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Research Article

DIAGNOSTICS OF NON-VERBAL INTELLIGENCE IN STUDENTS OF THE DIRECTION: "GEODESY AND GEOINFORMATICS "

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ABSTRACT

This article is devoted to the study of non-verbal intelligence among students of the direction: "Geodesy and geoinformatics" using Raven's progressive matrices. It presents an analysis of the data received from the subjects in five series of this test, shows the percentage scale of the degree of intelligence development and the scale of mental abilities. At the end of the article there are recommendations for the development of non-verbal intelligence.

KEYWORDS

Raven's progressive matrices, non-verbal intelligence, logical thinking, mental abilities, the level of intelligence development.

INTRODUCTION

For students of the direction "Geodesy and geoinformatics", when compiling maps of the area and building plans, non-verbal intelligence is required, the level of development of which was measured by us with the help of progressive Raven matrices. The ability to detect this level of development will show employers how much one or another applicant will be a qualified employee in the field of geodesy and geoinformatics.

The aim of the research: to study the level of development of non-verbal intelligence among students of the direction "Geodesy and geoinformatics".

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The tasks of the research:

1. Compare with each other the average results obtained by 5 series of Raven's progressive matrices among students of the direction "Geodesy and geoinformatics".

2. Diagnose the degree of intelligence development in students of the direction "Geodesy and geoinformatics".

3. To identify the level of mental abilities of students of the direction "Geodesy and geoinformatics".

4. Comparison between the degree of intelligence development and the level of mental abilities of students of the direction "Geodesy and geoinformatics".

The object of the research: Students of the National University of Uzbekistan in the direction of "Geodesy and geoinformatics".

The subject of the research: Non-verbal intelligence of students of the direction: "Geodesy and geoinformatics".

Selection: 20 students of the National University of Uzbekistan in the direction of "Geodesy and geoinformatics" aged 20-37 years, among them 10 representatives of both sexes participated.

Research hypotheses:

1. Students of the direction: "Geodesy and geoinformatics" will have a high level of non-verbal intelligence.

2. Students of the direction: "Geodesy and geoinformatics" will have the same results on the percentage scale of the degree of intelligence development and the scale of mental abilities.

Research method. Raven's Progressive Matrices

The aim of the technique: the study of logical thinking.

Incentive material: 60 tables (5 series), each of which lacks one of the figures located at the bottom among 6-8 others. Each series consists of 12 tasks.

To perform series A, it is necessary to analyze the image structure and establish relationships in the structure of the matrices. The subject is required to pick up the missing fragment in order to get a complete image.

Series B uses the principle of analogy between pairs of figures. For the correct execution of this series, it is necessary to determine the axis of symmetry of the figures to which it is necessary to choose a pair.

Series C - built on the principle of progressive changes in the figures of the matrices. To cope with each of the tasks of this series, it is necessary to understand by which the complication complication of the figures is going on, adding new elements to them.

To complete the D series, you should find a horizontal and vertical rearrangement of the figures.

In the last series - series E, it is necessary to find the principle of analysis and synthesis of figures when decomposing the figures of the main image into elements.

Procedure: within no more than 30 minutes, the subject is presented with cards. The task of the test taker is to indicate the number of the missing figure on the questionnaire.

RESULTS

Table 1.

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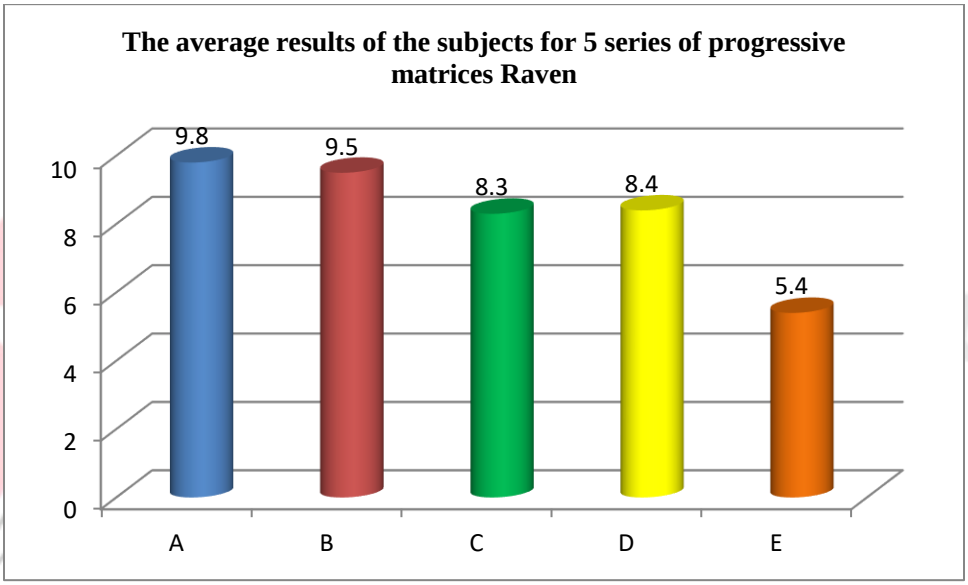
The average results of the subjects for 5 series of progressive matrices Raven.

