

## Child with Medium Mental Deficiency - Working Methods

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**Abstract:** Intelligence is the most important skill of a human being. This determines how it relates and assumes the assimilation and processing of information as well as the efficiency of the behavior. Intelligence appears as a system of stable qualities of the individual that is manifested in the quality of intellectual activity centered on thinking. Intelligence can be evaluated through different tests. In the presented case, the RAVEN color test was used to establish IQ and to develop an adapted curriculum, needed in the education of pupils with a liminal IQ or less. Riding to law students with a low IQ has a support teacher with whom he works 2 to 4 hours a week. The adapted curriculum is recommended by a committee of specialists following the evaluation result and is developed by the teacher in collaboration with a team of psycho-pedagogue specialists, psychologist, speech therapist.

**Keywords:** intelligence; G factor; intellectual activity; tests for IQ measurement; thinking; behavior; adapted curriculum; special educational requirements

**Intelligence** is the best known of all skills very important for growth and development. The term intelligence comes from the Latin *INTELLIGERE*, which means to relate, to organize or to *INTERLEGERE*, which involves the establishment of relationships between relationships.

At the beginning of our century, English psychologist Charles Spearman distinguished, in the series of human aptitudes, a factor G (general) involved in performing all the phenomena of activity, and many S (special) factors, which

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correspond, operationally, only to the concrete conditions of the respective activity (scientific, artistic, sports etc.). The general factor is of intellectual nature, because understanding and solving problems is necessary in any activity. That is why factor G was confused with intelligence.

The term “intelligence” has a dual meaning: on one hand, process of assimilation and processing of variable information, for the purpose of optimal adaptations, and on the other hand, of the ability to reside in operational structures with certain qualities (complexity, fluidity, flexibility, productivity), which ensures the efficiency of the behavior. These qualities are characteristic of the subject, represent invariants that can be statistically evaluated and are situations at a certain level or rank of functional value. Intelligence thus appears as a system of stable attributes that are specific to the individual subject and which manifest in human in the quality of intellectual activity centered on thinking. The central process of thinking is closely related, even organically bound together with all the others. L.L. Thurstone, the American Psychologist, in this perspective, operates on the basis of research and establishes several factors of intelligence, namely: *reasoning (deductive and inductive), memory, computational capacity, perceptual rapidity, spatial operation, understanding words and verbal fluency*. So there are around 7 or 8 factors of intelligence, evaluated by its final effects, the presence of a global factor G is not invalidated. The question of the structure of intelligence or, after newer formulations, the question of cognitive style is questioned.

Moreover, in the psychology of thought, various differences were made between *analytical and synthetic, pragmatic and theoretical, reproductive and productive, crystallized and fluid, convergent and divergent*.

In relation to cerebral lateralization, considering that the left hemisphere is specialized in the verbal and semantic order, and the right hemisphere holds the functions of manipulating spatial relations and image configurations, it will probably be possible by research to illustrate variants of intelligence with the dominant logico-Semantic or spatio-imaging. In fact, intelligence tests are verbal and nonverbal (figurative) as well as test batches using both types of samples (Wachslen). Roman Andrei Cosmovici, through his research, identified factor G as common for various capacities.

Jean Piaget through promoted genetic psychology confirms the view of intelligence as general skills native to a particular base. Adaptation consists of balancing between informational assimilation to pre-existing schemes and accommodation or

restructuring imposed by new information that does not fit perfectly with the old schemes. The balance that J. Piaget identifies with intelligence is produced in a cumbersome manner based on accommodation, or mental reorganization. The measure of intelligence is equivalent to the rate of accommodation that allows a good understanding and problem solving. If assimilation is superficial, and accommodating (through the processing of information) occurs only slowly and inadequately, then intelligent balancing is insufficient, those who have dealt with mental debilitating accusation phenomena of mental "viscosity" or functional fixation opposed to flexibility.

Considering intelligence as an instrumental structure, which belongs to the individual personality, we must show that the very life experience, and especially the school and professional experience, highlights it and allows it to be evaluated. Empirically, intelligence can be evaluated by learning, with ease and depth of understanding, and the difficulty and novelty of the issues the subject is able to solve. In Romania, the most used tests for measuring intelligence are: Raven MPS and WAIS for adults and Raven color, Mensa, WISC and Portage for children.

