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Research Article

TEACHERS' CREATIVE PERCEPTION: AN INTROSPECTION

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ABSTRACT

The present study attempts to investigate the effect of level of teaching and stream of teaching on the perception of teachers towards creativity. The study was conducted on a sample of 182 teachers of Aligarh district (Uttar Pradesh). Teachers' perception towards creativity was assessed by employing a standardized scale constructed by the investigator. Parametric statistics as 't' test for one sample, ANOVA have been employed to analyze the data and to draw out the results. The findings of the study reveal that teachers have higher level of awareness about creativity and positive attitude towards it. It was also found that teaching level and stream of teaching cause significant effect on the perception of teachers towards creativity.

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INTRODUCTION

Education is a powerful instrument that unlocks the door to prosperity of a nation. It is one of the main keys to the development and the improvement of mankind (Sarsani, 2006). The basic aim of education is to prepare individuals for a productive role in the society and a teacher plays an important role to achieve this aim. In the report of UNESCO on World Education, it was pointed out that 'Good education requires good teacher' (UNESCO's World Education Report 1995). A teacher functions within the broader framework of the school education system as he establishes a relation between the needs and demands arising in the school context. The National Curriculum Framework (2005) also places different demands and expectations on the teacher. NCF (2005) stated that a teacher should be a facilitator in children's learning and in constructing his knowledge. He/she should possess the understanding of subject content, pedagogy and curriculum as well as of community, school structures, students' needs and interests so that he/she can participate in the construction of syllabus, textbooks and teaching-learning material. He should help in creating an integrated school climate, which will provide equal opportunities to children of special abilities, varied social backgrounds and diverse learning needs. It is well known that academic excellence, subject knowledge, commitment level towards profession, sensitivity, motivation and attitude of teachers influence the achievement and learning of pupils.

Modern society is characterized by rapid change and technological advance. To cope with these fast changes,

creative people will be valuable resource (Isaken and Murdoch, 1993). Silberman (1973) stated that "education should prepare people not just to earn a living but to live a life- a creative, humane and sensitive life". Therefore, our educational system must accept responsibility for developing creative individuals who possess open, flexible minds and the ability to combine information in new ways to solve the problems of modern society and not to become a stigma on the society. Now, there is a growing realization and consciousness towards the development of creative talents of the new generation by parents, teachers and administrators (Sarsani, 2006).

Creativity has been defined as the capacity of a person to produce compositions, products or ideas, which are essentially new or novel and previously unknown to the mankind (Dreval, 1956). In the view of Lubart (1994), Ochse (1990) and Sternberg & Lubart (1991, 1995 and 1996) creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive, concerning task constraints) while Gandini (1992) identified it as "the production of novel thoughts, solution of problems or products based on previous experience and knowledge". It is clear that creativity is complex in nature for understanding it by adopting a single definition (Woolfolk, 2006). Therefore, Welsch (1980) reviewed twenty two definitions of creativity and proposed a broad definition of creativity, 'creativity is the process of generating unique products by transformation of existing products. These products, tangible and intangible, must be unique to the creator, and must meet the criteria of purpose and value established by the creator. On the basis of these definitions, it can be said that creativity is the ability to create

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something new, which has some kind of value for human being or society. Various models were also given for understanding the concept of creativity and among them a widely known and accepted model of creativity is called 'Four P' model (Rhodes, 1961; Isaksen, 1987; Firestien, 1993). It defines creativity as a holistic multi-dimensional concept and in terms of creative person, creative product, creative process and creative press. Creative person refers the personality traits and mental, cognitive abilities of the person to create a noble thing, creative process implies the function of mind (searching, imagination, combining, synthesizing etc.) in creating new ideas, creative product refers the originality, uniqueness, worthiness of product and creative press indicates the effect of environment and surroundings on person and upon his mental processes and outcomes.

