ISSN: 2278-4632
Vol-08 Issue-01 : 2018

"CREATIVITY AND GENERAL MENTAL ABILITY A CORRELATION STUDY AMONG SECONDARY SCHOOL STUDENTS."

Sumithramma
Assistant Professor
Sarada vilas teachers college
Mysore-4
Sumithracp123@gmail.com

Abstract:

In a summary of scientific research into creativity, Michael Mumford suggested: "Over the course of the last decade, however, it seem to have reached a general agreement that creativity involves the production of novel, useful products" (Mumford, 2003, p. 110), or, in words, the production of "something original and worthwhile". Authors have diverged dramatically in their precise definitions beyond these general commonalities: Peter Meusburger estimates that over a hundred different definitions can be found in the literature, typically elaborating on the context (field, organization, environment etc.) which determines the originality and/or appropriateness of the created object, and the processes through which it came about. As an illustration, one definition given by Dr. E. Paul Torrence in the context of assessing an individual's creative ability, described it as "a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results. Creativity in general is usually distinguish news in particular, where the stress is on implementation. For example, Teresa Ambabile and Pratt (2016) define creativity as production of novel and useful ideas and innovation as implementation of creative ideas, while the OECD and EURO state that "Innovation is more than a new idea or an invention. An innovation requires implementation, either by being put into active use or by being made available for use by other parties, firms, individuals or Organization. There is also an emotional creativity which is described as a pattern of cognitive abilities and personality traits related to originality and appropriateness in emotional experience and General mental ability is use to test the ability of a student to comprehend and interpret verbal information, perceive and process numbers and information given in tabular or graphical format, think laterally and make logical connections between different concepts. In this context the main purpose of the study was to examine the creativity and general mental ability among secondary school students. The study also aimed to find out the correlation between variable carried on students of 8th Standard in schools of Mysore city. The sample of the study consisted of 100 male and female students and data was collected by using tools, viz, RPM(Ravens standards progressive matrices) Used to measure the level of general mental ability of the students Creativity test to measure the level of creativity among secondary school students. The result shown that Majority (53%) of Secondary school student possess, moderate level of creativity. It is also seen that only 22% and 25% of the Secondary school students possessing low and high level of creativity respectively. Majority (52%) of secondary school students possess, moderate level of General mental ability and it is also seen that only 23% and 25% of the secondary schools possessing low and high level of General mental ability respectively.There is a significant difference between the creativity of male and female secondary school students There is a significant difference between the general mental ability of male and female secondary school students

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

There is a positive insignificant relationship between the creativity and general mental ability of secondary school students.

Key words: Creativity, General mental ability, t-test, descriptive survey method percentage analysis.

1. **Introduction:**

Creativity is a phenomenon whereby something new and valuable is formed. The created item may be tangible (such as an idea , a scientific theory a musical composition.) Scholarly interest in creativity is found in a number of disciplines primarily psychology, business, studies and cognitive science. However, it can b also be found in education. scientific theory a musical composition a physical object (such as a invention, a printed literary work, or a painting. The humanities, technology, engineering, philosophy, (particularly philosophy of science theology sociology, linguistic the arts, economics, and mathematics. These disciplines cover the relations between creativity and general intelligence, personality type, mental and neural processes, mental health or artificial intelligence; the potential for fostering creativity through education and training; the fostering of creativity for national economic benefit; and the application of creative resources to improve the effectiveness of teaching and learning. Creativity in general is usually distinguished from innovation in particular, where the stress is on implementation. For example, Teresa Ambile and Pratt (2016) define creativity as production of novel and useful ideas and innovation as implementation of creative ideas, while the Euro state that "Innovation is more than a new idea or an invention. An innovation requires implementation, either by being put into active use or by being made available for use by other parties, firms, individuals or organizations." From *Human Motivation*, , by Robert E. Franken: Creativity is defined as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others. (page 396). Three reasons why people are motivated to be creative: Need for novel, varied, and complex stimulation, Need to communicate ideas and values and need to solve problems. `In order to be creative, Individual need to be able to view things in new ways or from a different perspective. Among other things, need to be able to generate new possibilities or new alternatives. Tests of creativity measure not only the number of alternatives that people can generate but the uniqueness of those alternatives. the ability to generate alternatives or to see things uniquely does not occur by change; it is linked to other, more fundamental qualities of thinking, such as flexibility, tolerance of ambiguity or unpredictability, and the enjoyment of things here unknown. From *Creativity - Beyond the Myth of Genius*, by Robert W. Weisberg. ..."creativity" refers to novel products of value, as in "The airplane was a creative invention." "Creativity" also refers to the person who produces the work, as in, Picasso was creative." "Creativity," then refers both to the capacity to produce such works and to the activity of generating such products, as in "Creativity requires hard work. All who study creativity agree that for something to be creative, it is not enough for it to be novel: it must have value, or be appropriate to the cognitive demands of the situation." From *Creativity*

