

## **A Study on Relationship between Creativity and Teaching Methodology towards Academic Performance among Students of Govt. Aided and Private Educational Institutes.**

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### **Abstract**

*The purpose of the study was to find the relationship between teaching methodology followed by the teachers available in the school and creativity score of students towards academic performance. Teaching Methodology that are believed to enhance creative thinking in students was assessed in terms of 1) Use of Black Board, 2) Audio-visual aids 3) Group activities – a) Project Work b) Presentation 4) Demonstration & Laboratory work 5) Model Display 6) Discussion 7) Periodic visit by subject expert 8) Dramatization 9) Field trips 10) Training 11) Workshop 12) Course or Activities on art, music, dance, drama, literature, science, computer skill, physical education and sports. The parameters were drawn from literature available on creativity. Teachers, who were engaged in Class 10 and 12, were selected as per convenience and requested to fill the questionnaire. A minimum of five teachers per school were covered in this survey. The studies have been carried out on different age group, in different geographical areas and in different time frames. This paper concludes that the schools used the variety of teaching pedagogy to stimulate interest of students are more creative and ahead in academic progress. Activity based teaching and involvement of co-scholastic activities are found to be dominant in these schools.*

**Keywords:** Teaching Methodology, Creativity, Academic Performance, Govt.-Aided School and Private School.

### **1. Introduction**

Creativity is believed to be an inherent trait of human beings that facilitates one to innovate and adapt to changing circumstances. Getzels (1960) states that creative thinking is the highest of all mental functions and creative production is the peak of mental achievement. At the very root of human progress is creativity. If we focus our attention to the derivation of the word 'creativity', it can be seen that it is derived from the Latin word 'creare' which means to 'create' or 'bring into existence' (Oxford English Dictionary, p204).

Most researchers agree that creativity may be defined with regard to the terms new and useful. Rhodes (1961/1987) suggested that the definition relates to four areas: the person who creates, the cognitive processes involved in the creation of ideas, the process or

environmental influences and the lastly the product that results from creative activity. Some view creativity with reference to trait attributes, like intelligence or personality whereas some consider with reference to problem- solving. Mumford (2003, p.110) – “Over the course of last decade, however, we seem to have reached a general agreement that creativity involves the production of novel, useful products”. Stenberg and Lubart (1993, p.3) – “Creativity is the ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints). Creativity also refers to a psychological process, related to play, imagination, fantasy, feelings and emotions, meaning making and the use of symbols (Vygotsky, 1925/1971; Joh-Steiner et al., 2010

### **1.1 Relation between creativity and other parameters**

Many researchers attempted to understand the relationship of creativity with different environmental, intellectual and biological parameters. Environmental parameters included classroom, teachers, domain knowledge, work environment etc. Intellectual parameters comprised academic achievement, problem solving ability, attention span, cognitive mechanism, bilingualism etc. Biological parameters comprised gender and age.

Kasof, (1997) tested the hypothesis that creative performance is facilitated by wide breath of attention. Sixty one participants completed a measure of trait breath of attention and then asked to write a semi structured poem in a quiet setting. On a random basis, 40 of these participants were then assigned to write a second poem while being subjected to attention–narrowing stimulation (noise) that was predictable or unpredictable and intelligible or unintelligible; the remaining 21 participants wrote the second poem in a quiet setting. All poems were judged for creativity and were measured for word originality. Exposure to attention–narrowing environmental stimulation, in the form of noise, hindered creative performance on the poetry task, especially when the noise was intelligible or unpredictable. Noise hindered creative performance more in persons whose trait breadth of attention was relatively wide than in those trait breadth of attention was relatively narrow. These results provided the first direct evidence that breadth of attention is related to creative performance.

Palaniappan, (1998) undertook a study to look for any relationship between Figural creativity and cognitive preferences among 3<sup>rd</sup> and 4<sup>th</sup> – year Malaysian undergraduates from a wide spectrum of socio-economic backgrounds. He used three instruments: Torrance Test of Creative Thinking (TTCT: Torrance, 1974), Combined Cognitive Preferences Inventory (CCPI:, 1988) and a background questionnaire. Each statement in the CCPI has four responses and students are asked to mark in order of personal preference. The response indicates preference for a particular mode: the recall (R), questioning (Q), application (A) and Principle (P) modes. Students who recall from just memory (specific facts or terms) are said to exhibit the recall mode; students who prefer the practical application aspect of the scientific item are said to display the application mode; those who critically question information are said to use the questioning mode, and those who prefer identifying the fundamental principles underlying the information are said to exhibit the principal mode. Some of the statistically significant findings were:

1. Correlation between recall and questioning mode was negative.
  2. Correlation between recall and application mode was negative.
  3. Students who scored high on recall mode tended to prefer the principal mode.
  4. Students who used the application mode appeared to use the questioning mode.
- Undergraduates who have high recall, questioning, principal or application modes are not high on figural creative, originals, elaborators, fluent or flexible.

