

Creativity and Intelligence among Secondary School Students

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The present study aimed at the relationship between creativity and Intelligence among secondary school students. The data were collected from 222 secondary school students from selected secondary schools of Srikakulam District of Andhra Pradesh. A self standardized questionnaire with 50 items. 20 items are related to creativity and 30 items are related to intelligence aspects with 6 dimensions used to collect data. The results were discussed according to the significant values obtained. Based on these results certain conclusions were drawn. On over all conduction of the study some implications were constructed.

Creativity is defined as the ability to bring something with existence, creativity is distinguished by novelty, originality and it's usually inventive. Creativity was believed to be human gift, a rare quality of distinguished individuals with inborn talent. Individual who is flexible in thought and action who can produce novel ideas, express his ideas fluently and long with certain personality trails is said to be creativity. Wallach and Kogan (1965) defined as creativity lies in producing more associations and are producing more that are unique. Levin (1978) defined as creativity is the ability to discover new solutions to problem or to produce new ideas, invention or works of art. It is a special form of thinking away of viewing the world and interacting with it in a manner different from that of the general population. Wilson Guilford and Christenson (1974) stated that creative process is any process by which something new is produced like an idea or an object including a new form or arrangement of old elements. The new creation must contribute to the solution of some problems.

Intelligence is closely related to intellect. Intellect includes observing, understanding, thinking, remembering and all ways of knowing. Woodworth (1948) defined

intelligence means intellect put to use. It is the use of intellectual abilities for handling of a situation or accomplishing any task. Stern (1914) defined intelligence is the ability to adopt axis surroundings. Wagnon (1937) defined intelligence is the capacity to learn and adjust to relatively new and changing conditions. Both intelligent and creativity are the important cognitive aspects of the individual. The studies done on these aspects are mentioned underneath.

Dutta (1989) in his study found that six differences exist in scientific creativity. Scientific creativity depended on intelligence, academic achievement and socio-economic status. Dominant factors of scientific creativity were fluency, flexibility and originality in the case of boys and girls. Kiangte Varparhi (1988) in his study found that high creative students were superior in abstract thinking, assertive, affected by feelings, tender minded, placed, doubting, venture some and reserved when compared to low creative, Intelligence sensitivity, independent assertiveness and spontaneity were significant correlates of creative thinking abilities observed among the secondary school students. Reddy, Mahender (1989) in his study found that the Government and private school students differed significantly

on creative thinking in favor of private school students. Srivastava (1988) in his study found that in every case of boys and girls belonging to urban and rural locality these existed a difference among the fifteen needs associated with fluency, flexibility and originality components of creativity at high, average and low levels of intelligence. Gupta Krishna Kumari (1988) in her study found that urban and rural boys and girls developed rapidly in creativity from the age of 11-13 and 14 but later there was a sharp decline up to the age of 15 years. In general, girls showed excellence as compared to boys in creative development between the ages of 13-15 years both in urban and rural areas. The studies have shown significant differences in various dimensions and upon various variables.

Objectives:

To study the differences between the secondary students in the variables of gender, locality and type of school related to the intelligence and creativity factors.

To study the relationship between intelligence and creativity among secondary school students on total scores.

Method

Sample:

The sample 222 was taken by completely filled in questionnaires. It was observed that there are 114 boys and 108 girls, 127 government school students and 95 private school students and 95 rural and 127 urban area school students were included in the total sample. The sample is collected by way of random sampling method from 7 schools. The sample size is sufficient and appropriate for the study.

Tool:

The creativity and intelligence scale used in this study is a self constructed tool. Initially the investigator constructed 75 statements and on administration of the test, the item

analysis was done for upper and lower 27% of scores. On comparison of means by t-tests for each item, it is found that the 25 items were not valid and they are discarded from the test. The final test consists of 50 items with 20 items belonging to creativity and 30 items related to intelligence. The creativity items will be measured by 50 options of strongly agree, agree, neutral, disagree, strongly disagree with that of 5, 4, 3, 2, 1 scores respectively. Hence the total range of the scores lies in between 20 to 100 and there are no negative items.

The intelligence test consists of 30 items with 6 dimensions of questions namely synonyms, classification, opposite words, comparisons, reasoning and order. Each dimension consists of 5 items. If the response is correct '1' mark will be awarded. So the range of the test is between 0-30 marks. All the questions in this test are multiple choice questions. The reliability of the test is 0.93 and the validity is 0.96. So it is found that the test is reliable and highly valid.