In this case, Raven was used, the TS child is 10 years old and is a pupil at a school in Braila County. The Raven test is the most famous test used to measure intelligence, measuring the G factor, that is, general intelligence, mental development level.

**The Raven Intelligence Test includes several variants:**

- Standard Progressive Matrices containing 60 items.
- Advanced Progressive Matrices containing 48 items.
- The colorful Raven Arial, which contains only 36 items.

The latest version is specifically designed to work with children and can help assess the degree of school maturity, decipher the etiology of school failures, early diagnosis of mental deficiency. It is also used in older ages (65-85 years) for clinical purposes (eg establishing mental determination) and anthropological (comparative anthropology studies). The Raven test is like a puzzle game. Each drawing on the page lacks a part, and the person to whom the test applies must find the figure that matches the page.

**The History of the Raven Intelligence Test**

TEST "Standard Progressive Matrices" (*Standard Progressive Matrices*), set A, B, C, D and E, developed in 1938 by JC Raven in cooperation with LS Penrose,

revised in 1947 and 1956 is a uniform test of general intelligence. In 1947, JC Raven built *The Colored Progressive Matrices*, set A, Ab and B, published in 1949 and then revised in 1956 to examine the general intelligence of children (between five and a half years and 11 years) and the elderly (65-85 years).

### **Duration of the Raven Intelligence Test**

The test can be applied individually or in a group (from 8 years of age), either with limited time or self-resolving (in which case it resolves within a maximum of one hour).

JC Raven believes that for the purpose of genetic research or clinical trials, it is preferable not to set a time limit for solving, because the maximum clear thinking capacity varies less on health and is less refined by practice than the speed of a precision intellectual activity. In this case, MP (s) "measures" primarily the maximum observation and clear thinking capability. The examiner may record in the individual application of the test, the time elapsed between the beginning and the end of the problem solving

The average time required to solve the 60 items is 40-50 minutes. The subject's activity rate can be considered normal up to a maximum of 60 minutes. It is known, however, that under 30 years, the pace of the test is much faster, with an average time of 30-35 minutes. The student earned a score of 68 points, which corresponds to the type of medium mental deficiency.

Teachers have noticed that he cannot retain and cannot use the multiplication table. Can perform operations with numbers up to 20. Can copy texts but cannot independently write a composition larger than 5 - 6 rows. The student is generally good, plays with classmates, offers and receives help. When he cannot do the blackboard, he gets upset and refuses to talk. Teachers have called on the school support teacher to identify issues that TS is facing

His mother was summoned to school and explained to her that the student faces difficulties in learning. She was advised about the steps she has to do to get a certificate of: special educational requirements - ESC. The student went through several tests and obtained the certificate of special educational requirements, which includes the following mentions/recommendations: *maintenance in the mainstream school with supporting teacher, adapted curriculum, psycho-pedagogical counseling*. According to the 1985/1919 Order, the pupil benefits from support 1-2 h per week.

The provisions of this Order apply to children with disabilities and/or ESCs, without distinction as to whether they are in the family, internships of special educational establishments, special protection systems or other situations, such as educational centers, sanitary units, etc. Shared responsibilities of authorities responsible for assessing children with disabilities and/or ESCs:

- a) to provide the human, financial and instrumental resources needed for evaluation, especially in the community, based on the “the resource follows the child” principle;
- b) to ensure the right and assistance tailored for children with disabilities in order to be able to express their opinions freely;
- c) to ensure that the child is not separated from his / her parents on the basis of disability, either of the child or of one or both of the parents, as a result of the evaluation and subsequent decisions, unless the conditions laid down by law are met.

