A STUDY OF CREATIVITY OF THE HIGH SCHOOL STUDENTS IN RELATION TO CERTAIN VARIABLES

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Abstract

The high school students tend to bear the ability to think or imagine in a different way. In the present study the sum of fluency, flexibility and the originality in an individual is creativity. The objectives of the study comprised to know the levels of creativity, intelligence, achievement motivation, anxiety and self-concept of the high school students and to know the effect of their intelligence, achievement motivation, anxiety, gender, self concept, and area on creativity. The study was limited to Gujarati medium high school students of Ahmedabad district. The sample of 620 high school students was selected by cluster multistage sampling. The standardised tools available in Gujarati and survey method were used to collect the data. The analysis was conducted by correlation, and F-test. The results depicted difference in creativity of the high school students of Ahmedabad with different levels of intelligence, self concept and anxiety.

Keywords: *creativity, creativity and its related factors, intelligence, achievement motivation, anxiety, gender, self concept, area*

Introduction

Education is deeply rooted with society and it cannot be desolated in any way. Knowledge, awareness, skills, values, interest, aptitude, creativity, intelligence and attitudes acquired through education enhances the desired quality of life. This quality could be increased with the quality of education with the development of the psychological variables as such the intelligence, creativity, self concept and others. It is the creativity that has enhanced the quality of life and every aspect of life. Any individual has inner ability to think about new ideas and solutions of a problem. Some people can show their abilities and some cannot due to lack of proper guidance, confidence, environment, motivation and other factors but in fact, if an individual wants to be successful the necessity is the power of thinking in different ways. In psychological terms this thinking power is known as creativity. The most important aspect of creativity is the ability to think or imagine in a different way. In any stage of education this aspect of creativity could be found. The society has to take care of the creativity amongst every individual right from the childhood and strive for its development amongst the individual's right from the first stage of the formal education. In the Indian system of education, there are several stages of education as such the primary, secondary, higher secondary and higher education. Of the different stages of education, the high school plays an important role in education and the development of the individual. Hence it is important to develop the creativity of the high school students at this level. More over it is possible that creativity may be affected by gender, type of school, self concept, intelligence and other variables related to the high school student. In order to fasten their creativity it is necessary to know the level of creativity and the effect of these variables on the creativity of the high school students. Looking to the aspects of creativity the present investigation seeks to know the amount of creativity in the high school students and the way the creativity and its components are related to various other factors.

Creativity

Rogers (1961), says that perhaps the most fundamental condition of creativity is that the source or locus of evaluative judgement is internal. According to Rhodes (1961), creativity is an act of two parts, the first part consists of getting an idea and the second part involves articulating, i.e. putting each idea into form. In the present study the sum of fluency, flexibility and the originality in an individual is called creativity.

Intelligence

Wechsler (1939) considers it as the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with environment. Gardner (1986) says that it is the ability or skill to solve problems or to fashion products that are valued within one or more cultural settings. In the present study the verbal and non-verbal ability of the individual with respect to their verbal, spatial, numerical, word fluency, reasoning, perception and general ability is called intelligence.

Anxiety

According to Watson (1925) anxiety is a signal which announces that there is danger and individual is expecting a situation of helplessness to set in (cited by Gujarat Journal of psychology Vol.24, 2007 P.40). In the present study anxiety means the mental status of the individual with reference to his concern for the self and the happenings and events in the surroundings whether it is physical, physiological, social, mental and psychological or a combination of all.

Self-Concept

Carl Rogers (1947) in his theory of self concept introduced entire system of helping built around the importance of the self. In Rogers view the self is the central ingredient in human personality and personal adjustment. Rogers described the self as a social product, developing

out of interpersonal relationships and striving for consistency. In the present study the self concept refers to the ideas, feelings and attitude that the individual bears for self.

Achievement-Motivation

Achievement imagery in fantasy takes the form of thoughts about performing some task well, of sometimes being blocked, of trying various means of achieving, and of experiencing joy or sadness contingent upon the outcome of the effort. (McClelland et al. 1953, chapter 4; McClelland et al. 1958). In the present study the achievement-motivation refers to the efforts an individual puts forth with respect to the different situations in the surrounding to be evaluated in relation to some standard of excellence.

