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# A Study of Relationship between Verbal Creativity and Academic Achievement of Students Studying in Smart Classroom

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***Abstract – Information and Communication Technology (ICT) has taken an important place in our life like in the offices, online shopping, hotel bookings, Cab booking, and even classroom learning to cloud learning for learning. The traditional classroom was equipped with blackboard while the present era of ICT smart classroom equipped with an interactive whiteboard. Such kind of the classroom has connected with the internet. A student studied from the blackboard and another student studied from the interactive white board has different level of creativity. So, there is an acute need to study the academic achievement and creativity of students using the traditional and smart classroom. This work also compares the three components of creativity (fluency, flexibility, and originality) with academic achievement of class VIIIth students. The Baquer Mehndi's verbal test is used to measure the creativity. The present study has measured the academic achievement through researcher's self-made class test. The t-test is used to compare the academic achievement of students studying in smart and traditional classrooms. Pearson's Coefficient of correlation is used to find out the relation between creativity and academic achievement. This study found that there exists a positive relation between academic achievement and creativity***

***Keywords: - Smart Classroom, Traditional Classroom, Creativity, Academic Achievement.***

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## INTRODUCTION

Society consists of individuals and there are a few talented individuals in whole of the society who are considered to contribute positively something in the growth of the society. According to Robert Sternberg and Wendy Williams (1996) in "How to develop student Creativity", Authors relate creativity to investment. In the Investment theory of creativity, Sternberg and William said, creative thinkers are like good investors: they buy low and sell high. As Sternberg and Williams note, 'we routinely witness creativity in young children, but it is hard to find in older children and adults because their creative potential has been suppressed by a society that encourages intellectual conformity. We began to suppress children's natural creativity when we accept them to color within lines in their coloring book. If we are really to educate – to' bring forth'- we need to give each student opportunities to be creative .we need to foster creative behaviors. The behaviors they identify include: Modeling creativity, Building self – efficacy, Questioning assumptions ,Defining and redefining problems, Encouraging idea generation, Encouraging the cross-fertilizing of ideas, Allowing time for creative thinkers Instructing and assessing creativity, Rewarding creative ideas and products, Allowing mistakes, Teaching self-responsibility, Promoting self-regulation, Delaying gratification, Using profiles of creative people, Encouraging collaboration Imagining other viewpoints, and Providing stimulating environments.

These all requirements are best can be filled up in classroom ,when ample opportunities are provided to students to express ,think ,react, understand and apply and what not. Dehan and Havighurst (1961) said," Creativity is the quality which leads to the production of something new and desirable. The new product may be new to the society or merely new for individuals who create it"

1. When whole of the worlds is digitalized and India's PM supporting and working hard on Digital India. ICT has walked in every aspects of our life, including classrooms. ICT gives a dynamic

interaction between student and teacher. Children are getting exposure to Smart Phones, Smart T.V and variety of technologies as part of their life routine therefore our school system must incorporate technology at their classrooms. Now days even ERP(Enterprise Resource Planning) is introduced at school ,college and university level. Even Kendriye Vidalya launched KV-Shaala Darpan, i.e School Automation-Management Information system/Enterprise Information Planning homework, attendance, worksheets and assignments that leads to creative behaviours in our classroom. Smart classroom fosters such creative environment, becoz there are multiple paths to develop and provide environment for enhancing creativity. According to Gillman (1989), "Educational Technology has the power to enhance the instructional program to improve student academic performance and to provide effective and efficient classroom, school and administrative Systems." Smart classroom technology makes use of mapped curriculum 2D and 3D digital content which the teacher could access right in the classroom and project it on whiteboard, to elucidate and explain critical concepts, across virtually all subjects.(What learning can be?2012 Retrieved September 15,2012 from www.Educomp.com)

**Traits of Creativity**

- Fluency
- Sensitivity to problems
- Flexiblity
- Elaboration
- Originality
- Redefination
- Novelty

## STATEMENT FOR STUDY

A Study of Relationship between Verbal Creativity and Academic Achievement of Students studying in Smart classroom

## TOOLS USED FOR COLLECTION OF DATA

The Baqer Mehandi's Verbal Test of Creativity is employed to measure flexibility fluency and originality aspects of creativity. Baqer Mehdi's Verbal Test of creativity. The verbal test of creative thinking includes the following four sub-tests Mehandi, Baqer (1985):

(i). Consequences test

(ii). Unusual uses test

(iii). New relationships test

(iv). Product improvement test

**(i) CONSEQUENCES TEST:**

It consists of three hypothetical situations.

(a) What would happen if man could fly like birds?

(b) What would happen if our schools had wheels?

(c) What would happen if man does not have any need for food?

The time allowed for three problems was four minutes each.

**(ii) UNUSUAL USES TEST:**

In this test the names of three common objects were presented to the subjects

- A piece of stone, a wooden stick, and water and the subjects were asked to write as many novel, interesting and unusual uses of these objects.

The time allowed for the three tasks was five minutes each.

**(iii) NEW RELATIONSHIP TEST:**

In this test the subjects were presented three pairs of words apparently different tree and house, chair and ladder, air and water. Subjects were asked to think and write as many novel relationships as possible between two objects of each pair in the space provided. The test provides an opportunity for the free play of imagination and originality. The time allowed for each pair of words was five minutes each.

**(iv) PRODUCT IMPROVEMENT TEST:**

In this test, the subjects were asked to think of a simple wooden toy of a horse and suggest addition of new things to it to make it more interesting for the children to play.

The time allowed was six minutes.

The total time required for administering the test is 48 minutes in addition to the time necessary for

giving instructions. The test covers three factors of creativity viz. fluency, flexibility and originality.

To measure academic achievement a teacher made test was developed and used as pre and posttest.