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

- *Flow and the Psychology of Discovery and Invention* by Mihaly Csikszentmihalyi. says that "creativity" is commonly used: Persons who express unusual thoughts, who are interesting and stimulating - in short, people who appear to unusually bright. People who experience the world in novel and original ways. These are (personally creative) individuals whose perceptions are fresh, whos judgement are insightful, who may make important discoveries that only they know about. Individuals who have changes the culture in some important way. It is easier to write about them. (e.g., Leonardo, Edison, Picasso, Einstein, etc.)The Systems Model of Creativity: the creative **domain**, which is nested in culture - the symbolic knowledge shared by a particular society or by humanity as a whole (e.g., visual arts)the individual **person**, who using the symbols of the given domain (such as music, engineering, business, mathematics) has a new idea or sees a new pattern, and when this novelty is selected by the appropriate field for inclusion into the relevant domains Creativity is any act, idea, or product that changes an existing domain, or that transforms an existing domain into a new one...What counts is whether the novelty he or she produces is accepted for inclusion in the domain. Characteristics of the creative personality: Creative individuals have a great deal of energy, but they are also often quiet and at rest. Creative individuals tend to be smart. Creative individuals have a combination of playfulness and discipline, or responsibility. Creative individuals alternate between imagination and fantasy. Creative people seem to harbor opposite tendencies on the continuum between extroversion and introversion .Creative individuals are also remarkable humble and proud at the same time .Creative individuals to a certain extent escape rigid gender role stereotyping and have a tendency toward androgyny. Generally, creative people are thought to be rebellious and independent .Most creative persons are very passionate about their work, yet they can be extremely objective about it as well. The openness and sensitivity of creative individuals often exposes them to suffering pain yet also a great deal of enjoyment.

2. Need and Importance of the study:

Creativity is the ability and disposition to produce novelty. Children's play and high accomplishments in art, science, and technology are traditionally called creativity, but any type of activity or product, whether ideational, physical, or social, can be creative .Creativity has been associated with a wide range of behavioral and mental characteristics, including associations between semantically remote ideas and contexts, application of multiple perspectives, curiosity, flexibility in thought and action, rapid generation of multiple, qualitatively different solutions and answers to problems and questions, tolerance for ambiguity and uncertainty, and unusual uses of familiar objects .Biographical studies of exceptionally creative children have uncovered recurring features. Creative children typically master a practice or tradition before they transform it. They organize their lives around a network of interrelated and mutually supporting enterprises. They are prolific. There is no evidence for an inverse relation between quantity and quality; instead, the two appear to be correlated. Exceptionally creative accomplishments are complex, evolving outcomes of long-term efforts sustained by high levels of intrinsic motivation, often in the absence of societal rewards to the study of creativity in science, art and humor has emerged under the label. A number of researchers include creativity, either explicitly or implicitly, as a key component of intelligence. General mental ability refer to children ability to comprehend and interpret verbal information, perceive and process numbers information in tabular format, think literally, and make logical connections between different concepts. In the lights of the above the investigator felt that is necessary to investigate Creativity and General mental ability A correlation study among secondary school students.

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

3. Operational definition of the key terms used in the study:

Creativity: Creativity as the capacity to produce ideas that are both original and adoptive. In other wards the idea must be both new and workable or functional . Thus, creativity enables Children to adjust to novel circumstances and solve problems that unexpectedly arise. A child creative activity can help teachers to learn more about what the child may be thinking or feeling.

General mental ability : Information given in tabular or graphical format , ability to think laterally and make logical connections between different connections. General mental ability: It is defined as the ability to understand and interpret verbal different concepts.

4 .Methodology:

Statement of the Problem :

The statement of the problem is Creativity and General mental ability A correlation study among secondary school students.

5 .Objectives of the study:

The following were the objectives of the study:

1. To study the level of creativity among secondary school students.
2. To study the level of General mental ability among secondary school students.
3. To compare whether there is significant difference between creativity of female and male secondary school students.
4. To compare whether there is significant difference between General mental ability of female and male secondary school students.
5. To examine whether there is a significant relationship between creativity and General mental ability of secondary school students.