According to Daguar B. S. (1982), individuals at different levels of anxiety did not give identical or similar creative responses. The flexibility, fluency and creative thinking scores at different levels of anxiety did not differ significantly among themselves. Males and females did not differ as regards creative thinking abilities. The study of Singh O. P. (1982) says that the mean creativity scores of the urban students were higher than that of the students from rural areas. The mean creativity scores of science students were higher than that of arts students. Thilangvathe T. (1990) declares that the high achievers secured higher mean scores than the average and low achievers in creativity. Jaiswal V.K. (1997) said that anxiety on the whole was negatively correlated with creativity and its factor such as fluency flexibility and originality. There was no significant relationship between anxiety and creativity in the female sample. The female teacher trainees were significantly superior to the male trainees on fluency and flexibility. There was no significant sex difference on composite creativity scores. There was no significant academic group difference in the female sample on creativity scores. There was no difference in the creativity scores of the teacher trainees belonging to the urban and the rural areas.

Objectives

The objectives of the study comprised to study the different levels of creativity, intelligence, achievement motivation, anxiety and self-concept of the high school students of Ahmedabad and to study the correlation between creativity and its components with intelligence, achievement-motivation, anxiety, achievement, self-concept

Hypothesis

To study levels of creativity, intelligence, achievement-motivation, anxiety, self-concept of high school students of Ahmedabad.

There will be no significant difference among the mean scores of creativity of the high school students of Ahmedabad with different levels of intelligence.

There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of achievement motivation.

There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of anxiety.

There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with respect to their gender.

There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of self-concept.

There will be no significant difference between the mean scores of creativity of the high school students residing in different area of Ahmedabad.

There will be significant correlation of creativity and its components with intelligence, achievement-motivation, anxiety, achievement and self-concept.

Rationale of the Study

The chief objectives of research are to discover principles that have universal application. Creativity and its components had widely being accepted as a pathway to success for the society and the civilisation. However the creativity does not exist in the same proportion amongst the high school students. Education aims to promote creativity amongst the high school students. Besides the general theories and practices of education, the effect of intelligence, achievement-motivation, anxiety, self-concept, gender, area, type of school, achievement and grades have to be investigated. Even a bit of creativity and its components enables a person to perform well. Thus it becomes necessary to know the creativity existing in the high school student. Creativity is the root towards progress. The high school students are bear several psychological variables. Thus it is necessary to know if the psychological variables as such intelligence, achievement-motivation and anxiety affect the creativity. Moreover different studies indicate different relationship between creativity and intelligence. Thus, it necessitates verifying the relationship between creativity and intelligence. Again the high school students comprise of several personal variables. Thus it is necessary to know if the personal variables as such self-concept, gender and area affect the creativity and its components. Moreover different studies indicate different relationship between creativity and these personal variables. Thus, it necessitates verifying the relationship between creativity and intelligence. Similarly, the scholastic variables as such the type of school, grades and achievement may affect the creativity and its components which necessitates testing the relationship between creativity and its components with the scholastic variables. Thus, the study of creativity and its components with respect to these variables becomes necessary.

Research Design

The research design describes just what must be done, how it will be done, what data will be needed, what data-gathering devices will be employed, how sources of data will be selected, and how the data will be analysed and conclusions be drawn. The study is limited to high school students of Ahmedabad District. The study is limited to GSEB Gujarati medium high school students. In the present research the Gujarati medium high school students of Ahmedabad form the population of the study and the 620 Gujarati medium high school students of Ahmedabad selected by cluster multistage sampling form the sample of the study. In the present research, creativity is the dependent variable whereas the intelligence, achievement-motivation, anxiety, self-concept, gender, and area are independent variables. To collect the data from the sample the standardised tools available in Gujarati were used. The creativity test prepared by J.Z. Patel, self-concept scale prepared by Pierrs-Harris and translated by Kishore Dave, Intelligence and anxiety test prepared by Desai and Achievement-Motivation test prepared by Prayag Mehta were used to measure the creativity, self-concept, intelligence, anxiety and achievement-motivation respectively. Looking to the economy of time, money and energy the survey method was used. The data was collected by pre-decided tools with cautiousness. The same data was then grouped and analysed by correlation, and F-test.

Results and Discussion

Ho₁ To study the different levels of creativity, intelligence, achievement motivation, anxiety and self-concept of the high school students of Ahmedabad.