In education, it seems student creativity varies from country to country. Palaniappan (2009), he has compared creativity levels of Malaysian and American students. He reported that American students are significantly superior to their Malaysian counterparts in general creativity as well as in its components, namely fluency, flexibility, originality and elaboration (Olatoye, Akintunde & Ogunsanya, 2010).

According to Tulbure (2012), effective teaching requires flexibility, creativity and responsibility in order to provide an instructional environment able to respond to the learner's individual needs (Fayombo, 2015) and the attainment of good academic achievement and educational outcomes (Fayombo, 2015). Moreover, he also mentioned that most students learn best when the style of presentation is aligned with their preferred learning style and it is important for teacher to understand the students' styles. By doing this, teachers many gain insights into ways of making academic information more accessible to diverse groups of learners and an increased awareness of individual learning styles can help educators import new information in a memorable way (Brady, 2013 cited by Fayombo, 2015).

According to Chen (2010), teaching innovation means teachers having creativity and showing vivid and likely teaching method to make students interested in learning, thus enhancing the teaching effectiveness (Je Lee, 2011).

Fasko, Jr (2001) in his article 'Education and Creativity' presented a review of past and current research on the relation of education to creativity in students of preschool age through age 16 in U.S. Public schools. Several models of creative thinking were presented (viz. Guilford, 1985; Renzulli, 1992; Runco & Chand, 1995), as well as techniques for developing creativity (Viz. Danis, 1982; Sternberg & Williams, 1996) in this study. He gleaned from these review of research that the issue of intrinsic versus extrinsic motivators and their effects on creativity can be applied to any classroom at any grade level and teachers' adequate assessment of creative talent in their classroom is also required to develop creativity. Finally it appears from several sources that the teaching of creativity in the schools from preschool to the age of 16 must be increased, especially in teacher education. He agreed with the suggestion made by Danis and Rimm that educators should choose the programs to stimulate creativity and creative thinking that appears to best meet the needs of their students in their schools.

Sak & C. Maker, (2006) investigated the association of age, years of schooling and domain specific knowledge in the development of children's creativity in mathematics, among different schools located in the southwest region of the United States. They found that mathematical knowledge progressively contributes to children's fluency and originality,

flexibility and elaboration with a lower contribution in the lower grades and greater contribution in the upper grades. The findings implied that the more a child learns about the mathematical domain, the more creatively he or she performs in this domain. The study showed that an increase in domain-specific knowledge is significantly associated with children's creativity in mathematics. Regarding age-related findings, age was significantly associated with children's originality, flexibility and elaboration development at lower grades but not at upper grades. Further they found that age was more related to originality, flexibility and elaboration than to fluency in mathematics. No slumps or peak were observed in children's creativity development as a function of grade in this study. Meanwhile, the slight stagnancy in fluency at the fourth grade found in this study can be explained by decreased contribution of age and knowledge to fluency at this grade level.

Davidovitch & Mailgram (2006), investigated creative thinking as a Predictor of teacher effectiveness in higher education in Israel. They found a strong quantity-quality relation within the measure of creative thinking and within the measure of real life problem solving in teaching in higher education. Finally, a strong relation between the ability to generate many solutions to stimuli in ideational fluency -based measure of creative thinking and the quality of these solutions was found. Further, the findings in this study indicated a very strong relation between creative thinking outside and inside the classroom. In other words, the lecturer's ability to produce many ideas to a stimulus that has no direct application to the classroom and the practical ability to generate solutions to problems that do arise in the class room are strongly related. In addition, the number of solutions generated to the problems presented was related to their quality.

Runco (2007), creativity is a uniquely human trait that reflects our ability to adapt to changing circumstances, and our effective cognitive abilities to combine and improve upon idea to which we are exposed.

Hunter et al. (2007), studied climate for creativity. They attempted to assess the relationship between climate dimension and various indices of creative performances. They found that a creative climate requires interpersonal intellectual exchange around challenging tasks, or missions. More specifically, the finding of this study suggested that motivationally based system, disposition ally based system and team based system are more likely to provide viable climate assessments than organizationally based system. They further suggested that along with interpersonal, intellectual engagement challenging tasks or mission ,and some environmental attributes such as support , resources and autonomy might lead people to believe that creative work is possible and in fact, valued.

Hong & Milgram, (2010) tried to find the relationship between domain general and domain-specific creative thinking ability. They conducted three studies to determine whether the postulated relationship between general and specific creative thinking is consistent across gender, different age, grade level, different learning abilities and different ethnic background. They concluded that the influence of gender, age,grade, ethnicity and learning disability had differential effects on general and specific creative thinking i.e. their effects were apparent only on specific but not on general creative thinking ability. The findings showed that the

specific creative thinking ability changes through learning and that life experience in a specific domain may have an impact on certain thinking in that domain. In academic problem solving they found a significant difference in grade between the level of elementary school student and college level students. Unlike the findings with high school and college students, gender differences were apparent in elementary students.

