



A COMPARATIVE STUDY OF HIGHER MENTAL ABILITY OF GOVERNMENT AND PRIVATE URDU MEDIUM SECONDARY SCHOOL STUDENTS OF AURANGABAD CITY

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Abstract

The present study is an attempt to examine a higher mental ability in science among Urdu medium government and private secondary school students in Aurangabad city. The sample of the study was selected by Stratified Random Sampling method which includes 300 students of Urdu medium secondary school students (120 private Urdu medium school students and 180 government Urdu medium school students of Aurangabad city). Tool used for the research was standardized 'Test of higher mental ability in science (THMAS)' by Dr.D.N. Sansanwal and Anuradha JOSHI. Research finding reveals that the higher mental ability in science of with respect to The Application, Analysis, synthesis & Evaluation ability government Urdu medium school students was found to be average. The Application, Analysis, Evaluation ability in science of private Urdu medium school students was found to be average, whereas the Synthesis ability respectively was found to be low. Result also revealed no significant difference between application analysis, evaluation ability of government and private Urdu medium secondary school students and significant difference was found between synthesis ability of government and private Urdu medium secondary school students

Keywords: Higher mental ability, Application, Analysis, Synthesis and Evaluation.



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INTRODUCTION:

Higher mental ability plays an important role in study of science and it is essential and necessary for study of science. Science is a subject which is very important in school as well as colleges and it plays important role in medical as well as in engineering and such as many other fields so there is a huge demand in future as science is considered to be an important subject and it is related with human life so there should be a need of study it to everyone and it is very wide in scope.

Today's science world cannot be underestimated, Science is considered to be the backbone of human existence. The effects of science inventions and discoveries can be seen in motion everywhere. From discovery of newer vaccines in life science, to path breaking

discoveries in atomic science as well as technological advancements in the field of communication, transportation and even weather prediction, science has left no aspect of human's untouched. "In the contemporary world, science and technology has become an integral part of human culture countries that ignore this significant truism is risking the future of its youths. If today's youths are not properly equipped with the rudimentary knowledge of modern science, they will grow up only to discover that haphazard knowledge of Science is not sufficient to understand the sophisticated operation of the present information age in science and technology", (Uche & Umoren, 1989 p.38).

Higher Mental Abilities:

Differences in mental abilities have a hierarchical structure, from narrow specific abilities to general ability. Environmental and genetic contributions to these differences are sizeable, the genetic contribution possibly increasing with age. Differences may change or remain stable during the adult lifespan, stability being especially high for verbal abilities. Differences in mental ability have validity for real life outcomes. Cognitive and biological bases of differences in mental ability are being explored but are not yet understood. Bloom (1974) states that cognitive domain comprises of six major classes namely knowledge, comprehension, application, analysis, synthesis and evaluation. He referred application analysis synthesis and evaluation as higher mental abilities. The cognitive domain (Bloom, 1956) involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties. That is, the firestones must normally be mastered before the next ones can take place.

Generally, it is observed that the day-to-day activities of the classroom aim at the development of abilities related to knowledge and comprehension levels to a large extent and application to a less extent. That is to say some higher-level aspect of cognitive domain like analysis, synthesis, evaluation etc. Remain or more or less untouched. While it is necessary to develop higher levels of cognitive domain because children should be able to analyze the situation and take their own decision.

OBJECTIVES OF THE STUDY:

1. To study the higher mental ability in science of government Urdu medium school students.
2. To study the higher mental ability in science of private Urdu medium school students.
3. To compare higher mental ability in science with reference to application, analysis, synthesis, and evaluation) of government and private Urdu medium school students.

HYPOTHESES OF THE STUDY:

1. Higher mental ability in science of government Urdu medium school students is average.
2. The higher mental ability in science of private Urdu medium school students is average
3. There is no significant difference between higher mental ability in science (viz application, analysis, synthesis and evaluation) of government and private Urdu medium school students

RESEARCH METHOD:

Method: Survey method was used for present study.