All nations whether big or small rich or poor, developed or developing are convinced today that conservation and proper utilization of creative potential are crucially important for national development. Maximum benefit to the individual and society can be assured only when creative potential of the members of society is developed and utilized in constructive ways. However, for nurturing creative potential, there is a great need to understand the nature of creativity and of the factors that influence it. With the emerging importance of creativity, a number of studies have been conducted to know the creative potential, creative attitude of the individuals, teachers' attitude towards creativity and creative individuals and effect of training programs on the development of creativity etc. Some of them are given below:

Rehm (1989) conducted a study to know the factors, which can affect creativity. The results of the study revealed that exchange of ideas with others, support and encouragement and tasks requiring divergent thinking were the main things that could promote creativity. Dhalla (1990) identified the characteristics of creative children in the area of Psychology and Education. The findings revealed that creative individuals had high intellectual capacity, fluency but did not possess good reading habits. Chan and Chan (1999) investigated the perception of Hong Kong teachers (N = 204) from thirty-eight different schools about the traits of creative and uncreative students. The findings revealed that the most common creative characteristics included questioning, imagination, quick reaction, activeness and intellectual ability. Scott (1999) compared the perception of college undergraduates with teachers' perception regarding creative student behaviour. She found a statistically significant difference between teacher perception and college student perceptions of creative student behavior. Aljughaiman and Reynolds (2005) tried to assess the conception of teachers about creativity and creative students. The results indicated that teachers possessed positive attitude and perception towards creativity. Gasper (2005) investigated the relationship between teachers' creative attitudes and students' creative attitudes and found that there was significant positive relationship between both of the variables. Teacher's creative attitude significantly influenced the creative attitudes of students and also had impact on their creative personality. Lee and Seo (2006) conducted a study to examine the understanding of creativity among Korean teachers of special school (gifted students). The findings of the study indicated that the science teachers had a thorough knowledge of the

cognitive component of creativity and possessed a strong association of creativity with intellectual ability. Khan (2012) investigated the perception of English teachers about creativity and teaching creative writing. It was found that teachers regard themselves as creative but they are not aware and interested in applying innovative strategies and methods in teaching to promote creativity

On the basis of above studies it can be stated that very few studies have been conducted to know the perception of teacher regarding creativity and the effect of various factors specifically stream and level of teaching on their attitude. It is a common observation that most of the active time of the students is spent in the classroom where they are under the constant guidance of the teachers. Teacher's classroom verbal behaviour, their knowledge and perception have direct impact upon the development and unfolding of their capabilities, abilities and personalities. Therefore, the present study is an attempt to assess the perception of teachers about creativity with reference to their level and stream of teaching.

Research Objectives

1. To assess the awareness level of teachers towards creativity
2. To assess the perception of teachers towards creativity with reference to level of teaching
3. To assess the perception of teachers towards creativity with reference to stream of teaching

Research Hypotheses

1. There is no difference in the perception of teachers regarding creativity with reference to level of teaching.
2. There is no difference in the perception of teachers regarding creativity with reference to stream of teaching.

Research Methodology

Population and Sample: In the present study, descriptive survey method was used to assess the perception of teaching regarding creativity. The population has been defined as the teachers teaching at various levels (primary/ secondary/ senior secondary) and teaching in various streams (science /arts /commerce) in Aligarh District (Uttar Pradesh). Firstly, two blocks of Aligarh district namely: Atrauli and Iglas were selected then nine schools from each of these two blocks were selected randomly. After this, the teachers from these selected eighteen schools were selected by employing cluster random sampling technique. A sample of 182 teachers was finalized for the study. The distribution is shown in fig. 1.

Research Tool: To measure the perception of teachers, the scale was developed by the investigator. At the initial stage, the scale consisted of 26 items for first try-out stage and after examination stage (item analysis) 20 items were remained in the scale. Out of 20 statements, fifteen statements are positive and five statements are negative.

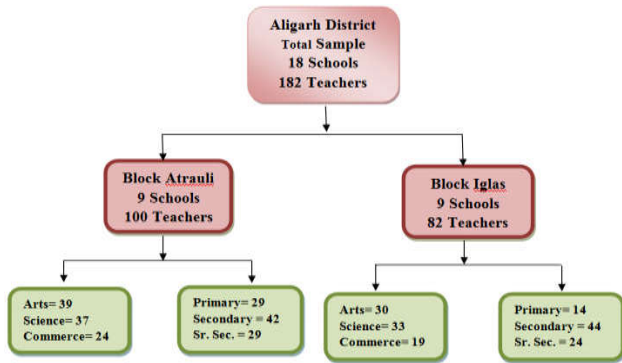


Fig. 1 Selection Procedure of the Sample

The reliability of the scale was ensured by Alpha Cronbach and i.e. 0.73. Face validity of the scale was evaluated by 8 experts of Education and Psychology department of Aligarh Muslim University, Mysore University and MJP Rohilkhand University. Construct Validity of the scale was determined by using Pearson correlation between items and total score. The values of correlation co-efficient vary from 0.25 to 0.67. The data was collected by employing the scale on teachers of Aligarh district. After collecting the data, the results were drawn with the help of SPSS. The analysis was conducted at two levels. At the first level, basic statistics like measures of central tendencies were computed. At the second level, ‘t’ test for one sample and ANOVA were computed.

