic activity.

One of the cognitive style research findings is that there are numerous and various connections of style parameters with personality characteristics. In this respect, there is a noticeable contrast with IQ; at the level of empirical research, it is connected with a small number of personality traits and social behaviour characteristics. This entails a conclusion that an IQ score has but an indirect bearing on the regulation of an individual’s psychic life. From this perspective, style-based parameters are referential indicators of the level of an individual’s intellectual maturity [18].

The analysis of the current approaches to diagnosing children’s intellectual and creative giftedness shows that the psychometric approach is methodologically, ethically and pedagogically inappropriate to these phenomena. It is necessary to develop a coherent approach to creating a uniform psychological and pedagogical conception of giftedness, to build theoretical, methodological, and empirical foundations for working with the conceptual model which views general giftedness as a coherent psychological system whose aspects can be perceived only in the context of the age dynamics and mental experience of an individual.

Any kind of giftedness, including that of intellectual and creative, has a certain general psychic basis which is important for its functioning, development and expression. One of such basic foundations is the cognitive style specifics of individual intellect operations. The cognitive style approach to diagnosing giftedness can serve as a theoretical foundation for developing a systemic technique of psychological diagnostics of general giftedness since it corresponds to the general principles of the humanization of Ukraine’s educational space, is child-oriented since it postulates the uniqueness of every child.