Table 1

Mean Scores of Creativity and its Components and the Related Variables

	IQ	Achievement Motivation	Anxiety	Self Concept
Mean	91.7	3.47	23.21	57.51
Percent	46.4	49.6	51.4	53.7

From the table 4.2, it is evident that the mean scores of creativity of the high school students of Ahmedabad is 101.51 which indicates that about 46.8% of the high school students of Ahmedabad bear more than the average creativity. Further the mean score of intelligence, achievement motivation, anxiety and self-concept of the high school students of Ahmedabad is respectively 91.7, 3.47, 23.21 and 57.15 which indicates that about 46.4%, 49.6%. 51.4% and 53.7% of the high school students of Ahmedabad bear more than the average achievement, intelligence, achievement motivation, anxiety and self-concept respectively.

Further it is noticed that about approximately 17.25% of the high school students of Ahmedabad have high level of achievement whereas 72.75% of the high school students of Ahmedabad have low level of achievement. In the case of intelligence 7.2%, 73.5%. 19.3% of the high school students of Ahmedabad bear the high, medium and low level of intelligence respectively. Similarly 74.6% of the high school students of Ahmedabad tend to have high level of achievement motivation whereas others bear low level of achievement motivation. In case of anxiety 42.5% of high school students of Ahmedabad have high level of anxiety whereas others have low level of anxiety. For self-concept, 94.5% of the high school students of Ahmedabad bear high level of self concept and 5.5% of the high school students of Ahmedabad tend to have the low level of self-concept.

Table 2 Effect of Variables on Creativity

S.V.	S.S.	d_f	Mss	F_{cal}	F_{tab} 5%	1%
Main Effect						
Intelligence	43495.94	2	21747.97	16.05	2.99	4.6
Achievement Motivation	0.93	1	0.93	0.97	3.84	6.64
Anxiety	5581.74	1	5581.74	4.12	3.84	6.64
Gender	314.53	1	314.53	0.22	3.84	6.64
Self-Concept	32719.52	1	32719.52	23.19	3.84	6.64
Area	4486	1	4486	3.18	3.84	6.64
Within Group	823718.14	612	1354.8			
	910316.8	619				

Ho₂ There will be no significant difference among the mean scores of creativity of the high school students of Ahmedabad with different levels of intelligence.

From table 2, it is evident that the $F_{cal} = 16.05$ which is greater than $F_{tab} = 4.60$ at 0.01 level of significance. Thus it can be said that the hypothesis may be rejected at 0.01 level of significance. Thus the hypothesis that there will be no significant difference among the mean scores of creativity of the high school students of Ahmedabad with different levels of intelligence may be rejected at 0.01 level of significance. It clarifies that the high school students of Ahmedabad with different levels of intelligence differ significantly in their creativity.

Ho₃ There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of achievement motivation.

From table 2, it is evident that the $F_{cal} = 0.97$ which is less than $F_{tab} = 3.84$ at 0.05 level of significance. Thus it can be said that the hypothesis may not be rejected at 0.05 level of significance. Thus the hypothesis that will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of achievement motivation may not be rejected at 0.05 level of significance. It clarifies that the high school students of Ahmedabad with different levels of achievement motivation do not differ significantly in their creativity.

Ho₄ There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of anxiety.

From table 2, it is evident that the $F_{cal} = 4.12$ which is greater than $F_{tab} = 3.84$ at 0.05 level of significance. Thus it can be said that the hypothesis may be rejected at 0.05 level of significance. Thus the hypothesis that there will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of anxiety may be rejected at 0.05 level of significance. It clarifies that the high school students of Ahmedabad with different levels of anxiety differ significantly in their creativity.

From table 2, it is evident that the $F_{cal} = 4.12$ which is less than $F_{tab} = 6.64$ at 0.01 level of significance. Thus it can be said that the hypothesis may not be rejected at 0.01 level of significance. Thus the hypothesis that will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of anxiety may not be rejected at 0.01 level of significance. It clarifies that the high school students of Ahmedabad with different levels of anxiety do not differ significantly in their creativity.

Ho₅ There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with respect to their gender.