RESULTS & INTERPRETATION

Normality of Data and Descriptive Measures

Many statisticians (Sheskin, 2000; Best & Khan, 2003 & Field, 2009) have suggested that the normality of the data should be checked before using statistical techniques. Keeping this view in mind, the present researcher applied z test to check the nature of the data for the variables under study i.e. ‘perception towards creativity’. The following table (1) and figure (2) describe the results of descriptive measures and z test for the variable:

Table No. 1 Descriptive Measures and Normality of Data ‘Perception towards Creativity’

N	Mean	Md	Mode	s.d.	Skewness	Kurtosis	SE. of Mean	Z Value (Skewness/SE. of Mean)	Z Standard
182	47.24	48	48	4.80	-0.65	0.32	0.36	-1.80	±1.96

The above given table presents various descriptive measures of perception of teachers towards creativity attained through the application of ‘perception towards creativity scale’ prepared by the researcher himself. It depicts that the measures of central tendency (mean, median and mode) fall more or less at the midpoint of the distribution and are nearer to each other. Therefore, the normal curve is approximately symmetrical at both of the sides, because all the measures of central tendency coincide at the centre of the distribution. Thus, it may be concluded that the distribution of data is approximately normal.

The standard error of mean (0.36) is relatively small, which implies that the sample mean (47.24) may deviate only (0.36) from the population mean. Therefore, it gives an indication that the mean is relatively close to the true mean of the population. The value of standard deviation is 4.80, which implies that the deviation of scores may only 4.80 both on positive and negative sides of the mean.

The table also points out that the Z value (-1.80) (Z = Skewness/ Std. error of Mean) is lying under the standard of Z (±1.96) value (Doane and Seward 2011). This indicates that the data is approximately normally distributed and parametric statistics can be applied on it. The graphical representation of normal distribution of the data is shown in figure 2.

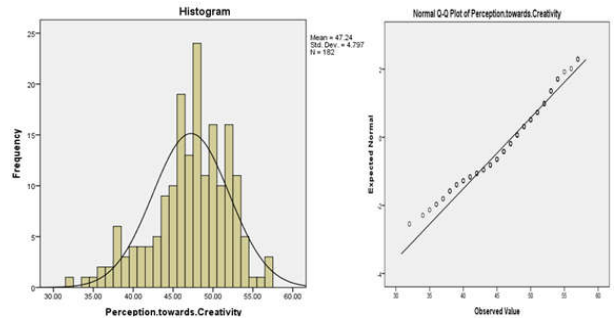


Figure No. 2 Normality of the Data (Perception towards Creativity) through Normal Probability Curve and Stem and Leaf Plot

The following tables and figures present the analysis of the data according to the objectives formulated earlier along with corresponding hypotheses:

Objective 1: to assess the awareness level of teachers towards creativity

H₀ 1: There is no significant difference between real mean and assumed mean of teachers in the awareness level towards creativity.

To test the null hypothesis, ‘t’ test for one sample (assumed mean and real mean) was applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).

The above given table (2) depicts that the mean score of teachers is 47.24 for the level of awareness about the knowledge related to creativity, while the assumed mean is 40.

Table No. 2 Awareness Level of Teachers about Creativity

N	Sample Mean	Assumed Mean	Percentage	s.d.	Df	‘t’ Value	Sig.
182	47.24	40	78.73 %	4.80	181	20.37**	.000

** Significant at 0.01 level

The ‘t’ value (20.37, P<0.01) is significant at 0.01 level, which indicates that there is significant difference between real and assumed mean. Therefore, the null hypothesis (H₀: 1) “there is no significant difference between real mean and assumed mean of teachers in the awareness level towards creativity” is rejected. The mean also indicates that an average school teacher in the sample has 78.73 % awareness about creativity. The results of the study are incoherence with the study of Lee and Seo (2006) who also found that teachers have awareness about the nature of creativity. The mean scores (real mean and

assumed mean) are clearly presented in the below given figure no. 3 indicating that teachers have awareness towards creativity.