## REFERENCES

- [1] Айзенк Г.Ю. Интеллект: новый взгляд. *Вопросы психологии*, 1 (1995), 111–131.  
[Aizenk H.Iu. Yntellekt: novyi vzghliad. *Voprosy psikhologiyu*, 1 (1995), 111–131.]
- [2] Айзенк Г., Айзенк М. *Исследование человеческой психики*. ЭКСМО-Пресс, Москва, 2001.  
[Aizenk H., Aizenk M. *Yssledovaniye chelovecheskoi psykhyky*. ЭКСМО-Press, Moskva, 2001.]
- [3] Анастаси А., Урбина С. *Психологическое тестирование*. Питер, Санкт-Петербург, 2007.  
[Anastazy A., Urbyna S. *Psykholohycheskoe testyrovaniye*. Pyter, Sankt-Peterburh, 2007.]
- [4] Белавина О.В. Одаренные дети: проблемы диагностики и адаптация. *Психологический журнал*, 31 (1) (2010), 41–54.  
[Belavyna O.V. Odarennyye dety: problemy dyahnostyky y adaptatsiya. *Psykholohycheskiy zhurnal*, 31 (1) (2010), 41–54.]
- [5] Богоявленская Д.Б., Сусоколова И.А. К вопросу о дивергентном мышлении. *Психологическая наука и образование*, 1 (2006), 85–96.  
[Bohoiavlenskaia D.B., Susokolova Y.A. K voprosu o dyverhentnom myshlenyy. *Psykholohycheskaia nauka y obrazovaniye*, 1 (2006), 85–96.]
- [6] Богоявленская Д.Б. Что выявляют тесты интеллекта и креативности? *Психология. Журнал Высшей школы экономики*, 1 (2) (2004), 54–65.  
[Bohoiavlenskaia D.B. Chto vyivliaiut testy yntellekta y kreatyvnyty? *Psykholohyia. Zhurnal Vysshei shkoly ekonomyky*, 1 (2) (2004), 54–65.]
- [7] Богоявленская Д.Б., Шадриков В.Д., Брушлинский А.В. та др. *Рабочая концепция одаренности*. ИЧП «Издательство Магистр», Москва, 1998.  
[Bohoiavlenskaia D.B., Shadrykov V.D., Brushlynskiy A.V. ta dr. *Rabochaia kontseptsyia odarennyty*. YChP «Yzdatelstvo Mahystr», Moskva, 1998.]
- [8] Бурлачук Л.Ф. Психодиагностика интеллекта: иллюзии и реальность. *Психология*, 4 (2004), 64–71.  
[Burlachuk L.F. Psykhodyahnostyka yntellekta: ylliuzu y realnost. *Psykholohyia*, 4 (2004), 64–71.]
- [9] Гордеева Т.О. Мотивационные предпосылки одаренности: от модели Дж. Рензулли к интегративной модели мотивации. *Психологические исследования: электрон. науч. журн.*, 1 (15) (2011). Электронный ресурс. Режим доступа: <http://psystudy.ru>.  
[Hordeeva T.O. Motyvatsyonnye predposylky odarennyty: ot modely Dzh. Renzully k yntehratyvnoi modely motyvatsyy. *Psykholohycheskye yssledovaniya: elektron. nauch. zhurn.*, 1 (15) (2011). Available at: <http://psystudy.ru>.]
- [10] Лейтес Н.С. О признаках детской одаренности. *Вопросы психологии*, 4 (2003), 13–18.  
[Leites N.S. O pryznakakh detskoj odarennyty. *Voprosy psikhologiyu*, 4 (2003), 13–18.]
- [11] Моляко В.А. Проблемы психологии творчества и разработки подхода к изучению одаренности. *Вопр. психол.*, 5 (1994), 86–95.  
[Moliako V.A. Problemy psykholohyy tvorchestva y razrabotky podkhoda k yzucheniyu odarennyty. *Vopr. psykhol.*, 5 (1994), 86–95.]
- [12] Моляко В.А. *Творческая конструктология (пролегомены)*. Освіта України, Київ, 2007.  
[Moliako V.A. *Tvorcheskaia konstruktologyia (prolehomeny)*. Osvita Ukrainy, Kyiv, 2007.]
- [13] Палій А.А. *Диференціальна психологія: курс лекцій*. ЦІТ ПНУ ім. Василя Стефаника, Івано-Франківськ, 2007.  
[Palii A.A. *Dyferentsialna psykholohiia: kurs leksii*. TsIT PNU im. Vasyliya Stefanyka, Ivano-Frankivsk, 2007.]
- [14] Палій А.А. *Диференціальна психологія: (навч. посіб.)*. Академвидав, Київ, 2010.  
[Palii A.A. *Dyferentsialna psykholohiia: (navch. posib.)*. Akademvydav, Kyiv, 2010.]
- [15] Рензулли Дж. Модель обогащающего школьного обучения. *Основные современные концепции творчества и одаренности (Под ред. Д.Б. Богоявленской)*, (1997), 214–243.  
[Renzully Dzh. Model obohashchaiushcheho shkolnoho obucheniya. *Osnovnyye sovremennyye kontseptsyy tvorchestva y odarennyty (Pod red. D.B. Bohoiavlenskoi)*, (1997), 214–243.]
- [16] Стернберг Р., Григоренко Е. Модель структуры интеллекта Гилфорда: структура без фундамента. *Основные современные концепции творчества и одаренности (Под ред. Д.Б. Богоявленской)*, (1997), 111–127.