Trivedi & Bhargave, (2010) conducted a study among adolescents with the objective of finding the influence of academic achievement on creativity in a sample of 240 subjects. The high achiever adolescents differed significantly on almost all the subjects of creativity. The adolescent males were found better at comprehending problems in fluency, flexibility and originality in naming names of things used for numerous purposes existing in psychological and physical environment. Both high and low achievers are similar in persistency, block fluency, flexibility, originality and creativity. The high achiever female adolescents are better at expressing fluency, flexibility, originality, persistency and inquisitiveness as measured by Passi's Test of creativity. There were no significant differences among the high achiever adolescent males and females on all the subjects of Passi's Test of creativity and composite creative scores. To sum up, the results indicated that the high achiever groups' of adolescents had higher level of creativity than low achiever groups' were more alike and shared similar traits overriding the impact of gender. There were gender differences among low achiever group on creativity; gender is less impacting than the level of achievement. Family demographics of the groups were found to be different.

Palaniappan, (2005) undertook a study to understand the relationship between creativity and academic achievement in intelligence continuum among 497 Malaysian students. There were no significant differences found in academic achievement between the group of high-intelligence with Low-creativity and the group of Low-intelligence with high creativity. A very important finding in this study was the equivalent academic achievement level of the high-intelligence with High creativity and the Low-intelligence with High-creativity groups. Creativity may help compensate the lack of intelligence in enhancing academic achievement. Another important finding was that there were no significant differences in academic achievement scores. The finding indicated that at very high IQ level, an increase in creativity may not result in higher academic achievement. At very high IQ levels, the strength of the relationship between creativity and academic achievement appears to diminish.

Mumford et al. (2012) examined the cognitive capacities that make creative problem-solving possible. They argued that cognitive problem-solving depends on the effective execution of a set of complex cognitive processes. Effective execution of these processes was, in turn held to depend on the strategies employed in process execution and the knowledge being used in problem solving. In this research they focused on one aspect of creativity and creative achievement, the generation of high quality, original and elegant solutions to the kinds of complex, novel, ill-defined problems that call for creative thoughts. The results emerging from this research pointed that creative thinking cannot be understood using a single, simple model. The findings obtained in this study indicated that creative thinking involves multiple,

complex, processing operation. Effective execution of these processes depends on the knowledge available to the person and the strategies people employ in executing these process.

Baer & Kaufman,(2008) reviewed gender differences in creativity up to the present day and tried to understand whether these differences using a hierarchical model of creativity at both general factors and task -specific factors have more limited applicability. They found that domain general factors affects at the level of initial requirements in this model that helped to explain some gender differences and there were more domain specific effects (at the level of general Thematic Areas, Domains and Micro-Domains) helped to understand other kinds of gender differences in creativity. In test performance data, girls and women appeared out-scoring over boys and men to a small degree. This research showed that divergent thinking tests are in general more predictive in creative achievements of males than females.

Stokols,D.et,al , examined employees' perception of support for creativity at work as a possible mediator of the relationships between objectives measures of distracting stimuli and subjective appraisal of social climate ,on one hand , and self-reported level of job satisfaction and personal stress, on the other. A total of 97 full time supervisory and staff level employees participated in this study. Result indicated that a more positive social climate was associated with greater perceived support for creativity at work. Higher level of environmental distraction of work were associated with less perceived support for creativity and a more positive social climate was associated with positive lower level of personal stress . Also, job stultification was significantly predicted both social climate and levels of environmental distraction. Finally, they concluded that perceived support for creativity significantly mediated the relationship between social climate and job satisfaction, social climate and personal stress and environmental distraction and job satisfaction.

## **2. Research Methodology**

This study investigates into the creativity level of students of different category of schools of 10<sup>th</sup> and 12<sup>th</sup> standards, aged between 16 to 18 years of four districts of Assam, India.

### **2.1 Objective of the study**

1. To find out the relationship between teaching methodology and creativity level of students
2. To find the differences in the creative score of students among students of Govt.Aided and Private educational institutes.

### **2.2 Research Plan**

There are different groups of schools depending on the management. The Kendriya Vidyalayas, popularly known as KVs are under the management of Kendriya Vidyalaya Sangathan (a Government Organization); there are missionary schools run by different missionary organizations; private schools run by private organizations/ management and there are the state government run schools. Depending on this varied type of management and medium of instruction, following categories of schools viz. –

Government, Missionary, Private English medium and Private Vernacular (Assamese / Hindi / Bengali) medium schools were considered for this study

### **2.3 Sample**

Minimum 3 government aided (central) schools and 6 government aided (state) schools of each district were selected. Since the Government aided (state) schools are widely found, hence selection was done in a manner to make the sample as representative as possible. For Missionary and Private English medium Schools minimum 3 schools from each group were selected. As there are few private vernacular medium schools, so a minimum of 2 schools from each district were chosen depending on availability. In this manner 66 schools were finally selected for this study

The students of different categories of schools and their teachers were the sampling element for this study.