	A	B	C	D	E
average	9,8	9,5	8,3	8,4	5,4

Histogram 1.



As can be seen from the above table and histogram, the average number of correct answers among students decreased, according to the degree of complexity of each of the series of progressive matrices. The lowest number was obtained for Series E, perhaps the reason for this lies in the fact that the tasks in this series were the most difficult of all or the subjects did not have enough time to answer all the tasks in this series.

Table 2.

Percentage scale of the degree of intelligence development

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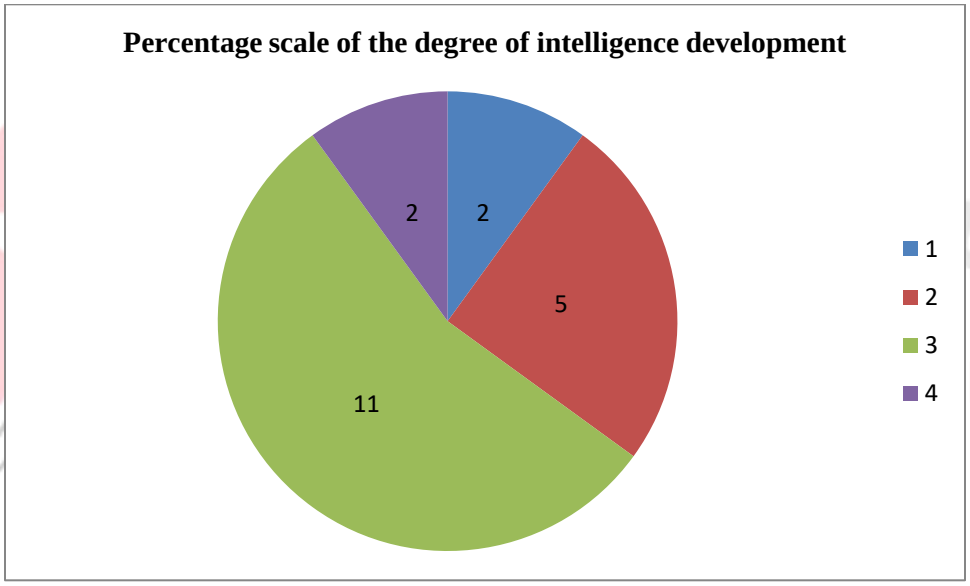
Percent	Degree	Quantity	%
95 and above	**1st degree:** especially highly developed intellect of the subject of the corresponding age group	2	10
75-95	**2nd degree:** outstanding intelligence for this age group	5	25
25-74	**3rd degree:** average intelligence for this age group	11	55
5-24	**4th degree:** below average intelligence.	2	10
5 or less	**5th degree:** defective intellectual ability	0	

Diagram 1



The above table and diagrams clearly show us non-verbal intelligence above average in only 7 subjects, which is 35% of the total number of students (1st and 2nd degree), 11 (55%) were diagnosed with an average degree of intelligence development, and 2 students (10%) is below average, the reason for such results may be the low motivation of some students to pass this technique.

Table 3.

Scale of mental abilities.

IQ indicators	Level of intelligence development	Quantity	%
Over 140	very high, outstanding intelligence	0	

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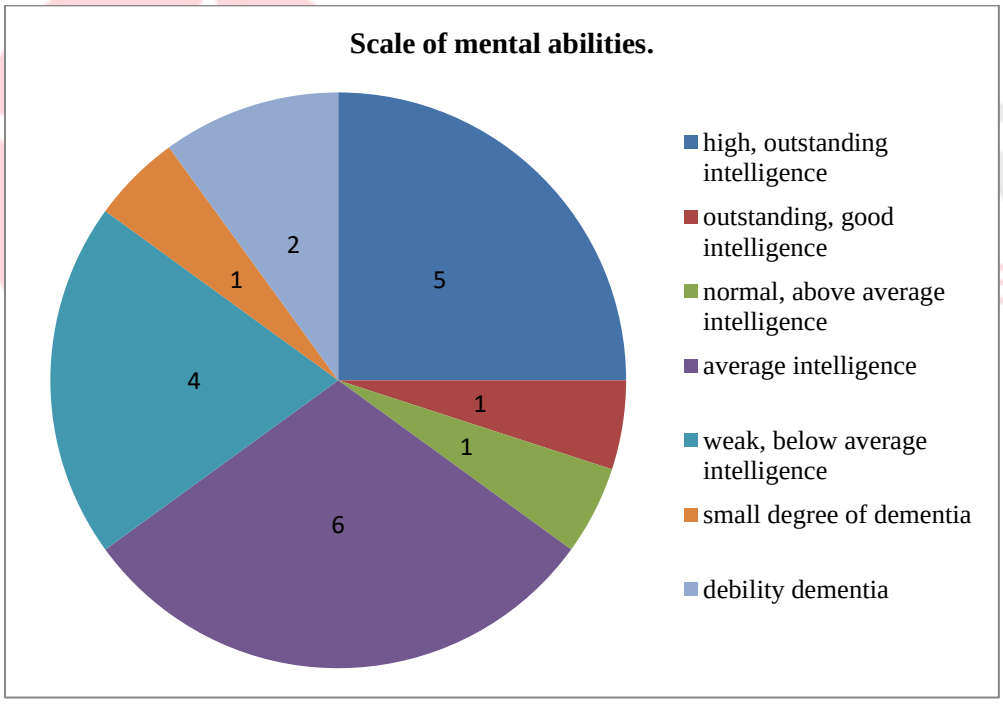
More than 121	high, outstanding intelligence	5	25
111-120	outstanding, good intelligence	1	5
101-110	normal, above average intelligence	1	5
91-100	average intelligence	6	30
81-90	weak, below average intelligence	4	20
71-80	small degree of dementia	1	5
51-70	debility dementia	2	10
21-50	imbecility, average degree of dementia	0	
0-20	idiocy, the greatest degree of dementia	0	