To assist student, support teacher in collaboration with teacher in classroom set up an adapted curriculum, through which they will work with student differentiated at a lower level than other students as far as he will acquire the basic knowledge of a study subjects. We exemplify a curriculum adapted to mathematical discipline:

#### ***CURRICULUM ADAPTED MATHEMATICAL DISCIPLINE***

##### ***CLASS IV***

Student with  $QI = 68$

##### ***I. Framework Objectives***

1. Knowledge and use of mathematical concepts
2. Developing exploration and problem-solving capabilities
3. Training and developing the ability to communicate using mathematical language
4. Developing interest and motivation for the study and application of mathematics in various contexts

**A. Objectives and examples of learning activities****1. Knowledge and use of mathematical concepts**

	<i>Reference Objectives</i>	<i>Examples of learning activities</i>
	<i>At the end of fourth grade, the student will be able to:</i>	<i>During Fourth grade, the following activities are recommended:</i>
1.1.	understand and use the positioning system of natural numbers	<ul style="list-style-type: none"> <li>– representation of numbers, highlighting the positional positioning system. Switching from one form of representation to another;</li> <li>– counting with start and steps given, ascending and descending, with and without support in objects or drawings.</li> <li>– writing a number as a sum of products in which one of the factors is 10, 100,</li> <li>– counting games with objects in which the groups of 10, 100, 1 000 are replaced with another object;</li> <li>– writing some numbers with Roman numerals;</li> </ul>
1.2.	write, read, compare, estimate, and order natural numbers	<ul style="list-style-type: none"> <li>– the representation of the numbers studied by objects or drawings;</li> <li>– ordering numbers using significant patterns (number axis);</li> <li>– estimating numbers by rounding to the order of thousands, hundreds, tens;</li> <li>– writing the numbers using Roman numerals;</li> </ul>
1.3.	to perform assembly and lowering operations: - with natural numbers from 0 to 1000 without and passing over the order - with natural numbers from 0 to 1,000,000 without and passing over the order	<ul style="list-style-type: none"> <li>– assembling and lowering exercises with natural numbers from 0 to 1000 without and passing over the order; verifying results using objects or drawings;</li> <li>– assembling and subtraction exercises with natural numbers from 0 to 1,000,000 without and passing over the order;</li> <li>– exercises to observe the relationship between assembly and decrease.</li> </ul>
1.4.	to perform multiplication and division operations with natural numbers below 100	<ul style="list-style-type: none"> <li>– multiplication and divisional exercises with natural numbers from 0 to 100;</li> <li>– multiplication exercises with one digit number;</li> <li>– Exercises with natural numbers, following the order of the operations and the proper use of brackets;</li> <li>– observing links between operations with natural numbers; conducting the sample;</li> </ul>

**2. Developing exploration and problem-solving capabilities**

	<i>Reference Objectives</i>	<i>Examples of learning activities</i>
2.1.	to recognize and describe planar and spatial shapes, to classify objects and drawings according to various criteria	<ul style="list-style-type: none"> <li>- cropping of drawn figures;</li> <li>- the identification of planar forms and spatial forms on physical models and in the environment;</li> <li>- Drawing flat forms with template and / or hand;</li> <li>- description of flat figures and bodies with observation of peaks, sides, faces;</li> <li>- sorting objects by their shape;</li> <li>- identifying the interior and exterior of a figure;</li> </ul>
2.2.	to discover, recognize, and use simple and consecutive matches of objects or associated numbers according to the rules	<ul style="list-style-type: none"> <li>- completing string of symbols or numbers ordered by a rule;</li> <li>- creating rows based on given rules;</li> <li>- assembling and multiplication exercises with the same number;</li> <li>- finding the elements of the second set, giving the elements of the first set and the correspondence rule;</li> </ul>
2.3.	to use time units and monetary units	<ul style="list-style-type: none"> <li>- placement of events in time according to a landmark;</li> <li>- exercises of chronological ordering of some images;</li> <li>- comparing the duration of some activities;</li> <li>- reading the clock; representing on a model clock the various hours;</li> <li>- identifying the coins needed to purchase an object;</li> <li>- comparing sums of money.</li> <li>- building real or imagined situations in which children can decide whether to buy one or more items with a sum of money (through play);</li> </ul>
2.4.	explore various ways of composing and decomposing numbers	<ul style="list-style-type: none"> <li>- numbers decomposition exercises in the sum of numbers;</li> <li>- exercises to find the unknown term;</li> <li>- numbers decomposition exercises to perform a calculation;</li> </ul>
2.5.	to use standard and nonstandard instruments and tools for length, capacity, mass, time and monetary units in various situations	<ul style="list-style-type: none"> <li>- comparing measures of some sizes;</li> <li>- ordering given objects according to their length, thickness, extent or shape;</li> <li>- the use of appropriate measurement tools and units (standard and nonstandard) to perform measurements;</li> <li>- sorting images according to the succession of their progress over time;</li> <li>- reading the clock, representing on a model clock various hours;</li> <li>- recording the activities carried out in a time frame;</li> </ul>