Research sample: A sample of 300 (120 private and 180 government) Urdu medium school students of Aurangabad city were selected by Stratified Random Sampling method.

Tools: Tool used for the research was ‘Test of higher mental ability in science (THMAS)’ by Dr. D.N.Sansanwal.

Statistical Analysis: Mean, SD, and t-test were used to analyze the data.

ANALYSIS AND INTERPRETATION OF RESULT:

H1: -Level of higher mental ability in science among government Urdu medium secondary school students is average.

Table 1: - Table showing Level of higher mental ability in science government among Urdu medium secondary school students

Higher Mental Ability in science	Factors	Mean	Range	Interpretation
	Application	4.92	4-6	Average
	Analysis	4.03	3-5	Average
	Synthesis	2.05	0-2	Average
	Evaluation	2.06	2-3	Average
	Higher mental ability in science	14.3	11-20	Average

Interpretation:

The obtained results reveal that the mean value M= 4.92, 4.03, 2.05 & 2.06 for of application, analysis, synthesis and evaluation respectively indicates average level of higher mental ability in science among government Urdu medium secondary school students. The results also reveal that overall mean value is M=13.6, showing average level higher mental ability among government Urdu medium secondary school students.

H2: -Level of higher mental ability in science among private Urdu medium secondary school students is average.

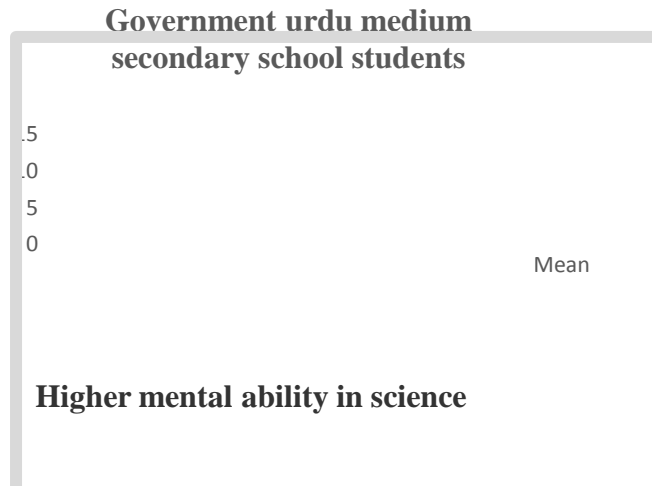
Table 2: - Table showing level of higher mental ability in science among private Urdu medium secondary school student.

Higher Mental Ability in science	Factors	Mean	Range	Interpretation
	Application	4.82	4-6	Average
	Analysis	3.82	3-5	Average
	Synthesis	1.48	0-2	Low
	Evaluation	2.22	2-3	Average
	Higher mental ability	13.9	11-20	Average

Interpretation:

The obtained results reveal that the mean value M= 4.82, 3.82 & 2.22 for application, Analysis and evaluation respectively indicates average level of higher mental ability in science among private Urdu medium secondary school students. Whereas the results also reveal that mean value of higher mental ability in science with reference to synthesis is M =1.48 showing low level of higher mental ability among private Urdu medium secondary school students. Overall mean value is M=13.9, showing average level higher mental ability among private Urdu medium secondary school students.

Graph: 1: Showing level of higher mental ability in science among private Urdu medium secondary school student



H3: -There is no significant difference between level of higher mental ability in science among government and private Urdu medium secondary school students.