### **2.4 Research Instruments used:**

In this study the following tools were used:

1. A self constructed questionnaire was used to collect information regarding Teaching Methodology the existence of those parameters that are believed to enhance creative thinking in students was assessed in terms of 1) Use of Black Board, 2) Audio-visual aids 3) Group activities – a) *Project Work* b) *Presentation* 4) Demonstration & Laboratory work 5) Model Display 6) Discussion 7) Periodic visit by subject expert 8) Dramatization 9) Field trips 10) Training 11) Workshop 12) Course or Activities on art, music, dance, drama, literature, science, computer skill, physical education and sports. School Infrastructure was assessed in terms of 1) Library facility 2) Sport facilities 3) Facilities for extra-curricular activities 3) Science Laboratory 4) Computer laboratory 5) Cleanliness of surroundings 6).Availability of proper sanitation, 7) Adequate electricity and drinking facility 8) Sufficient space and light 9) Playground 10) Teaching aids 11) Audio-visual equipments.
2. Torrance **Test of Creative Thinking (TTCT figural- A)**. It was administered to measure the creativity level of the students. This test measures Fluency, Originality, and Elaboration, Premature closure and Abstractness of title along with and thirteen Creative Strengths.

## **3. Findings**

### **3.1 Relationship between Teaching Methodology Score and Mean Creativity Score**

This study is to find relationship between teaching methodology and creativity. A self constructed questionnaire was used to collect information regarding teaching methodology. The parameters were drawn from literature available on creativity. Teachers, who were

engaged in Class 10 and 12, were selected as per convenience and requested to fill the questionnaire. A minimum of five teachers per school were covered in this survey. Teaching methodology was assessed in terms of 1)Use of Black Board 2)Audio Visual aids

3)Group Activities – a)Project Works b)Presentation 4)Demonstration& Laboratory Work 5)Model display 6)Discussion 7)Periodic visit by subject expert and 8)Dramatization[ Fleith, 1998; Gupta, 1977; Torrance1983].

The questionnaire mostly comprised questions seeking responses on a 5 point scale ranging from “strongly disagree” to “strongly agree”. For responses obtained on each question, the most frequent response was selected as the final response. There were a total of 30 questions for gauging teaching methodology and the summation of the 30 responses was taken as the score associated with teaching. Table 3.1 shows the score of teaching methodology score and mean creativity score of each school. Figure 3.1 shows the scatter diagram of the relationship between mean creativity score and teaching methodology

**Table 3.1: Teaching Methodology Score and Mean Creativity Score of the sample**

School code and Name	District	Board	Medium	Teaching Methodology Score	Mean Creativity Score
9 Assam Vidyapith Higher Secondary School	Dibrugarh	SEBA	V	81	42.41
11 St.Mary’s High School	Dibrugarh	SEBA	E	121	43.53
5 UchaVidyalaya	Dibrugarh	SEBA	V	108	46.1
1 Don Bosco Higher Secondary School	Dibrugarh	SEBA	E	143	52.19
2 Oil India Higher Secondary School	Dibrugarh	SEBA	V	130	56.98
4 DuliajanJatiyaVidyalaya	Dibrugarh	SEBA	V	145	57
8 St. Xaviers’ School	Dibrugarh	SEBA	E	143	58.32
11 SishuNiketan Higher Secondary School	Dibrugarh	SEBA	V	124	59.23
12 Little Flower High School	Dibrugarh	SEBA	E	129	60.7
6 K.V. Namrup	Dibrugarh	CBSE	BL	156	66.07
7 Salt Brook Academy	Dibrugarh	SEBA	E	140	66.43
15 K.V.Dinjan	Dibrugarh	CBSE	BL	154	66.88
16 GyanVigyan Academy	Dibrugarh	SEBA	E	132	68.2
14 Vivekanand High School	Dibrugarh	CBSE	BL	157	69.55
10 DPSDuliajan	Dibrugarh	CBSE	E	146	69.72
3 K.V. Duliajan	Dibrugarh	CBSE	BL	146	73.83



3	Govt.BoysMultipurposeHigher Secondary School	Jorhat	SEBA	V	134	49.8
1	BalyaBhavan	Jorhat	SEBA	V	143	53.13
10	ShrimantaShankerdev Academy	Jorhat	SEBA	V	118	55.13
2	Govt.GirlsMultipurpose Higher Secondary School	Jorhat	SEBA	V	114	55.24
13	K.V.Cinnamora	Jorhat	CBSE	BL	163	55.3
7	St.Mary's High School	Jorhat	SEBA	E	141	55.75
16	HemlataHandique Memorial High School.	Jorhat	CBSE	E	157	57.07
17	Don Bosco High School	Jorhat	SEBA	E	136	60.15
14	Springdales High School	Jorhat	SEBA	E	149	61.32
4	K.V. Rowriah	Jorhat	CBSE	BL	143	63.67
8	JonakiSanghaHigh School	Jorhat	SEBA	V	152	65.13
9	JatiyaVidyalaya, Jorhat	Jorhat	SEBA	V	129	67.83
11	Assam Rifles Public School	Jorhat	CBSE	E	152	69.37
12	Airforce School	Jorhat	CBSE	E	153	69.69
6	K.V. NEIST, RRL	Jorhat	CBSE	BL	150	72.43
15	MaharshiVidyaMandir Senior Secondary School.	Jorhat	CBSE	E	144	73.65
5	Army Public School	Jorhat	CBSE	E	154	80.07
1	Cotton Collegiate High School	Kamrup	SEBA	V	141	42.58
2	T.C. Girls' Higher Secondary School	Kamrup	SEBA	V	95	46.43
10	Kamrup Academy High School	Kamrup	SEBA	V	133	46.5
17	ShankardevSishuNiketan	Kamrup	SEBA	V	133	59.09
9	St. Mary's Higher Secondary School	Kamrup	SEBA	E	138	59.5
7	Assam JatiyaVidyalayNoonmati	Kamrup	SEBA	V	148	60.17
8	Holy Child Higher Secondary School	Kamrup	SEBA	E	116	62.03
4	K.V. Narengi	Kamrup	CBSE	BL	151	62.09
12	Army School Narengi	Kamrup	CBSE	E	151	62.09
6	Royal Global School	Kamrup	CBSE	E	153	63.43
3	K.V.Khanapara	Kamrup	CBSE	BL	150	65.37

