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INTERACTIVE INFLUENCE OF SCIENTIFIC CREATIVITY AND DISCIPLINE IN GENERAL CREATIVITY OF SENIOR SECONDARY STUDENTS

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ABSTRACT

The present paper is an attempt to study Interactive Influence of Scientific Creativity and Discipline in General Creativity of Senior Secondary Students. A sample of 600 senior secondary students was selected for the present study.Wallach-Kogan Tests of Creativity and Gupta's Test of Scientific Creativity were used to collect the data. Results by two way ANOVA revealed that there is no significant influence of Scientific Creativity, Discipline and their interaction onGeneral Creativity and its dimensions Number and Uniqueness.

INTRODUCTION

The literature of creativity has increased "enormously reflecting the urgency of cultural, social and educational concern about it. Educationists have long been concerned with developing and nurturing creativity. Perhaps, what is new is the growing realization that creative potential is not something confined. Increasingly, we are recognizing creativity Pas a normally distributed human potentiality. Evidence seems to support the view that no one is without creative behaviour; we refer to every man rather than to unique man (Steinberg, 1967). Gupta (1976) also stated that creativity is not to be regarded as an inherited trait possessed by only a few children; on the contrary, it seems proper to accept that creative potential, though deferent in a degree, is present in many children. What they need with the provision for healthy resources, and stimulation in the environment in which they are living. Many studies have shown that gifted children come from all families as well as from all types of social groups.

So, creativity is a quality which each human being is capable of exhibiting in his living. Individuals differ, however, as a result of both **nature** and nurture, in the amount and kind of creativity they display. Further-more, creativity can be enhanced in most individuals and, thus, can increase our society as a whole if we put into practice in education what we know about conditions fostering creativity and we continue to study the creative process in operation in many types of endeavor (Miel, 1962).

Creativity has its implications in the field of education. The goal of education is to develop capabilities, personal expression, inventiveness and gifted leadership. Creative thinking abilities contribute significantly to the acquisition of information and various educational skills (Getzels and Jackson, 1958, Torrance, 1960).

The study of Getzels and Jackson (1962) reveals that even in the present time nearly seventy percent creative students are missed by selecting top 20% students on the basis of I.Q. The cultivation of creative personality so far has been largely neglected by education (Flesher, 1963). Torrance (1962) has recognized the importance of guiding the growth of creative thinking abilities among children to ensuring their mental health, full functioning of personalities, educational achievement, vocational success, social importance and for providing different guidance roles.

Further, a student of any discipline has basic knowledge of languages and science as these are compulsory subjects up to secondary level. According to Piaget (1952), the formal operational stage of intellectual development in children comes at the age of 14 and above; and this is the age when the child can think freely, follow logical propositions and reasons and can isolate the elements of problems. Keeping in view the educational conditions and standard of our country, the investigator decided to study the contribution of scientific creativity and disciplineto general creativity among adolescents.

OBJECTIVES

- To study the Interactive Influence of Scientific Creativity and Discipline in General Creativity of Senior Secondary Students.

METHOD

SAMPLE

The present study was conducted on students of class 10+2 of senior secondary schools of Ludhiana district (Population). Students studying in schools affiliated to Punjab School Education Board, Mohali were taken for selecting the sample. Total five government, eight aided and five unaided schools were selected through stratified random technique. Further, students were raised by cluster sampling technique keeping in mind strata based on discipline. Total 632 students were participants on which three tools were employed. Out of these 632 students, data of 32 students were not complete in one or more respects. Hence, these 32 students were not included in sample for analysis. Thus, sample comprised of 600 students. The structure of sample is given in table 3.1.

PROCEDURE

The data were collected in a set of three visits to each school selected in sample. The prior permission from the principals of the selected schools was taken. An intact class was taken for the data collection at a time. The instructions of the tool were made clear to them. After that the tool was administered on them according to the instructions given in the respective manual and the response-sheets were collected. The language of each tool was Hindi. That is why, students faced almost no communication problem. Still communication problems/queries were resolved by the investigator faced by individual student. The same class was visited again on next day and the next tool was administered on them in the same way.

TOOLS

Following tools were used to collect data in the present study.