## OBJECTIVES OF STUDY

The following objectives were framed for the study:-

1. To compare the creativity of students studying in Traditional classroom and Smart classrooms on the trait Fluency.
2. To compare the creativity of students studying in Traditional classroom and Smart classrooms on the trait Flexibility.
3. To compare the creativity of students studying in Traditional classroom and Smart classrooms on the trait Originality.
4. To find out the relationship between creativity and academic achievement of Traditional classroom and Smart classrooms

## HYPOTHESIS

The following hypothesis are framed for the study-

1. There exist no significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Fluency trait.
2. There exist no significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Flexibility trait.
3. There exist no significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Originality trait.
4. There exist no relationship between creativity and academic achievement of students studying in Traditional classroom and Smart classrooms.

### Sample

The sample consisted of 80 students, which include boys from Panchsheel balak inter college, Noida. Students are distributed randomly into two groups one is control group taught traditional method of classroom and another group is experimental taught through smart classroom technology.

### Procedure of Data Collection

Before giving any instructions to both the group, a pre-test is conducted in science. After conduction of Pre-test lesson is taught to both the groups. Instructions given to control group through chalk and talk in traditional classroom and experimental group by following a Smart Classroom Technology through interactive whiteboard. After the completion of the content in both groups, students were administrated post –test. The same test is used as pretest and posttest with same marks distribution; number of items, duration and maximum marks are same. The Baqer Mehandi's Verbal Test of Creativity is also employed to both the groups.

### Collection of Data

Investigator personally went to the school for administration of the test. The investigator administered the Baqer Mehandi's Verbal Test of Creativity was employed and for academic achievement test was constructed by the investigator to examine the academic achievement in Science of standard VIII class, science students.

## RESULT AND DISCUSSION

The data was subjected to necessary statistical computation for obtaining results.

**Table 1: Showing the creativity scores of students studying in smart classroom and traditional classroom on the Trait Fluency**.

| Group | N | Mean | S.D | t-value | Remarks |
|---|---|---|---|---|---|
| Traditional Classrooms | 40 | 17.425 | 5.790742 | 7.21 | Significant difference |
| Smart Classroom | 40 | 22.375 | 4.264868 | | |

The above table revels that the obtained t-ratio is greater than tabulated value at 0.01 and 0.05 level of significance. Therefore null hypothesis in this regard is rejected. It means there is a significant difference in student studying in smart classroom as compared to traditional.

**Table 2: Showing the comparison of the creativity scores of students studying in smart classroom and traditional classroom on the Trait Flexibility**

| Group | N | Mean | S.D. | t-ratio | Remarks |
|---|---|---|---|---|---|
| Traditional Classrooms | 40 | 17.425 | 5.790742 | 0.241236 | No significant difference |
| Smart Classroom | 40 | 22.375 | 4.264868 | | |

The above table revels that the obtained t-ratio is less than tabulated value at 0.01 and 0.05 level of

significance. Therefore, null hypothesis in this regard is accepted. It means there is no significant difference in student studying in smart classroom as compared to traditional.

**Table 3: Showing the creativity scores of students studying in smart classroom and traditional classroom on the Trait Originality.**

| Group | N | Mean | S.D. | t-ratio | Remarks |
|---|---|---|---|---|---|
| Traditional Classrooms | 40 | 17.425 | 5.790742 | 0.46 | No significant difference |
| Smart Classroom | 40 | 22.375 | 4.264868 | | |

The above table revels that the obtained t-ratio is less than tabulated value at 0.01 and 0.05 level of significance. Therefore null hypothesis in this regard is accepted. It means there is no significant difference in student studying in smart classroom as compared to traditional.

**Table 4:- Coefficient of correlation between creativity and academic achievement on traditional classroom**

| Variable | Academic Achievement |
|---|---|
| Creativity | 0.23 |

**Table 5:- Coefficient of correlation between creativity and academic achievement on Smart classroom**

| Variable | Academic Achievement |
|---|---|
| Creativity | 0.27489 |

Pearson's coefficient of correlation between creativity and academic achievement for Smart classroom Technology with Academic Achievement is 0.27

Analysis of coefficient of correlation between Creativity and Academic Achievement on traditional classroom technology is shown in table 4. There is a significant positive correlation between creativity and academic achievement. The correlation coefficient of 0.23 is significant at 0.01 levels. Table 5 shows a significant positive correlation between creativity and academic achievement. The correlation coefficient of 0.27 is significant at 0.01 levels. It may be therefore concluded that there is a positive relation creativity and academic achievement, whether the students are of traditional classroom or smart classroom. Similar findings where there is a positive relation between creativity and academic achievement was found Getzels and Jackson (1962), Torrance (1959) and Yamamoto (1964a). This correlation shows that with the increase or decrease in achievement, there will be impact on creativity of students and vice – versa is also true.

## RESULT OF THE PRESENT STUDY

1. There is a significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Fluency trait.

2. There is no significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Flexibility trait.

3. There is no significant difference on the creativity scores of students studying in Traditional classroom and Smart classrooms on the Originality trait.

4. There exist no relationship between creativity and academic achievement of students studying in Traditional classroom and Smart classrooms.

This study found a relationship between academic achievement and creativity of the students when no instructions is provide no difference exist and then significant difference found between both experimental and control group following smart classroom technology and traditional group respectively. The study found resonance with the research conducted by (Singh, P (2008)) where there exists a between creativity and academic achievement. This study found that smart technology classroom is an effective way of instructions. The three components of verbal creativity fluency, flexibility and original and their impact on both traditional and smart classroom. Through the smart classroom technology students are more engaged with the subject matter inform of e flexibility component more as compared to other components. But one out of three components is affected most. It will make learning an enjoyable experience for them while improving their performance in school and enhancing their creativity.

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