6 . Hypotheses of the study:

The following hypotheses were formulated in pursuance of the objectives of the study:

1. There is a significant difference between creativity of male and female secondary school students.
2. There is a significant difference between the General mental ability of male and female secondary school students.
3. There is a significant relationship between the creativity and General mental ability of secondary school students.

7. Variables of the study:

Following were the variables of the study.

Main variable:

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

Creativity

General mental ability

Background variable: Gender.

8. Method of the study:

Descriptive survey method was adopted for the study.

9. Sample of the study:

Random sampling technique has been adopted for selecting the sample of secondary schools of city of Mysore. Further100 male and female students were selected through cluster sampling technique.

10. Tools used for collection of data:

The following tools have been used for the study and are shown in the table no 1

Table NO 1

SL NO	Variables	Tools used	Standardized/ constructed by
1	Creativity	Passi test of creativity	Passi
2	General mental ability	Ravens standard progressive matrices	Raven J .C.

11. Statistical techniques used for analysis of data:

The following statistical techniques were used for analyze the hypothesis formulated in the study

A) Percentage analysis was used as a statistical technique to analyze the level of percentage with respect to first and second objective which have been presented below.

B) t-test was used to find out significant difference between variables

C) Pearson product movement correlation

The technique was used find out the relationship between the variables.

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

12. Analysis and interpretation of the data:

Objective 1: To assess the level of creativity of secondary school students.

Table No.2: Table showing the percentage of Secondary school students possessing low, moderate and high level of creativity.

Creativity	Score Limit	Secondary school students	
		Frequency	Percentage
Low	607	22	22
Moderate	608-658	53	53
High	659	25	25
Total		100	100%

Table No.2 reveal that majority (53%) of Secondary school student possess, moderate level of creativity. It is also seen that only 22% and 25% of the Secondary school students possessing low and high level of creativity respectively.

Objective 2: To assess the level of General mental ability among secondary school students.

Table No3: The table showing the percentage of secondary school students possessing low, moderate and high level of General Mental Ability.

General Mental ability	Score limit	Secondary school students	
		frequency	Percentage
Low	Below 44	23	23
Moderate	45-55	52	52
High	Above 56	25	25
Total		100	100%

Table No. 2 revealed that majority (52%) of secondary school students possess, moderate level of General mental ability and it is also seen that only 23% and 25% of the secondary schools possessing low and high level of General mental ability respectively.

Hypotheses-1: There is no significant difference between creativity of male and female secondary school students.

Table No. 3: showing mean, SD, t-value of male and female with respect to creativity.

	Groups	N	Mean	SD	df	T	Significance
Gender	Male	50	214.25	14.00	48	11.325	0.01
	Female	50	275.89	18.04			

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

Table No.3 shows that the obtained 't' value 11.325 is greater than the tabled 't' value 2.626 at 0.01 level. Hence, the null hypothesis Ho.1 is rejected and the alternate hypothesis stating that there is a significant difference between the creativity of male and female secondary school students is accepted. Since, the mean value of male (214.25) is lesser than that of the mean value of female (275.89), it is concluded that female secondary school students have scored higher in creativity.

Hypotheses-2: There is no significant difference between the general mental ability of male and female secondary school students.

Table No. 4: showing mean, SD, t-value of male and female with respect to general mental ability.

	Groups	**N**	**Mean**	**SD**	**df**	**T**	**Significance**
Gender	Male	50	49.99	8.72	52	0.505	NS
	Female	50	48.88	7.73			

Table No.4 shows that the obtained 't' value 0.505 is lesser than the tabled 't' value 2.000 at 0.05 level. Therefore, the above stated alternative hypothesis is accepted and it is concluded that there is no significant difference between the general mental ability of male and female secondary school students is accepted.

Hypotheses-3: There is no significant relationship between the creativity and general mental ability of secondary school students.

Table no- 5: Showing the Number, Mean 'r' value between creativity of Secondary school students and their general mental ability.

Variables	**N**	**Df**	**'r' value**	**Level of significance**
Creativity	100	88	0.084	0.01
General mental ability				

NS: Not Significant

Table no-5 shows that obtained 'r' value of 0.084 is greater than table value of 0.061 at 0.01 level. Hence, the null hypothesis Ho-3 is rejected. It is concluded that there is a significant relationship between the creativity and general mental ability of secondary school students.