From table 2, it is evident that the $F_{cal} = 0.22$ which is less than $F_{tab} = 3.84$ at 0.05 level of significance. Thus it can be said that the hypothesis may not be rejected at 0.05 level of significance. Thus the hypothesis that there will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with respect to their gender may not be rejected at 0.05 level of significance. It clarifies that there may not be significant difference between the creativity of the high school students of Ahmedabad with respect to their gender.

Ho₆ There will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of self-concept.

From table 2, it is evident that the $F_{cal} = 23.19$ which is greater than $F_{tab} = 6.64$ at 0.01 level of significance. Thus it can be said that the hypothesis may be rejected at 0.01 level of significance. Thus the hypothesis that there will be no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of self-concept may be rejected at 0.01 level of significance. It clarifies that there may be significant difference between the creativity of the high school students of Ahmedabad with different levels of self-concept.

Ho₇ There will be no significant difference between the mean scores of creativity of the high school students residing in different area of Ahmedabad.

From table 2, it is evident that the $F_{cal} = 3.18$ which is less than $F_{tab} = 3.84$ at 0.05 level of significance. Thus it can be said that the hypothesis may not be rejected at 0.05 level of significance. Thus the hypothesis that there will be no significant difference between the mean scores of creativity of the high school students residing in different area of Ahmedabad may not be rejected at 0.05 level of significance. It clarifies that there may not be significant difference between the creativity of the high school students residing in different area of Ahmedabad.

Table 3
Correlation of Creativity with Related Variables

	Intelligence	Motivation	Achievement Anxiety	Achievement	Self Concept
Creativity	0.24	0.08	-0.10	0.11	0.30

Ho₈ There will be significant correlation of creativity and its components with intelligence, achievement-motivation, anxiety, achievement and self-concept.

From table 3, it is evident that there exists positive and low correlation between intelligence and creativity whereas positive and very low correlation exists between achievement motivation and creativity. Also, there exists negative and very low correlation between anxiety and creativity and positive and low correlation exists between self concept and creativity.

Findings of the Study

The mean score of creativity of the high school students of Ahmedabad is 101.51 which indicate that about 46.8% of the high school students of Ahmedabad bear more than the average creativity. Further about 38.7%, 46.4%, 49.6%. 51.4% and 53.7% of the high school students of Ahmedabad bear more than the average achievement, intelligence, achievement motivation, anxiety and self-concept respectively.

There exists significant difference among the mean scores of creativity of the high school students of Ahmedabad with different levels of intelligence. Thus, it can be said that intelligence affects the creativity.

There exists no significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of achievement motivation. It indicates that the achievement motivation does not affect creativity.

There exists significant difference between the mean scores of creativity of the high school students of Ahmedabad with different levels of anxiety. It indicates that anxiety affects the creativity.

There exists no significant difference in creativity of the high school students of Ahmedabad with respect to their gender. It clarifies that the gender does not affect the creativity.

There exists significant difference in creativity of the high school students of Ahmedabad with different levels

of self-concept. It clarifies that self-concept affects creativity.

There exists no significant difference in creativity of the high school students residing in different area of Ahmedabad. It clarifies that area does not affect the creativity.

There exists positive and low correlation between intelligence and creativity. There exists positive and very low correlation between achievement motivation and creativity. There exists negative and very low correlation between anxiety and creativity, whereas positive and low correlation exists between self concept and creativity.

Suggestions

Efforts should be done to enhance and develop creativity as well its components. Special programs for the same should be conducted. Patting and motivation for the creative actions should not be delayed rather be spontaneous.

Intelligence, anxiety, self-concept, and achievement being the affecting factors of creativity; care should be taken to enhance intelligence, achievement and self concept to develop creativity. A teacher can do this by applying proper teaching methods, teaching aids, ensure remedial measures, apply specific communication patterns as per individual differences and by finding factors affecting achievement.

Creativity is positively correlated with intelligence, achievement motivation, achievement and self concept. Thus more the intelligence, achievement motivation, achievement and self concept higher will be the creativity. Hence steps to increase intelligence, achievement motivation, achievement and self concept should be taken.

Conclusion

The results declare 46.8% of the high school students of Ahmedabad to bear more than the average creativity. Intelligence, anxiety, and self-concept affect the creativity. Creativity is positively correlated with intelligence, achievement motivation, and self concept. Negative correlation exists of anxiety with creativity.

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