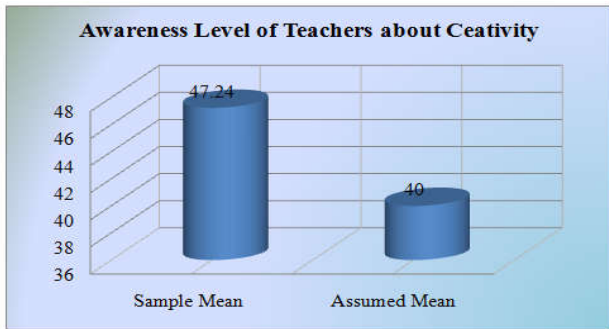


Fig. 3 Graphical Presentation of Awareness Level of Teachers about Creativity

In order to know teachers' definition of creativity, participants' responses were classified into two categories: (i) items combining various components of creativity (ii) items indicating the attitude towards creativity. The result of this step is given in the following table:

Table No. 3 Definition of creativity according to teachers

	Creativity involves:	Agree	Don't Know	Disagree
1	novel ideas or compositions	66.5%	13.7%	19.8%
2	ability to discover new solutions to problems	85.2%	7.1%	7.7%
3	only rearrangement of ideas	26.9%	22%	51.1%
4	knowledge, divergent thinking and motivation	55.5%	30.8%	13.7%
5	optimistic attitude	70.9%	15.4%	13.7%
6	flexibility of thinking	68.1%	17.6%	14.3%
7	clarity of concepts	66.5%	15.9%	17.6%
8	aesthetic value	89.6%	6%	4.4%
9	Imagination	73.1%	17.6%	9.3%
10	intelligence	45.1%	15.9%	39%

A close perusal of above given table no. 3 reveals that more than 50 % of the teachers are agree on the various components of creativity. To sum up, it can be said that creativity is the ability to discover new solutions of problems having aesthetic value. It includes imagination, optimistic attitude, clarity of concepts, flexibility, nobleness, divergent thinking, knowledge and intelligence.

Generally, teachers reveal positive attitude towards creativity and in previous objective (no. 1) teachers revealed higher level of awareness about creativity therefore, to assess the percentage of teachers' agreement on some statements of the scale indicating their positive and negative attitude, percentage of teachers on each statement has been calculated. The result of this step is given in the following table (4):

It is clear from the table that 89.6% of the teachers believe that creative outputs are accepted by the society, 82.4% teachers feel that everything can be made better through creativity, 77.5% teachers state that Brainstorming technique may be used to develop creativity among learners, 74.2% of the teachers assume motivation helps in the development of creativity, 73.1% believe that creative persons express the things differently from others, 72% teachers reveal that open-interaction between student and teacher is necessary for developing creativity among students.

Table No. 4 Teachers' attitude towards creativity

	I think that:	Agree	Don't Know	Disagree
1	creativity is an acquired capacity.	61.5%	14.8%	23.6%
2	everything can be made better through creativity.	82.4%	8.2%	9.3%
3	creativity means going away from the stereotyped thinking.	37.4%	25.8%	36.8%
4	creative output may not be acceptable in the society.	4.4%	6%	89.6%
5	creativity allows a person to express himself / herself differently.	73.1%	17.6%	9.3%
6	creative output requires a lot of time to come out.	26.9%	17.6%	55.5%
7	enhancement of creativity is the responsibility of the teachers.	67.6%	13.2%	19.2%
8	motivation helps in the development of creativity.	74.2%	9.9%	15.9%
9	open-interaction between student and teacher may hamper the development of creativity.	25.8%	2.2%	72%
10	Brainstorming technique may be used to develop creativity among learners.	77.5%	15.9%	6.6%

67.6% of the teachers think that enhancement of creativity is the responsibility of the teachers, 61.5% of the teachers feel that creativity is an acquired capacity, 55.5% regard that creative output requires a lot of time to come out and only 37.4% believe that creativity means going away from the stereotyped thinking. To sum up it can be concluded that more than 55% of teachers are agreed with nine out of the ten statements and disagree with only one statement. It indicates teachers' positive attitude towards creativity.

Objective 2: to assess the perception of teachers towards creativity with reference to level of teaching

H₀ 2: There is no difference in the perception of teachers regarding creativity with reference to level of teaching.

