

Development and well-being across the lifespan

**Editors
N.Vasugi
K.Arockia Maraichelvi
Ramya Bhaskar**



**Department of Human Development
School of Home Science**

Development and Well-being across the Lifespan

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247 pages

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ACADEMIC ACHIEVEMENT AS A FUNCTION OF CREATIVITY OF SCHOOL GOING CHILDREN

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ABSTRACT

The main aim of present research is to examine the effect of creativity on academic achievement. Two research questions are analyzed in this study: (1) What is the impact of creativity on academic achievement? (2) Is there any positive gender differences with respect to creativity and academic achievement? The total number of participants of the study were=400 (male=200 and female=200). Divergent Production Ability Scale-K. N. Sharma was used to measure creativity and General class-room Achievement Test -Dr. A. K. Singh and Dr. A. Sen Gupta was used to assess academic achievement of students. To attain the objectives of the study, the data collected was statistically analysed by using Mean, S.D., ANOVA and Scheffe's test. The results reveal that there is a significant relationship among creativity and academic achievement. The students with high creativity scored significantly better than students with low creativity on the parameter of academic achievement. Significant gender difference in the scores of girls and boys was also seen. The girls' academic achievement is significantly higher than the boys' academic achievement.

Introduction

Day by day, we found new changes in each and every aspect of life. Creativity is not only a way for adapting with the changes as well as it motivates to produce understanding in various fields of study. In addition, creativity is one of the important factors with reference to the academic achievement of the students which involves special attention for research. But the counterstatement in the results of the researches pertaining to the more influential type of creativity in academic achievement requires researchers and specialist to focus more specifically on cognitive as well as trait creativity for their effects on academic achievement of the students. (A. Kotreshwaraswamy, Surapuramath, 2014)

Creativity is the act of turning imaginative thoughts into actuality. Creativity has characterized by the capability to create secret patterns, to answer uniquely, to recognize the world in different ways, to make links between apparently different phenomena, and to found new solutions for the problems. Creativity mainly involves two processes which includes thinking and producing.

Association between scholastic achievement and creativity illustrate that there is little correlation among the two, whereas other studies showed that this association was not strong or no correlation among these variables at all. For instance, few researches conclusion revealed that there is little but correlation between academic achievement and creativity. In an extensive research conducted on a people of 2264 students, Ai (1999) examined creativity with some versions of the latter and found that there was a positive strong correlation between different dimensions of creativity like fluidity, elaboration and flexibility with achievement.

Significance

The result of the study can be of great help to parents, teachers, educationists and psychologist in understanding students' creativity, enabling them to help in improving academic achievement of the students, which in a larger picture will lead to innovations and inventions.

Review of Literature

Singh, P. (2008) investigated creativity, achievement and intelligence scores of secondary school students. The objective the study was to explore the correlation among creativity and achievement, achievement and intelligence. The sample of the study was 180 subjects of secondary school. The study exposed that a significant positive association among scholastic achievement and intelligence, scholastic achievement and creativity and creativity and science achievement.

Naderi, H. and et al. (2009) analyzed academic achievement as a function of creativity, age and gender. The study included 105 male and 48 female as its sample. The subjects were included in the study based on CGPA. The study used multiple regression analysis and revealed that lower correlation between CGPA and creativity, age and gender.

Trivedi, K. and Bhargava, R. (2010) conducted a study on educational achievement and creativity and found that the high achiever revealed similar traits and gender as a factor failed to influence it; whereas gender differences were seen among low achiever group on creativity.

Objectives

- To investigate the level of academic achievement and creativity of students.
- To explore the association among creativity and academic achievement.
- To investigate the sex difference with respect to creativity.

Hypotheses

- Academic achievement significantly varies amongst the high and low creative students.
- Significant sex differences exist with respect to creativity and academic achievement of children.

Delimitation

- The sample size was delimited to 400 students.
- The present study was restricted to only one variable.
- Students studying in CBSE were only selected.

Methodology

Sample

The sampling technique for the present investigation was stratified random sampling. The effective sample of the study comprised of 400 students in the age range of 12-13 years. The students were studying in class 7 of Gondia district of Maharashtra and were of CBSE schools.