13	Don Bosco School Guwahati	Kamrup	CBSE	E	146	66.67
5	Maria's Public School	Kamrup	CBSE	E	149	67.1
11	Gurukul Grammar Senior Secondary School	Kamrup	CBSE	E	162	67.88
16	DPS Guwahati	Kamrup	CBSE	E	148	73.51
14	MaharshiVidyamandir Senior Secondary School	Kamrup	CBSE	E	140	76.85
15	South Point English High School	Kamrup	SEBA	E	109	109
12	SenairamHigher Secondary School	Tinsukia	SEBA	V	126	50.73
2	Pinewood Senior Secondary School	Tinsukia	CBSE	E	151	51.24
1	Soumarjyoti Higher Secondary School	Tinsukia	SEBA	V	122	51.62
9	Panitola High School	Tinsukia	SEBA	V	116	52.45
7	St. Stephen's High School	Tinsukia	SEBA	E	144	53.19
5	Guru Tag Bahadur Academy	Tinsukia	CBSE	E	120	54.3
13	SishuNiketan, Digboi	Tinsukia	SEBA	V	130	55.87
8	St. Mary's High School	Tinsukia	SEBA	E	146	55.92
6	Sarvajanin Higher Secondary ValikaVidyalaya	Tinsukia	SEBA	V	137	56.15
14	Don Bosco High School	Tinsukia	SEBA	E	134	64.19
16	JatiyaVidyalaya, Hijuguri	Tinsukia	SEBA	V	120	66.54
10	Hindustan Kendra Vidyalaya.	Tinsukia	CBSE	BL	152	66.83
13	DPS Digboi	Tinsukia	CBSE	E	137	68.36
3	K.V. Ledo	Tinsukia	CBSE	BL	135	69.97
4	K.V. LekhaPani	Tinsukia	CBSE	BL	151	70.12
15	Budding Buds Senior Secondary School	Tinsukia	CBSE	E	142	70.64

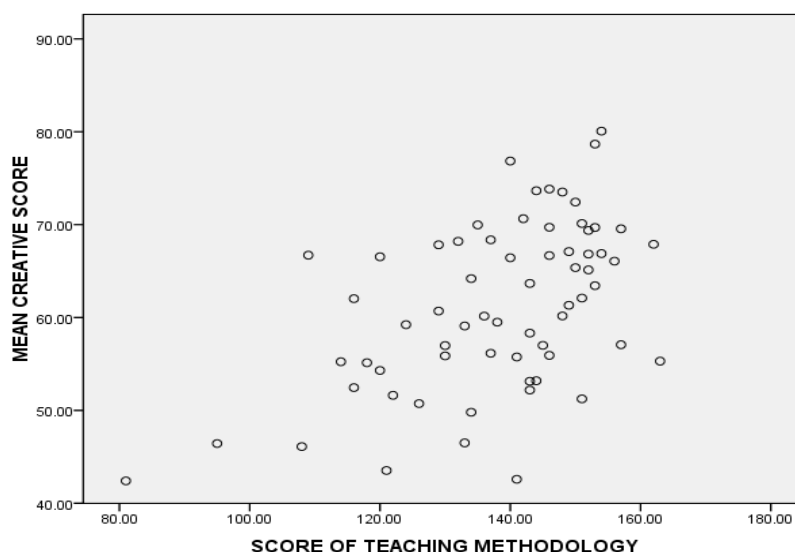


Figure 3.1 : Scatter Diagram of the Sample

Table 3.2 Correlations between Mean Creative Score and Teaching Methodology Score of the schools

		MEAN CREATIVE SCORE	SCORE OF TEACHING METHODOLOGY
MEAN CREATIVE SCORE	Pearson Correlation	1	.520**
	Sig. (2-tailed)		.000
	N	66	66
SCORE OF TEACHING METHODOLOGY	Pearson Correlation	.520**	1
	Sig. (2-tailed)	.000	
	N	66	66

\*\* . Correlation is significant at the 0.01 level (2-tailed).