		<ul style="list-style-type: none"> <li>– writing the date (day, month);</li> <li>– recognition of the value of coins and banknotes;</li> <li>– conducting exchanges equivalent to coins and banknotes; comparing sums of money;</li> </ul>
2.6.	use symbols to highlight unknown numbers in problem solving	– solution of various exercises that require finding an unknown number noted in various ways (letters, symbols)
2.7.	to solve problems that involve two operations from the ones learned	<ul style="list-style-type: none"> <li>– solving problems with objects or simple drawings: points, circles, lines;</li> <li>– solving problems with numeric data;</li> <li>– the recognition of concrete situations or expressions that require sums or lowering (“have been and have come”, “have been lost”);</li> </ul>

### 3. Training and developing the ability to communicate using mathematical language

	<i>Reference Objectives</i>	<i>Examples of learning activities</i>
3.1.	to express orally, in their own words, the stages of solving some problems	<ul style="list-style-type: none"> <li>– reading the statement of a problem; the free speech, aloud, of the statement;</li> <li>– using simple schemas to briefly present the data and steps to solve a problem;</li> </ul>

### 4. Developing interest and motivation for the study and application of mathematics in various contexts

	<i>Reference Objectives</i>	<i>Examples of learning activities</i>
4.1.	to show a positive attitude for learning the results of some exercises and problems; to show availability in the use of numbers and calculations in everyday life	<ul style="list-style-type: none"> <li>– exercises to estimate solutions to problems;</li> <li>– proposing exercises and problems that have surprising results.</li> <li>– role plays for rounding a number or the result of a calculation.</li> </ul>
4.2.	to become aware of the usefulness of mathematics in everyday life	<ul style="list-style-type: none"> <li>– exercises to count the frequency with which numbers or other mathematical concepts appear in a text, television program, etc.</li> <li>– to consider situations where storage or use of a number is useful (the number of an apartment, a phone number, a public transport number)</li> </ul>



**B. The Contents of Learning**

Natural numbers from 0 to 1,000,000: training, writing, reading, comparing, sorting, rounding.

Assigning and subtracting natural numbers in the 0 - 1,000, 000 focus. Specific terminology: term, sum, "even more", "less".

Problems solved by two operations.

Finding an unknown number within  $a \pm a = b$  or  $? \pm = b$  relationship, where  $a$  and  $b$  are numbers in the 0 -1000 range.

Multiplying and dividing numbers smaller than 100. Multiplying natural numbers using a repeated assembly of equal terms.

Multiplying single digit numbers.

Specific terminology: factor, product, "many times more".

**Order of operations.**

Division of natural numbers using repeated decrease and the relationship with multiplication. Division with rest.

Divide a natural number less than 1,000 at a single digit with the use of specific terminology;

Intuitive geometry elements:

- flat shapes: square, triangle, rectangle, circle; polygon, point, segment, straight line, broken line, curved line;
- the inside and outside of a geometric figure;
- spatial shapes: cube, sphere, cylinder, cone, cuboid

Measurements using unconventional standards.

Measurement units:

- units to measure length: meter, multiples, submultiples;
- units to measure capacity: liter, multiples, submultiples;
- mass units: kilogram, multiples, submultiples;
- units of measure for time: hour, minute, day, week, month, year;
- coins and banknotes.

Use of appropriate measuring instruments: meter, gradient, weigh, balance.

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