1. Wallach-Kogan Tests of Creativity
2. Gupta's Test of Scientific Creativity

RESULTS

Table 1

Summary of 3x2 ANOVA for dimension of General Creativity (Scientific Creativity and Discipline)

Dimension	Source	Sum of Squares	df	Mean Square	F	Sig.
Number	SC	10.93	2	5.47	1.44	.239
	Discipline	0.68	1	0.68	0.18	.672
	SC x Discipline	9.42	2	4.71	1.24	.291

	Error	2262.52	594	3.81		
	Total	21889.81	600			
Uniqueness	SC	0.87	2	0.43	0.90	.407
	Discipline	0.49	1	0.49	1.02	.313
	SC x Discipline	0.72	2	0.36	0.74	.477
	Error	286.34	594	0.48		
	Total	2104.13	600			
General Creativity	SC	17.86	2	8.93	1.44	.237
	Discipline	1.67	1	1.67	0.27	.603
	SC x Discipline	16.48	2	8.24	1.33	.265
	Error	3675.18	594	6.19		
	Total	39251.00	600			

It is evident from table 1 that F value for scientific creativity is 1.44, which is not significant. It means that there is no significant difference in dimension number of general creativity at low, average and high levels of scientific creativity. In the light of this, the null hypothesis that there is no significant difference in dimension number of general creativity of senior secondary students at low, average and high levels of scientific creativity is not rejected. Thus, it can be concluded that senior secondary students having low average and high levels of scientific creativity have same level of dimension number of general creativity.

The F value for discipline is 0.18, which is not significant. It means that there is no significant difference in dimension number of general creativity of senior secondary students studying in art and commerce groups. In the light of this, the null hypothesis that there is no significant difference in dimension number of general creativity of senior secondary students studying in art and commerce groups is not rejected. Thus, it can be concluded that senior secondary students studying in arts and commerce groups have same level of dimension number of general creativity.

The F value for interaction between scientific creativity and discipline is 1.24, which is not significant. It means that there is no influence of interaction between scientific creativity and discipline on dimension number of general creativity. In the light of this, the null hypothesis that there is no significant influence of interaction between scientific creativity and discipline on dimension number of general creativity is not rejected. It means that students of arts group having low scientific creativity, students of arts group having average scientific creativity, students of arts group having high scientific creativity, students of commerce group having low scientific creativity, students of commerce group having average scientific creativity, and students of commerce group having high scientific creativity have same level of dimension number of general creativity.

It is evident from table 1 that F value for scientific creativity is 0.90, which is not significant. It means that there is no significant difference in dimension uniqueness of general creativity at low, average and high levels of scientific creativity. In the light of this, the null hypothesis that there is no significant difference in dimension uniqueness of general creativity of senior secondary students at low, average and high levels of scientific creativity is not rejected. Thus, it can be concluded that senior secondary students having low average and high levels of scientific creativity have same level of dimension uniqueness of general creativity.

The F value for discipline is 1.02, which is not significant. It means that there is no significant difference in dimension uniqueness of general creativity of senior secondary students studying in art and commerce groups. In the light of this, the null hypothesis that there is no significant difference in dimension uniqueness of general creativity of senior secondary students studying in art and commerce groups is not rejected. Thus, it can be

concluded that senior secondary students studying in arts and commerce groups have same level of dimension uniqueness of general creativity.

The F value for interaction between scientific creativity and discipline is 0.74, which is not significant. It means that there is no influence of interaction between scientific creativity and discipline on dimension uniqueness of general creativity. In the light of this, the null hypothesis that there is no significant influence of interaction between scientific creativity and discipline on dimension uniqueness of general creativity is not rejected. It means that students of arts group having low scientific creativity, students of arts group having average scientific creativity, students of arts group having high scientific creativity, students of commerce group having low scientific creativity, students of commerce group having average scientific creativity, and students of commerce group having high scientific creativity have same level of dimension uniqueness of general creativity.

It is evident from table 1 that F value for scientific creativity is 1.44, which is not significant. It means that there is no significant difference in general creativity at low, average and high levels of scientific creativity. In the light of this, the null hypothesis that there is no significant difference in general creativity of senior secondary students at low, average and high levels of scientific creativity is not rejected. Thus, it can be concluded that senior secondary students having low average and high levels of scientific creativity have same level of general creativity.

The F value for discipline is 0.27, which is not significant. It means that there is no significant difference in general creativity of senior secondary students studying in art and commerce groups. In the light of this, the null hypothesis that there is no significant difference in general creativity of senior secondary students studying in art and commerce groups is not rejected. Thus, it can be concluded that senior secondary students studying in arts and commerce groups have same level of general creativity.

The F value for interaction between scientific creativity and discipline is 1.33, which is not significant. It means that there is no influence of interaction between scientific creativity and discipline on general creativity. In the light of this, the null hypothesis that there is no significant influence of interaction between scientific creativity and discipline on general creativity is not rejected. It means that students of arts group having low scientific creativity, students of arts group having average scientific creativity, students of arts group having high scientific creativity, students of commerce group having low scientific creativity, students of commerce group having average scientific creativity, and students of commerce group having high scientific creativity have same level of general creativity.

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