To establish relationship between creativity score and teaching methodology, Pearson correlation test was applied. Table 3.2 shows the correlation coefficient of schools of teaching methodology and creativity scores of all schools. For this study correlation coefficient of less than .5 is considered to be 'weak', between .5 and .7 as 'moderate', and greater than .7 as 'strong' correlation

From Table 3.2, the correlation coefficient indicates a positive relationship between creativity score and teaching methodology. The strength of association between creativity score and teaching methodology is moderate ( $r = .520$ ). The significance value being equal to .000 indicates that there is statistically significant correlation between the two variables; an increase/decrease in one does relate to significant increase/decrease in the other.

### 3.2 District Wise Analysis

Figures 3.2, 3.3, 3.4, 3.5 show the scatter diagram of the mean creativity score and teaching methodology score of the schools located in Dibrugarh, Jorhat, Kamrup and Tinsukia district respectively. Pearson's correlation coefficient has been calculated and placed beneath each scatter diagram.

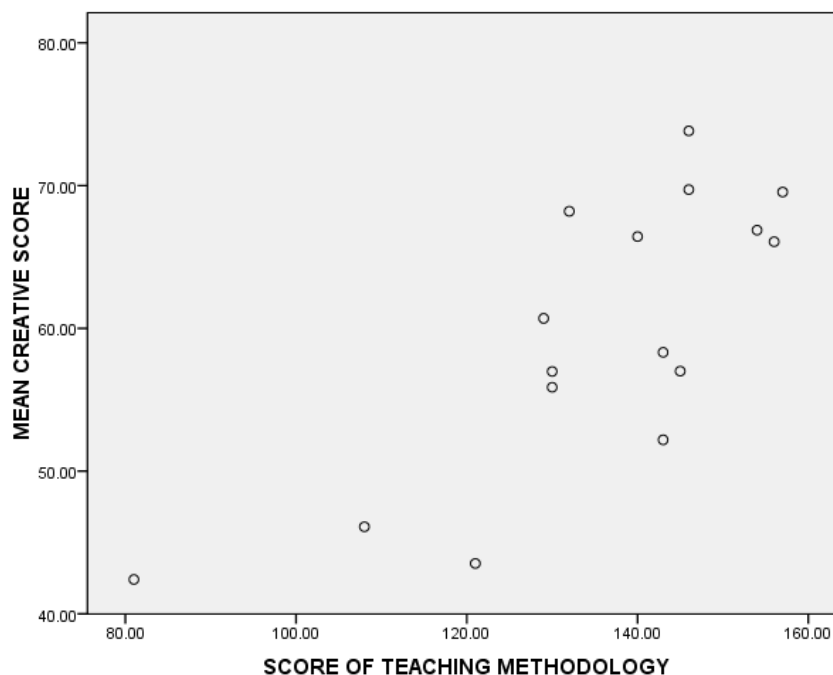


Figure3.2: Scatter Diagram for Dibrugarh District.

Table3.3: Correlation Coefficient of Dibrugarh District

		SCORE OF TEACHING METHODOLOGY	MEAN CREATIVE SCORE
SCORE OF TEACHING METHODOLOGY	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	16	16
MEAN CREATIVE SCORE	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	16	16

\*\*., Correlation is significant at the 0.01 level (2-tailed).

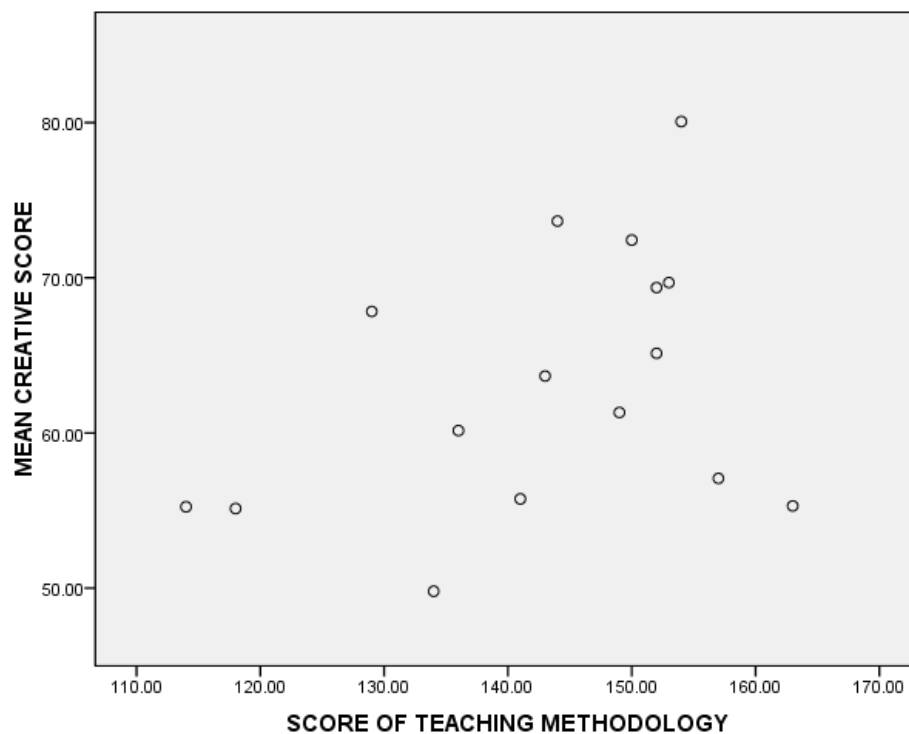


Figure3.3: Scatter Diagram for Jorhat District

Table 3.4: Correlation Coefficient of Jorhat District

		MEAN CREATIVE SCORE	SCORE OF TEACHING METHODOLOGY
MEAN CREATIVE SCORE	Pearson Correlation	1	.383
	Sig. (2-tailed)		.143
	N	16	16
SCORE OF TEACHING METHODOLOGY	Pearson Correlation	.383	1
	Sig. (2-tailed)	.143	
	N	16	16