Results and Discussion

The mean, standard deviations and critical ratio values of intelligence across gender, type of management and locality were tabulated in table-1. It can be observed that there were no significant differences between gender, type of management and locality related to intelligence. So the null hypotheses framed on these variables are accepted. The mean, standard deviations and critical ratio values of creativity across gender, type of management and locality were tabulated in table-2. It can be observed that there were no significant differences between gender, type of management and locality related to creativity. So the null hypotheses framed on these variables are accepted.

The total scores of 222 students' creativity and intelligence relationship value was tabulated in table: 3. It can be observed that the value is positive and significant. So

Table 1. Comparison of Intelligence across different Variables

S.No.	Variable	Category	N	Mean	SD	CR
1	Gender	Boys	114	22.94	5.07	0.2
		Girls	108	22.8	5.06	
2	Type of Management	Govt.	127	23.12	5.3	0.92
		Private	95	22.5	4.8	
3	Locality	Urban	127	22.73	5.84	0.37
		Rural	95	23.02	5.56	

Table 2. Comparison of Creativity across different Variables

S.No.	Variable	Category	N	Mean	SD	CR
1	Gender	Boys	114	77.1	11.88	0.01
		Girls	108	77.12	14.14	
2	Type of Management	Govt.	127	78.5	12.95	1.88
		Private	95	75.2	12.89	
3	Locality	Urban	127	75.56	14.43	1.46
		Rural	95	78.16	12.01	

Conclusion

Table 3. Relationship between Creativity and Intelligence

S.No.	Parameters	N	r-value
1	Creativity	222	0.99
2	Intelligence		

the null hypothesis is rejected and there is a significant relationship between creativity and intelligence.

Educational Implications

Teachers should inculcate the creativity and intelligence in students' minds. The conduction of creativity tests, intelligence tests, giving place for thinking and brain storming, solving problems by maize, reasoning all such types of techniques can foster the creativity and intelligence among the secondary students.

Teachers and parents on their part there is a need for proper planning and conscious efforts in nourishing creativity and develop intelligence. The children provide with environment and facilitates conducive to the nurturing and stimulation of all which is helpful in the development of creative facilities and intelligence.

Intelligence being in an in born quality, the gender and the locality of the school never influences the development of intelligence. The environment where a child is brought may have influence on the development of intelligence.

As the teaching methods followed are same both in Government and Private schools. The type of management of school has no influence on the development of reasoning ability. Gender never plays important role on the development of creativity. It is a kind of adventurous thinking of a person to produce something novel.

The quality of teaching depends on the teachers' commitment and efficiency. It is there in Government schools where as in private schools teachers give much importance to rote memory. Hence there is slight difference in thinking those who are studying in government and private schools. Thinking always influenced by creativity and intellectual abilities of a person, when a student is considered to be creative, he has minimum levels of intelligence. So it was found that there is relationship between those two parameters that is creativity and intelligence.

References

- Dutta K.L. (1989). *Differences in Scientific Creativity among high school students*, Ph.D., Edu, University of Jammu.
- Garret, H.E. (1971). *Statistics Psychology and Education*, Bombay: Vakils, Feffer and Simons Private Limited, (6th Ind. Edi).
- Guilford, J.P (1978). *Fundamental Statistics in Psychology and Education*, Mc-Graw Hill Publishing Co, Tokyo, Japan.
- Gupta, K.K. (1988). *The creative development of secondary school children in relation to Sex, Intelligences, urban and rural background*. Ph.D., Edu, Agra University.
- Khiangte Varparhi. (1988). *Non-cognitive correlates of creativity among the secondary school students*. Ph.D., Edu., North-Eastern Hill University.
- Levin, M.J. (1978). *Psychology: A Biographical approach*, New York: Mcgraw –Hill.
- Reddy, Mahender. (1989). *The development of Reasoning and creativity among the standard IX students*. M.Phil dessertation, Annamalai University.
- Srivastava, R.K. (1988). *A study of needs in relation to creativity among high school students*. Ph.D Edu., Hemwati Nandan Bahuguna Garhwal University.
- Stern, W. (1914). *Psychological Methods of Testing Intelligence*. Baltimore: Warwick and York: Inc., p:3.
- Wagnon, M.J. (Ed.) (1937). *Readings in Educational Psychology*, New York: Houghton Mifflin.
- Wallach, M.A. & Kogan, N. (1965). *Modes of thinking in Young Children*, New York: Holt, Rinehart & Winston.
- Wilson, R.C., Guilford J.P. & Christensen, P.R. (1974). quoted by Dutt, N.K., *Psychological foundation of Education*, Delhi: Doaba House.
- Woodworth, R.S. & Marquis, D.G. (1948). *Psychology (5th ed.)*, New York: Henry Holt.

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