13. Findings of the study

1. Majority (53%) of Secondary school student possess, moderate level of creativity. It is also seen that only 22% and 25% of the Secondary school students possessing low and high level of creativity respectively.
2. Majority (52%) of secondary school students possess, moderate level of General mental ability and it is also seen that only 23% and 25% of the secondary schools possessing low and high level of General mental ability respectively.
3. There is a significant difference between the creativity of male and female secondary school students
4. There is no significant difference between the general mental ability of male and female secondary school students

ISSN: 2278-4632
Vol-08 Issue-01 : 2018

5. There is a positive insignificant relationship between the creativity and general mental ability of secondary school students.

14. Educational Implications of the study:

Teacher need to develop creativity among secondary school students through organizing Enrichment programs, keep learning, get some exercise, brainstorming, advanced teaching and learning, rewards for curiosity, explore multiple solutions, use mind maps and flow-charts, look for inspiration, , use different approaches and methods for teaching learning process.

15. Bibliography

1. https://spark.adobe.com/page/x47RC/
2. https://www.csun.edu/~vcpsy00h/creativity/define.htm
3. https://www.csun.edu/~vcpsy00h/creativity/define.htm/
4. http://www.csun.edu/~vcpsy00h/creativity/define.htm
5. https://www.researchgate.net/post/creativity1
6. https://www.pinterest.com/pin/224546731394885548/
7. https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0258661&type=printable/
8. https://paricenter.com/library-new/creativity-in-nature-art-and-mind/
9. https://www.cc.gatech.edu/classes/AY2018/cs4803cc_spring/research_papers/Torrance-Viewsofcreativity.pdf
10. https://slife.org/what-is-creativity//
11. https://www.csun.edu/~vcpsy00h/creativity/define.htm
12. https://www.csun.edu/~vcpsy00h/creativity/define.htm/
13. https://en.wikipedia.org/wiki/Creativity
14. https://fan.football.sony.net/x/pdf/B4G0H9/creativity-flow-and-the-psychology-of-discovery-invention-mihaly-csikszentmihalyi_pdf/
15. https://twitter.com/OsraOumr/status/1320502922157981697
16. https://www.bloomstoblossoms.com/wp-content/uploads/2020/11/What-is-creativity.pdf/
17. https://www.slideshare.net/jaypeeeugenio/creativity-by-john-paul-eugenio
18. https://amaranthinemedia.com/what-is-creativity/
19. https://www.bloomstoblossoms.com/wp-content/uploads/2020/11/What-is-creativity.pdf
20. https://kottke.org/21/11/the-ten-contradictory-traits-of-creative-people/
21. https://www.ijcaonline.org/volume28/number11/pxc3874786.pdf
22. https://quotefancy.com/quote/1151706/Mihaly-Csikszentmihalyi-Creativity-is-any-act-idea-or-product-that-changes-an-existing
23. http://www.csun.edu/~vcpsy00h/creativity/define.htm
24. https://tazyla.blogspot.com/2011/03/c-r-e-t-i-v-e.html
25. https://quizlet.com/526523071/lesson-1-assumptions-and-nature-of-arts-creativity-and-imagination-flash-cards/
26. https://education.stateuniversity.com/pages/1892/Creativity.html/
27. https://testbook.com/question-answer/study-the-following-statements-and-choose-the-corr--602fc714b8ee70ab61aefd66
28. https://www.bloomstoblossoms.com/wp-content/uploads/2020/11/What-is-creativity.pdf/
29. https://edict.ro/the-importance-of-creativity-and-the-student-centered-learning-method-in-

contemporary-education//https://slife.org/what-is-creativity//
30. https://colossary.com/def/en/psychology/incubation
31. https://www.coursehero.com/file/97851147/Incubationdocx/
32. https://en.wikipedia.org/wiki/Creativity
33. https://slife.org/what-is-creativity/
34. https://drrajivdesaimd.com/2011/09/30/creativity/comment-page-14/
35. https://education.stateuniversity.com/pages/1892/Creativity.html/
36. https://testbook.com/question-answer/study-the-following-statements-and-choose-the-corr--602fc714b8ee70ab61aefd66
37. https://www.bloomstoblossoms.com/wp-content/uploads/2020/11/What-is-creativity.pdf/
38. https://edict.ro/the-importance-of-creativity-and-the-student-centered-learning-method-in-contemporary-education//
39. https://www.linkedin.com/pulse/push-yourself-creative-your-thinking-introspective-within-billings?articleId=7091295128795473951
40. https://books.google.com/books?id=W_Z5DwAAQBAJ
41. https://issuu.com/jcjohnsoniii/docs/44_-_interpreting_the_facts