To test this hypothesis (2), one-way ANOVA was applied. The following tables (5, 6 and 7) and figure (4) describe the analysis according to the hypothesis:

Table No. 5 Descriptive Statistics of Teachers' perception towards creativity according to their teaching levels

Level of Teaching	N	Mean	s.d.
Primary	43	47.41	4.73
Secondary	86	46.01	4.72
Senior Secondary	53	49.09	4.43

Table No. 6 Summary of One-Way ANOVA

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	313.38	2	156.69		
Within Groups	3851.98	179	21.52	7.28*	.001
Total	4165.36	181			

* Significant at 0.05 level

It is clear from the above given tables (5 & 6) that the mean score of teachers at primary level is 47.41 and standard deviation is 4.73, which means that the scores can deviate from the mean by 4.73 on both negative and positive side. The mean score of teachers at secondary level is 46.01 with std. deviation 4.72 and mean score of teachers at senior secondary level is 49.09, standard deviation is 4.43. The calculated F value (7.28, P<0.05) is significant at the specified level of significance, which indicates that the teachers teaching at various levels have

different perception towards creativity from one another. Therefore, it can be concluded that level of teaching significantly affect the perception of teachers towards creativity. Further, for examining the groups, which differ significantly from one another, Scheffe's test was applied among the possible pairs.

Table No. 7 Multiple comparisons among expected groups

Groups	Mean Difference	Sig.
A and B (Primary and Secondary)	1.40698	.270
A and C (Primary and Senior Secondary)	-1.67573	.215
B and C (Secondary and Senior Secondary)	-3.08271*	.001

*Mean difference is significant at 0.05 level

A close perusal of the above given table (7) depicts that one mean difference is significant at 0.05 level. Mean differences of first group (A & B) i.e. primary teachers and secondary teachers and second group (A & C) i.e. primary teachers and senior secondary level teachers are not significant, which indicates that primary teachers and secondary level teachers and primary level teachers and senior secondary level teachers have equal level of perception towards creativity. Contrary to this, the mean difference of third group (B & C) i.e. 'secondary level teachers and senior secondary level teachers' is found to be significant at 0.05 level. It indicates that teachers of senior secondary level possess high level of perception or more positive perception in comparison to secondary level teachers. Sample size and mean scores of the teachers teaching at primary, secondary and senior secondary level are also clearly presented through the below given figure no. 4 depicting that senior secondary level teachers have high level of perception towards creativity followed by primary level teachers then secondary level teachers.

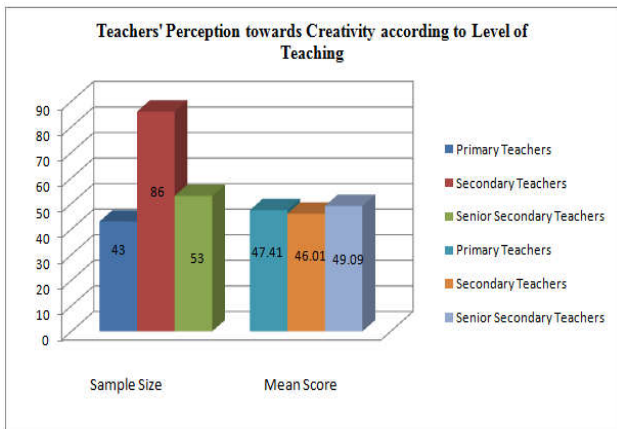


Fig. 4 Graphical Presentation of Teachers' Perception towards Creativity according to the Level of Teaching

Objective 3: to assess the perception of teachers towards creativity with reference to stream of teaching

H₀ 3: There is no difference in the perception of teachers regarding creativity with reference to stream of teaching.

To test this hypothesis (3), one-way ANOVA was applied. The following tables (8, 9 and 10) and figure (5) describe the analysis according to the hypothesis:

Table No. 8 Descriptive Statistics of Teachers' perception towards creativity according to their stream of teaching

Stream of Teaching	N	Mean	s.d.
Arts	69	48.28	4.98
Science	70	48.59	2.89
Commerce	43	43.24	5.05

Table No. 9 Summary of One-Way ANOVA

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	836.33	2	418.17	22.48*	.000
Within Groups	3329.03	179	18.60	*	
Total	4165.36	181			

** Significant at 0.01 level

It is clear from the above given tables (8 & 9) that the mean score of teachers teaching in arts stream is 48.28 and standard deviation is 4.98, which means that the scores can deviate from the mean by 4.98 on both negative and positive side. The mean score of teachers is teaching in science stream 48.59 with std. deviation 2.89 and mean score of teachers is teaching in commerce stream is 43.24, standard deviation is 5.05, which means that the scores can deviate from the mean by 2.89 for science stream and by 5.05 for commerce stream on both negative and positive side. The calculated F value (22.48, P<0.01) is significant at the specified level of significance, which indicates that the teachers belonging to various streams have different perception towards creativity from one another. Therefore, it can be concluded that stream of teaching significantly affect the perception of teachers towards creativity. Further, for examining the groups, which differ significantly from one another, Scheffe's test was applied among the possible pairs.