Tools

1. General class-room Achievement Test - Dr.A.K. Singh and Dr. A. Sen Gupta.
2. Divergent Production Abilities Scale-K. N. Sharma.

Statistical Treatment of Data

To achieve the objectives of the study, the data collected was statistically analysed by using both descriptive and inferential statistics- Mean, S.D., ANOVA, and Scheffe's test.

Findings and Discussion

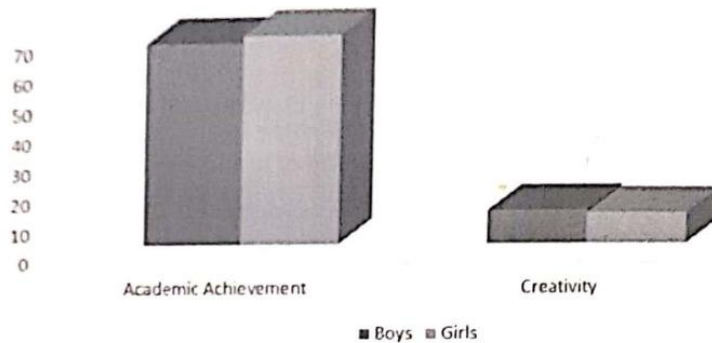
The primary objective of the present investigation was to assess the academic achievement and creativity of the students. The results are displayed in table no. 1.

Table 1: Mean and S.D. of Academic Achievement and Creativity of Students.

Variables		Boys	Girls
Academic Achievement	Mean	66.41	68.70
	S.D.	11.92	11.28
Creativity	Mean	10.92	10.00
	S.D.	0.76	0.44

The data is graphically presented in figure 1.

scores of Academic Achievement and Creativity



Examination of table no. 1 shows that the academic achievement of the students was average. The creativity as measured by DPA test cannot be compared with norms given in the manual as the norms are never final because of divergent production abilities are very dynamic in function. The DPA changes from group to group. The subjects' age, experience, curiosity, evaluation ability, mood to take the test etc. all affect the results. Also, as the test demands originality and spontaneity variations can be seen. In order to examine the impact of creativity and sex of the child on the academic achievement, the data was classified into four groups i.e. 2 levels of creativity and two for gender. The mean and SD of the four classified groups for the measure of Academic Achievement is displayed in table no 2.

Table-2: Mean and SD Academic Achievement of the four classified groups.

Groups	A1B1	A1B2	A2B1	A2B2
Mean	66.24	66.58	66.20	71.20
SD	11.10	12.74	11.23	10.81

A1 Boys, A2 Girls, B1 Low creativity, B2 high creativity.
 The data is graphically presented in figure 2.

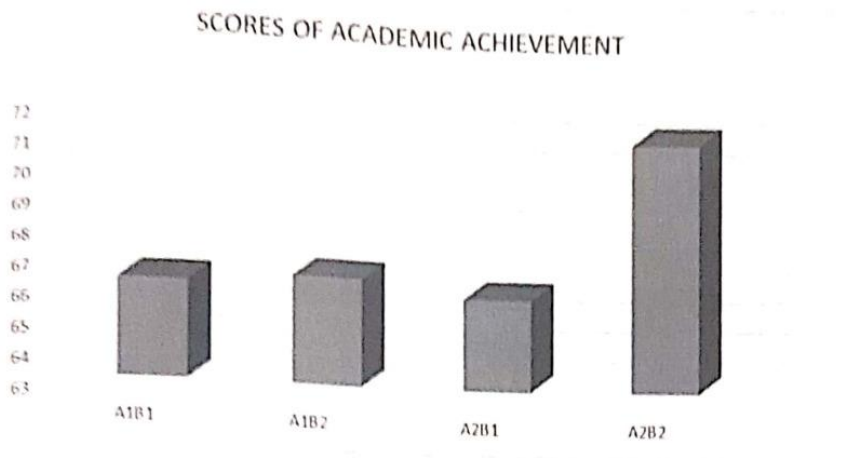


Fig. 2 – Scores of academic achievement of the four groups

To study the differences in means of the groups the data was subjected 2-way ANOVA and is presented in table no. 3.