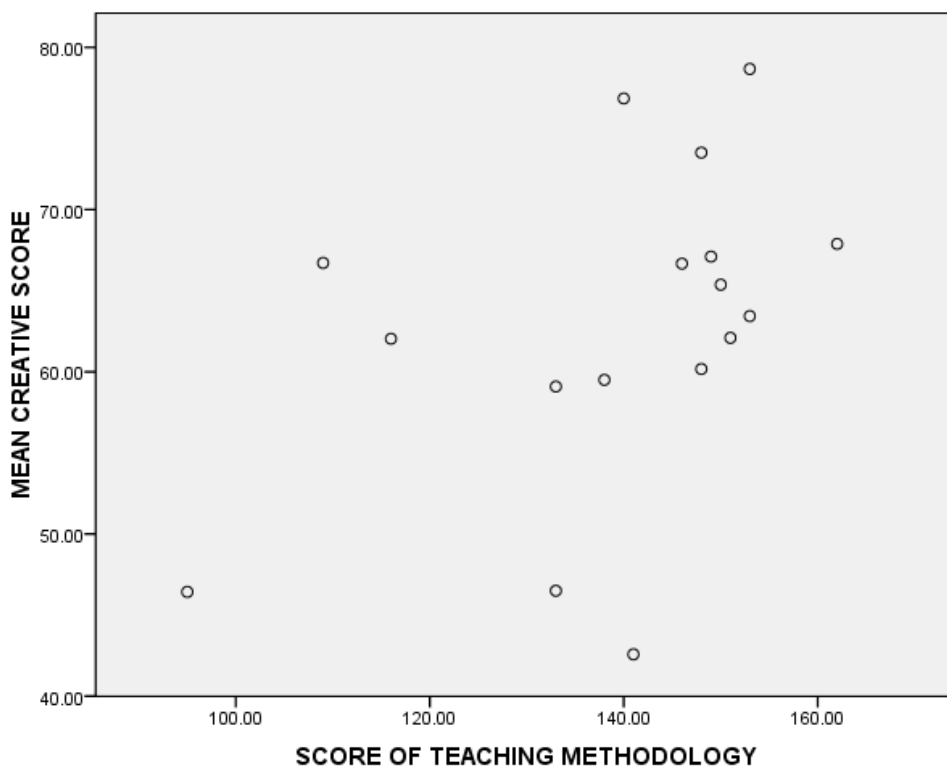


Figure3.4: Scatter Diagram for Kamrup District

Table 3.5: Correlation Coefficient of KamrupDistrict

		MEAN CREATIVE SCORE	SCORE OF TEACHING METHODOLOGY
MEAN CREATIVE SCORE	Pearson Correlation	1	.434
	Sig. (2-tailed)		.082
	N	17	17
SCORE OF TEACHING METHODOLOGY	Pearson Correlation	.434	1
	Sig. (2-tailed)	.082	
	N	17	17