- [Sternberh R., Hryhorenko E. Model struktury yntellekta Hylforda: struktura bez fundamenta. *Osnovnye sovremennye kontseptsyy tvorchestva y odarennosti* (Pod red. D.B. Bohoiavlenskoi), (1997), 111–127.]
- [17] Толочек В.А. Проблема стилей в психологии: историко-теоретический анализ. «Институт психологии РАН», Москва, 2013.  
[Tolochek V.A. *Problema stylei v psykholohyy: ystoryko-teoretycheskyi analiz*. «Ynstitut psykholohyy RAN», Moskva, 2013.]
- [18] Холодная М.А. Когнитивные стили. О природе индивидуального ума. Питер, Санкт-Петербург, 2004.  
[Kholodnaia M.A. *Kohnytyvnye styly. O pryrode yndyvudualnoho uma*. Pyter, Sankt-Peterburh, 2004.]
- [19] Холодная М.А. Психологическое тестирование и право личности на собственный вариант развития. *Психология. Журнал Высшей школы экономики*, 1 (2) (2004), 66–75.  
[Kholodnaia M.A. *Psykholohycheskoe testyrovanye y pravo lychnosty na sobstvennyi varyant razvytyia. Psykholohyia. Zhurnal Vysshei shkoly ekonomyky*, 1 (2) (2004), 66–75.]
- [20] Холодная М.А. Психология интеллекта. Парадоксы исследования. Питер, Санкт-Петербург, 2002.  
[Kholodnaia M.A. *Psykholohyia yntellekta. Paradoksy yssledovaniya*. Pyter, Sankt-Peterburh, 2002.]
- [21] Dixon F.A. Social and academic self-concepts of gifted adolescents. *Journ. for the Education of the Gifted*, 22 (1) (1998), 80–94.
- [22] MacKinnon D.W. Personality and the realization of creative potential. *Am. Psychologist*, 20 (1965), 273–281.
- [23] Messick S. The nature of cognitive styles: Problems and promise in educational practice. *Educational Psychologist*, 19 (1984), 59–74.
- [24] Guilford J.P. *The nature of human intelligence*. McGraw-Hill, New York, 1967.
- [25] Renzulli J. What makes giftedness? Reexamining a definition. *Phi Delta Kappan*, 60 (1978), 180–184.
- [26] Runco M.A., Pritzker S. (eds.) *Encyclopedia of creativity*. Elsevier, California, 2011.
- [27] Runco M.A. Dorfman L. (eds.) Personal creativity: Lessons from literary criticism. *Emotion, creativity and art*, 1 (1997), 305–317.
- [28] Torrance E.P. Creativity and futurism in education: Retooling. *Education*, 100 (1980), 298–311.
- [29] Winner E. Giftedness: Current theory and research. *Current directions in psychological science*, 9 (5) (2000), 153–155.

**Address:** Anatolii Palii, Vasyl Stefanyk Precarpathian National University, 57, Shevchenko Str., Ivano-Frankivsk, 76025, Ukraine.

**E-mail:** anatoliypaliy@yandex.ua.

**Received:** 12.11.2014; **revised:** 03.12.2014.

---

Палій Анатолій. Основи діагностики індивідуальної інтелектуальної та творчої обдарованості. *Журнал Прикарпатського університету імені Василя Стефаника*, 1 (4) (2014), 123–135.

В статті обґрунтовується актуальність дослідження проблеми інтелектуальної й творчої обдарованості індивідуальності, підкреслюється її теоретично-наукова, психолого-педагогічна, суспільно-економічна й соціальна значимість. Стверджується, що за відсутності високовалідних методів діагностики розумової (інтелектуальної та креативної) обдарованості психологічна практика в системі освіти може призвести до негативних наслідків. Вибір психодіагностичних процедур і методів роботи з обдарованими особами має визначатися психологічно обґрунтованою системною концепцією обдарованості, що базується на сучасних уявленнях про індивідуальну неповторність й унікальність зазначених інтегральних феноменів людської психіки.

Подано критичний аналіз психометричного (тестометричного) підходу до діагностики інтелектуальної (індекс IQ) і творчої (індекс креативності) обдарованості особистості. Стверджується, що стандартизовані тести апріорі не здатні об'єктивно «вимірювати» ні актуальну, ні потенційну розумову обдарованість конкретної індивідуальності.

Розглядаються класифікації видів обдарованості за кількісними критеріями (індексами), особистісними рисами, видами діяльності, мотиваційною складовою. Піддаються сумніву погляди на «креативність» як самостійний вид обдарованості. Стверджується, що розумова (інтелектуальна і творча) обдарованість виступає в нерозривній структурно-функціональній єдності, є системною якістю психіки, виявляється як інтегральний знак різних здібностей, особистісних властивостей і метакогнітивного досвіду в різних видах діяльності.

Обґрунтовується когнітивно – стильовий підхід до діагностики розумової обдарованості. Припускається, що він може слугувати теоретичним підґрунтям для розробки системної технології психологічної діагностики загальної обдарованості, відповідає основним принципам гуманізації освітнього простору в Україні, є справді дитиноцентричним, таким, що відстоює унікальну неповторність і своєрідність кожної індивідуальності.

**Ключові слова:** обдарованість, інтелект, креативність, творчість, тест, психометричний (тестометричний) підхід, психодіагностика, когнітивні стилі, індивідуальність.