Table-3: Complete summary of 2-way ANOVA for Academic Achievement measure with respect to creativity. Measure with respect to creativity.

Sources of variation	SS	Df	MS	F-ratio
A :Sex (Male Vs Female)	524.41	1	524.41	3.97*
B:Creativity High Vs Low creativity	778.41	1	778.41	5.90*
AxB	600.25	1	600.25	4.55*
Ess (within)	52221.72	396	131.873	
Total	54124.79	399		

*significant at 0.05 level.

The calculated value of $F = 3.97$ for (df 1 & 396); is larger than the table value at 5% level, it can be said that there is a significant difference amongst girls and boys with respect to their academic achievement. It can be confidently asserted that the girls have performed significantly better than boys with respect to academics. The calculated value of $F = 5.90$ for df (1 & 396) is larger than the table value 3.84 for df (1 & 396) at 5% level for creativity measure. Hence it can be said that there is a significant difference amongst the high creative and low creative students with reference to academic achievement.

The interaction effect AxB also yielded significant F value 4.55 for df(1 & 396) at 5% level, i.e. creativity and gender were dependent on each other.

When the data of academic achievement was treated by Scheffe's test of multiple comparison for searching the number of inter group mean differences the following results were obtained.

Table 4: MSDi values computed by Scheffe's test for testing significance of intergroup mean differences for Academic Achievement of high and low creative students.

Sl.No.	GROUPS	A1B1	A1B2	A2B1	A2B2
1	A1B1	X	5.78	1.28	1290.32**
2	A1B2		X	12.5	1123.38**
3	A2B1			X	1372.88**
4	A2B2				X

** Significant at 0.01 level

The mean differences which are significant at 0.01 level are denoted by double asterisk. 50% of intergroup mean comparisons yielded highly significant differences. Therefore, it can be stated that academic achievement is a function of creativity and sex of the child. Low creative boys and high creative girls differed significantly, high creative boys and high creative girls differed significantly and low creative girls and high creative girls also differed significantly on the parameter of academic achievement.

From table 4 it is seen that when the factor of sex is constant, the students who showed greater academic achievement were the students with higher creativity. Hence it can be stated that the students with high creativity scored significantly better than students with low creativity on the parameter of academic achievement. The results of the current study are in congruence with the hypothesis - academic achievement significantly varies amongst the high and low creative students and hypothesis - significant sex differences exist with respect to creativity and academic achievement of children.

In terms of education, creativity is a crucial element necessary for the learning process. According to Starke (1995), students could make information relevant by connecting previous information and new information in an independently meaningful format which is a creative process of learning.

Thus this result supports the findings of other researcher who agree that a significant and positive relationship exists between academic achievement and creativity of the students, Panda (1997) investigated in his study the effect of creativity and adjustment on academic achievement and the results revealed that for the progress of academic achievement of student creativity and the adjustment were essential factors.

The obtained results of the study are similar and in line with the findings of the study reported by Sumeetha et al. (2001). They investigated age and gender as factors affecting academic achievement and found that gender was the more important for high academic achievement than I.Q. Girls were high achiever students than boys, as well as better in concentration and interaction on the other hand boys were superior to girls in language, drilling dimension and reasoning. Yamadevappa (2005) found that there was a significant positive interaction among academic achievement and parental involvement. The study also revealed that there was significant positive difference among academic achievement and gender of the students.

Conclusion

1. The students having high creativity scored significantly better than students who have low creativity on the parameter of academic achievement.
2. The girls' academic achievement is significantly higher than the boys' academic achievement.

Suggestions

As the variable undertaken in the present study have important role in students' studies, so it can be suggested that, the future researchers should take a large sample in order to find out the generalization of results.

This study dealt with only one age group, similar study also can be conducted on different age ranges.

A comparative study between state board and CBSE students and between rural and urban students can yield interesting results.

Impact of other affective and cognitive variables on students' academic achievement can be investigated in further studies.

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