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Perception about Creative Teaching among Student Teachers in this Digital Era

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Abstract

Digital era is meant for the new generation students. Various Professional skills are to be needed for the development of the present generation students by the teachers in this digital age. Creative teaching is one among them. The student teachers' perception about creative teaching must be analysed, so that it is easy for the teacher educators to come to a conclusion about what type of perception is needed and what is actually prevailing in reality. Analysis of "perception of Creative Teaching in Mathematics among student teachers" was done in terms of selected Familial demographic variables namely, Marital Status, Personal Accessibility of Internet and Teacher bearing family. Normative survey research method was adopted. Student teachers were the target population. Sampling technique used was Simple random technique. Data were collected from 211 student teachers. It was found that, there is no significant mean score difference in the "perception of Creative Teaching in Mathematics among student teachers" in terms of their, marital status and teacher bearing family. Student teachers who are accessible to their own personal NET connection are found to be significantly better than their counterpart in their perception of Creative Teaching in Mathematics.

Keyword: familial factors, marital status, teacher, internet accessibility

Introduction

Mathematics is said to be the queen of all sciences. Appropriate classroom atmosphere was expected to be provided by the teachers for the development of creativity in mathematics education (Panaoura etal., 2014) Teaching behaviour of student teachers could be moulded in their teacher education course. Their attitudes and perception towards mathematics teaching will be reflected in their teaching when they become school teachers in future. Teachers of this digital transformation era is supplemented with many opportunities and challenges. New learning environment is being developed because of the digital technologies (Janaki & Devaki, 2023, Chapter 3, p.19). Teachers are expected to be professionally sound in 21st century skills. Creativity is said to have an important place in this set of skills. It is high time to ensure the positive perception amoung student teachers towards creative teaching in mathematics which in turn helps the teacher educators to identify the student teachers with negative perception of student teachers if any and treat them to develop a positive perception towards Creative teaching in Mathematics.

Conceptual Framework

Creative Teaching is considered to be very important in terms of teacher education perspective. Creative teaching in this study can be taken as the creativity in mathematics teaching among the student teachers.

Incorporation of creative processes and creativity components along with teaching can be defined as teaching creatively. (Palaniappan etal., 2019).

Student teachers' behaviours and potentials can be strongly affected by Family Factors. Family environment has the capacity to act as a suppressing or developing factor in terms of creative potential of an individual. (Kurt etal., 2018). It was found that, instructional delivery of the teachers was significantly influenced by their marital status. (Ekonesi etal., 2020). TPACK Model was found to be efficient in good mathematical achievement. Further studies were recommended in this aspect to check the involvement of internet usage. (Esther etal., 2014). Presence of one of a supportive supervisor was found to be a positive factor in innovation among teachers. (Li etal., 2023). In connection with these statements the study was developed. Demographic variables which cannot be manipulated or cannot be separated from the determining factors serving as the efficacy of the pre-service teachers are taken into consideration for the conceptual framework of this study. The conceptual framework of the study is given below.

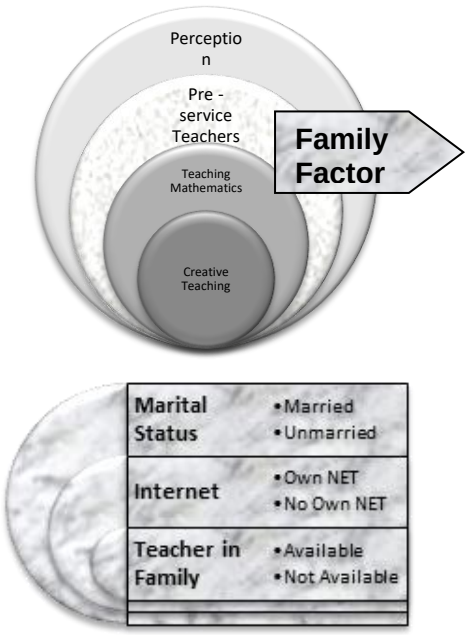

Figure 1 Conceptual Framework for the Study

Description for Figure 1

On the basement of the family factors, namely, Marital status, Accessibility of own internet and Availability of a teacher in the family; "the perception of creative teaching" was analysed in mathematics among student teachers in this study. A diagrammatic representation of the study was figured out in the above conceptual framework.

Need and Significance of the Study

Student teachers are expected to think creatively to use their learned skills in mathematics during problem solving situations. (Bacangallo etal., 2022). An alarm can be set back by checking the perception of student teachers about Creative Teaching in Mathematics. Professional retention and students' performance would be influenced by the professional choices of the young teachers which would be affected by their perceptions of creativity. (Levanon, M. 2021). As the study is concentrating on familial factors which cannot be separated from the student teachers, the teacher educators can be more benefitted by getting an idea of promoting a positive perception of Creative Teaching in Mathematics among them. In those ways the study is said to be important and significant.