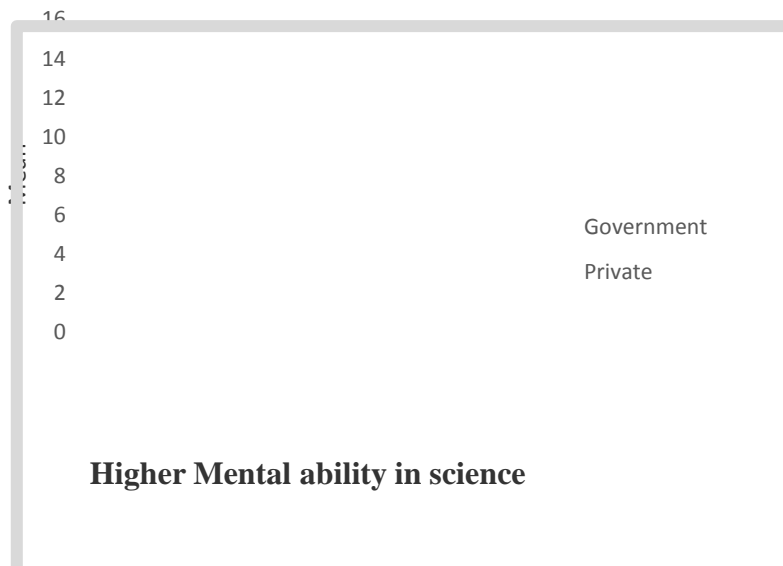
Table-3: -Showing significant difference between level of higher mental ability in science among government and private Urdu medium secondary school students.

Factors	School wise	Mean	S.D (σ)	t-value	Interpretation
Application	Government	4.92	1.02	0.1	Insignificant difference
	Private	4.82	1.68		
Analysis	Government	4.03	0.84	0.2	Insignificant Difference
	Private	3.82	0.9		
Synthesis	Government	2.05	1.41	2.1	Insignificant difference
	Private	1.48	1.11		
Evaluation	Government	2.06	1.26	0.5	significant difference
	Private	2.22	0.58		
Higher mental ability	Government	14.3	3.3	0.4	Insignificant difference
	Private	13.9	3.7		
df =298					

Interpretation:

The results reveal that the obtained 't' value 0.1,0.2,0.5 & 0.4 with respect to application, analysis and evaluation & overall higher mental abilities respectively was found to be less than table t-value (1.97) at 0.05 level of significance The results shows that there is no significant difference in application, analysis and evaluation abilities among government and private Urdu medium secondary school students. On the other hand obtained 't' value 2.1 with reference to synthesis ability was found to be greater than table t-value (1.97) at 0.05 level of significance indicating significant there exist significant difference between synthesis ability among government and private Urdu medium secondary school

Graph 2: significant difference between level of higher mental ability in science among government and private Urdu medium secondary school students



FINDINGS:

Research finding reveals that the overall higher mental ability as well as the application, analysis, synthesis and evaluation abilities among government Urdu medium secondary school students was found to be average level It was also found that overall higher mental ability & application, Analysis and evaluation abilities were of average level among private Urdu medium secondary school students. Whereas synthesis ability among private Urdu medium secondary school students was found to be of low level. No significant difference was found between application, analysis and evaluation abilities among government and private Urdu medium secondary school students. Significant difference was

found between synthesis ability among government and private Urdu medium secondary school

CONCLUSION:

Science learning requires scientific thinking power and skills which help to understand interrelationships of the natural world, analyze problems, evaluate situations, and synthesize interdisciplinary information to come up with a greater understanding of our world. Individual needs to apply use his mental abilities and to think creatively so that he is able to develop a fundamental scientific understanding. The levels of application, analysis, synthesis, and evaluation are all considered to be higher order thinking skills, which require the levels of knowledge and comprehension, but are used to solve problems. (as cited in Laura A. Weis,2008). These higher mental abilities play a vital role in individual person's capacity to complex science learning. Differences in mental abilities have a hierarchical structure, from narrow specific abilities to general ability. Differences in mental ability have some modest predictive validity for real life outcomes. The findings of present research revealed that the students of government and private Urdu medium secondary school posses' low synthesis ability It is most important to give them proper guidance and adopt strategies which will improve their higher mental abilities.

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