Table No. 10 Multiple comparisons among expected groups

Groups	Mean Difference	Sig.
A and B (Arts and Science)	-.31035	.914
A and C (Arts and Commerce)	4.88001**	.000
B and C (Science and Commerce)	5.19037**	.000

**Mean difference is significant at 0.01 level

A close perusal of the above given table (10) reveals that among three possible groups, mean differences of two groups are significant at 0.01 level. Mean difference of first group (A & B) i.e. teacher belonging to arts stream and teacher belonging to science stream is not significant, which indicates that teachers belonging to arts and science streams have equal level of perception towards creativity. Contrary to this, the mean difference (4.88001, P<0.01) of second group (A & C) i.e. 'teachers belonging to arts and commerce streams' is found to be significant at 0.01 level of significance. It indicates that teachers belonging to arts stream possess more favourable perception towards creativity than their counterparts of commerce stream. Similarly, the mean difference (5.19037, P<0.01) of third group (B & C) i.e. 'teachers belonging to science and commerce streams' is found to be significant at 0.01 level of significance indicating that teachers teaching in science possess high level of perception or more positive perception in comparison to the teachers of commerce stream. Sample size and mean scores of the teachers belonging to arts, science and commerce streams are also clearly presented through the below given figure no. 5 depicting that science teachers have high level of perception towards creativity

followed by arts stream teachers then commerce stream teachers.

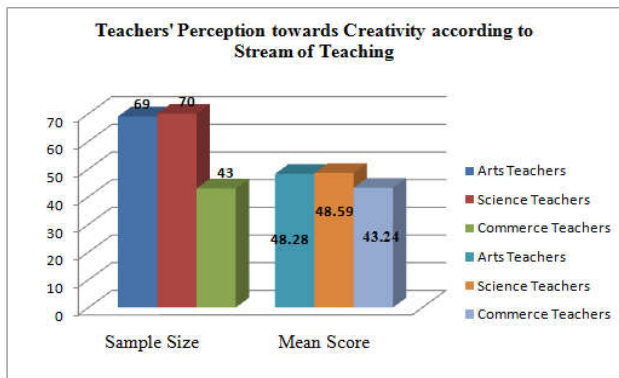


Fig. 5 Graphical Presentation of Teachers' Perception towards Creativity according to the Stream of Teaching

CONCLUSIONS

1. Teachers' level of awareness about creativity is higher than average level. An average teacher possesses 78.73 % awareness about creativity.
2. Level of teaching affects the perception of teachers regarding creativity. Teachers teaching at senior secondary level possess higher level of perception of creativity than primary level teachers followed by secondary level teachers.
3. Stream of teaching also causes difference in the perception of teachers regarding creativity. Teachers of science stream and arts stream have almost equal level of perception regarding creativity while teachers belonging to commerce stream possess less level of awareness regarding creativity in comparison to teachers of science and arts streams.

Implication

The study emphasised that teachers should be familiar of creativity, its components and factors etc. so that it can be enhanced in the students whom they teach. It is broadly accepted fact that teachers affect students directly and indirectly. If teachers will possess higher level of awareness regarding creativity, they may be more creative during teaching-learning process, may identified hidden abilities of students and assist students accordingly. It is also reported that level of teaching and stream of teaching affect the perception of teachers towards creativity therefore, workshops, seminars and training programs related to creativity and it's various aspects as how to identify and nurture creativity, how to remove the barriers affecting creativity and importance of creativity should be conducted for the teachers and administrators. It would also provide awareness to curriculum planners about the level of teachers regarding creativity so that they may organize various refresher courses and training programs and may include such subjects in the curriculum of teacher educators, professional courses (B.Ed., M.Ed. BTC, B.P. Ed. & M. P. Ed. etc.).

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