Diagram 2.



On the scale of mental abilities, we got even more deplorable results compared to the percentage school of the degree of intelligence development. From the above table and diagram, we see the correspondence of the scale of mental abilities with the percentage scale of the level of intelligence development according to the above average degree of intelligence (above average, outstanding, high) of 7 subjects.

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Average intelligence on the scale of mental abilities, in contrast to the percentage, is observed only in 6 people (30%), and weak, below average (below average, a small degree and debility dementia) in 7 students, which is 35% of all subjects. As we can see, the presence of a small degree of dementia and debility dementia in some respondents indicates that they are not serious about testing.

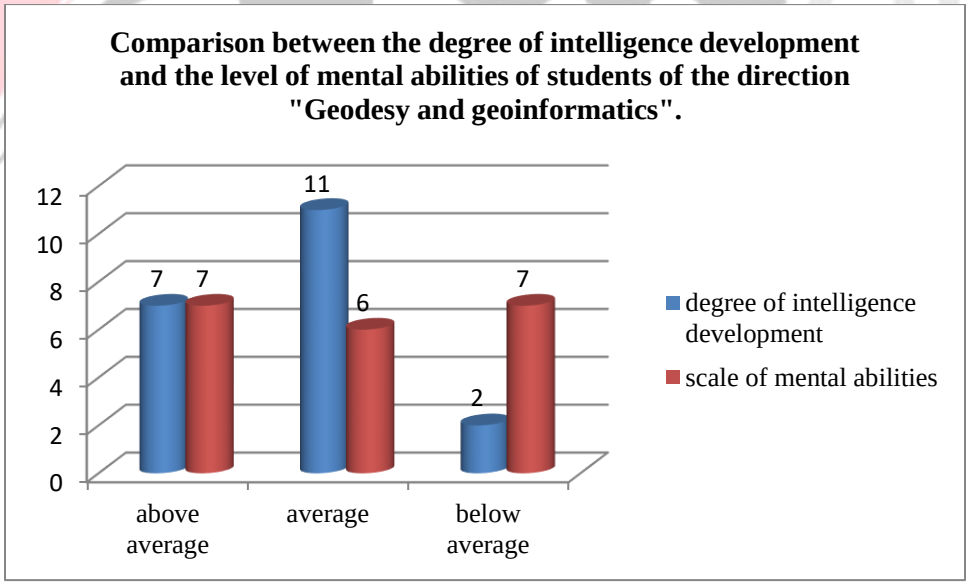
Below we will clearly show the comparison between the degree of intelligence development and the level of mental abilities of students of the direction "Geodesy and geoinformatics".

Table 4.

Comparison between the degree of intelligence development and the level of mental abilities of students of the direction "Geodesy and geoinformatics".

	above average	average	below average
degree of intelligence development	7	11	2
scale of mental abilities	7	6	7

Histogram 2



As the above table and histogram show, due to a more fractional gradation of the scale of mental abilities, we received lower results on it, compared with the percentage scale of the degree of intelligence

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development, on average and below average indicators, but there is no such discrepancy with respect to a high level of intelligence.

CONCLUSIONS

As recommendations for further work, we would suggest:

- motivate the subjects before solving tasks of progressive matrices;
- for the development of non-verbal intelligence, students of the direction "Geodesy and geoinformatics" should be interested in solving puzzles, puzzles, Sudoku, etc. as a hobby.

Our first hypothesis that students of the direction "Geodesy and Geoinformatics" will have a high level of non-verbal intelligence was not confirmed, only 7 people (35%) had a high level. The second hypothesis, sounds as follows: "Students of the direction: "Geodesy and geoinformatics" will have the same results on the percentage scale of the degree of intelligence development and the scale of mental abilities" was confirmed only with respect to indicators above average.

REFERENCES

1. Druzhinin, V. N. Experimental psychology / V. N. Druzhinin - St. Petersburg: Publishing house "Piter", 2000. - 320 p.
2. Mitina, O.V. Mathematical methods in psychology: Practicum / O.V. Mitina – M.: Aspect Press, 2008.- 238 p.
3. Raven's progressive matrices: methodological recommendations/comp. And the general edition of O.E. Mukhorodova, T.V. Schreiber. Izhevsk: Publishing house "Udmurt University", 2011.-70s.