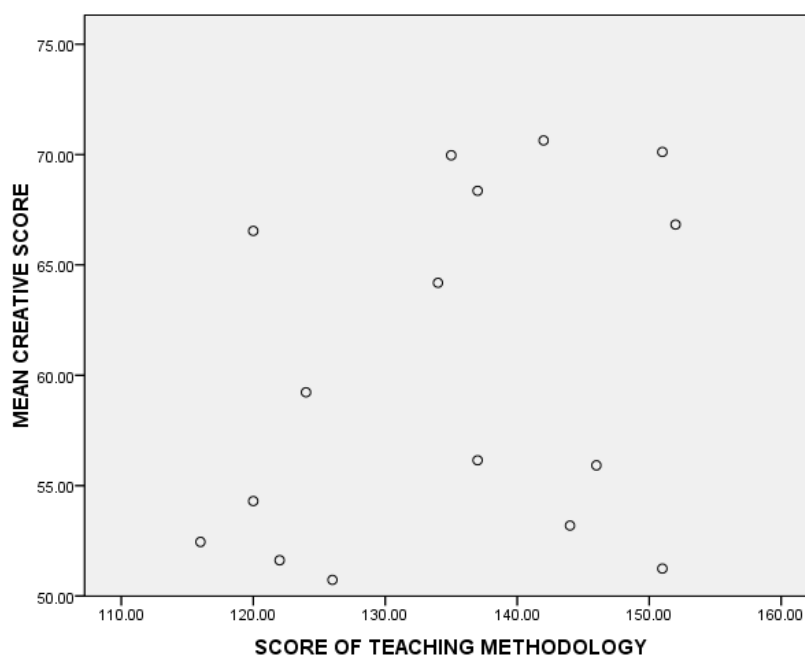


Figure 3.5: Scatter Diagram for Tinsukia District

Table 3.6: Correlation Coefficient of Tinsukia District

		MEAN CREATIVE SCORE	SCORE OF TEACHING METHODOLOGY
MEAN CREATIVE SCORE	Pearson Correlation	1	.313
	Sig. (2-tailed)		.238
	N	16	16
SCORE OF TEACHING METHODOLOGY	Pearson Correlation	.313	1
	Sig. (2-tailed)	.238	
	N	16	16

From the above tables it can be seen that there is a statistically significant strong relationship between teaching methodology and mean creative score in Dibrugarh district only. The top four schools that have shown strong correlation are K. V. Duliajan, K. V. Dinjan, Vivekananda Kendra Vidyalaya and K. V. Namrup. What these schools do as a part of their teaching methodology is presented in the subsequent sections.

**K.V. Duliajanand K.V. Namrup** appears to follow almost same pattern.

The teachers prepare their own CCA (Co-curricular activities) calendar and all the activities like debate, quiz, dance, song, one act play etc and other co-scholastic activities are carried out as per direction given by CBSE.

Efforts have been made to interact with the passive learners and to put them into the main stream by giving them assignment, group discussion, and computer based activities. Special program for talented or gifted students exist viz.

1. Talent search
2. Advanced study material for bright student
3. Preparation of Higher Order Thinking Skills questions.
4. Providing them opportunities to participate in various scholastic and co-scholastic activities conducted by other organization/ institution.

The school provides special assistance to those who need in academics in the form of extra- classes for slow-learners or low achievers. Remedial teaching (if required), project work, (subject based and talent hunt based) are very frequently given to all students.

**K.V. Dinjan** has adopted interesting teaching methodology.

Teaching is through extensive use of visual aids viz. models, pictures, reading cards etc. Speaking and listening power are developed through poem recitation to enable students to sense the beauty of words and feelings. Lot of events like extempore, storywriting, debate, painting, quiz, music, dance etc are provided periodically throughout the academic year.

For enhancement of Co-curricular activities the school provides indoor and outdoor games facilities viz. Chess, Table Tennis, Dark Board, Badminton, Football, Cricket, Volley ball, Handball, Kho-Kho,<sup>1</sup> Basket ball etc.

The school organizes career counseling and awareness programs and also arranges trips to institute of National Repute like I.I.T. Guwahati. The school also has Eco club and DNA club, that focus on environment and bio- resources. Under DNA club, resource persons are invited to give lecture cum demonstration on topics focused on bio-resources that are a part of the curriculum. Students are offered exposure through visits to national laboratories, pharmacological companies, pollution control board, libraries accompanied with the subject experts.

The Eco club also organizes workshop, essay writing, debate, and exhibition on the concerned subject to develop the skills of conservation, strategies and planning at the local/regional level.

**Vivekananda Kendra Vidyalaya** has a holistic approach to teaching methodology.

Apart from regular assembly activities such as prayers, pledge, thought for the day etc., students are encouraged to present quiz, devotional song, folk-song, traditional dances, recitation, yogasanas<sup>2</sup>, stories etc. The school organizes various theme-based exhibitions at its own premises. Scientific temperament is being developed through science club and students are motivated to join or participate in science exhibitions.

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<sup>1</sup> Traditional tag game of India

<sup>2</sup> Yoga positions



Separate classes are held to improve 'communicative' English of the students and this "Spoken English Class" is a part of the curriculum.

Besides day to day activities, many other scholastic and co-scholastic activities are regularly conducted in the school.

- a) Study hour / remedial class for students after school hours.
- b) Colorful and befitting programs on various occasions like National and Regional festivals, in the form of celebration and observation, are made as per schedule.
- d) Parent teacher meeting at regular interval are held. Parents visit to the school is compulsory.
- e) Social service offered to less privileged schools.
- f) Provision for vocal/instrument/music/art/dance classes after school hours.
- g) Spiritual activities
- h) Self-defense courses

### **Conclusion**

Overall there was statistically significant positive correlation between teaching methodology and mean creative score of schools. A statistically positive strong correlation was observed in Dibrugarh district and analysis of those top four schools indicated that the schools used the variety of teaching pedagogy to stimulate interest of students. Activity based teaching and involvement of co -scholastic activities are found to be dominant in these schools. No significant correlation was found for the remaining three districts.

Besides that, teachers should become a collector of teaching ideas from several of resources. They can use these ideas out when the right opportunity presents itself. Teachers also encourage sharing their learning with others. They can offer to lead a session and then share their thoughts. Apart from this, teachers should remove the blocks of the creative thinking. No-one can claim that every person has the same skills and abilities as everyone else, but all people have the potential to be creative. Thus, teacher should always think out of box to help their students learn more effectively and efficiently.

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