Statement of the Problem

Analysis of perception of Creative Teaching in Mathematics among their student teachers was done in terms of selected Familial demographic variables, namely, Marital Status, Personal Accessibility of Internet and teacher bearing family. The problem was identified and stated as, "Perception about Creative Teaching among Student Teachers in this Digital Era."

Objectives of the Study

- To find the influence of the selected demographic variables pertaining to family factors namely, marital status, access to internet connectivity and teacher bearing family in their perception of Creative Teaching in Mathematics among student teachers.

Hypotheses for the Study

- The married and unmarried student teachers do not differ significantly in their perception of Creative Teaching in Mathematics.
- The student teachers who are accessible to their own personal NET connection and who are not accessible to their own personal NET connection do not differ significantly in their perception of Creative Teaching in Mathematics.
- The student teachers who have a teacher in their families and who do not have a teacher in their families do not differ significantly in their perception of Creative Teaching in Mathematics.

Research Method

Survey research method was adopted. The tool was constructed and standardised. student teachers were the target population. Data were collected through simple random sampling method. Sample size was 211. student teachers from, B.Ed Colleges situated in the districts of Tamil Nadu namely; Cuddalore, Perambalur, Madurai, Pudhukkottai, Dindigul, Thoothukudi, Salem, Chennai, Vellore, Thruchirapalli and Tirunelveli were the research participants. The reliability of the tool was found to be 0.971 consisting of 40 items which was used for collecting Data.

Delimitation

- University B. Ed Students, Integrated B. Ed students, special education B. Ed students were not included.
- Out of many variables only selected family variables were taken for analysis.

Limitations

- In this study, only regular student teachers pursuing the Bachelor of Education degree course in secondary teacher education colleges were considered
- Only a few Districts in Tamil Nadu were able to be covered for this analysis.
- The range of study is constrained and limited, where even more the possibilities can be emphasized.

Data Analysis

Differential analysis was carried out. Student – t test and F tests were used for differential study to get the results.

Testing of Hypothesis

Hypotheses were tested to find the significant difference in the perception of Creative Teaching in Mathematics among the student teachers in terms of selected demographic variables.

Testing of Hypothesis 1

The married and unmarried student teachers do not differ significantly in their perception of Creative Teaching in Mathematics.

Table 1 Mean Score Analysis in terms of Marital Status

Variable	Sub Variable	N	Mean	S.D	"t" Value	Remark
Marital Status	Married	40	170.38	18.52	0.592	Not Significant
	Unmarried	171	172.13	16.53		

Interpretation for Table – 1

The obtained t value 0.592 is less than the standard t table value 1.645 at the significant level of 0.05 for degrees of freedom 209. The value of significance is found to be greater than 0.05. So, the difference is said to be insignificant. Thus, it is understood that difference between scores of Married and Unmarried student teachers in their perception of creative teaching in mathematics is not significant. From this interpretation, it is revealed that, the framed Null hypothesis is said to be accepted. It is inferred that Marital Status of student teachers is not an influencing variable in this research.

Testing of Hypothesis 2

The student teachers who are accessible to their own personal NET connection and who are not accessible to their own personal NET connection do not differ significantly in their perception of Creative Teaching in Mathematics.

Table 2 Mean Score Analysis in Terms of Personal Accessibility of Internet

Variable	Sub Variable	N	Mean	S.D	"t" value	Remark
Accessibility of Internet	Own NET Available	151	173.21	16.96	1.937	Significant
	Own NET Not Available	60	168.25	16.34		

Interpretation for Table –2

The obtained t value 1.937 is found to be greater than the standard t table value 1.645 at the significant level of 0.05 for degrees of freedom 209. The value of significance is found to be less than 0.05. So, the difference is said to be significant. Thus, it is understood that the difference between scores of student teachers available with own internet and Non availability of own internet in their attitude towards their perception of creative teaching in mathematics is significant. Hence, the formulated Null hypothesis is found to be rejected. It is inferred that Accessibility of the Internet of the student teachers is an influencing variable in this research.

Testing of Hypothesis 3

The student teachers who have a teacher in their families and who do not have a teacher in their families differ significantly in their perception of Creative Teaching in Mathematics.

Table 3 Mean Score Analysis in Terms of the Teacher Bearing Family

Variable	Sub Variable	N	Mean	S.D	"t" value	Remark
Teacher bearing family	Having teacher	51	172.59	16.12	0.381	Not Significant
	No Teacher in the Family	160	171.55	17.18		

Interpretation for Table – 3

The obtained t value 0.381 is found to be less than the standard t table value 1.645 at the significant level of 0.05 for degrees of freedom 209. The value of significance is found to be greater than 0.05. So, the difference is said to be insignificant. Thus, it is understood that the difference between score of all the student teachers those who have teacher in the family do not differ significantly with the mean score of all the student teachers those who have not a teacher in their family in their perception of creative teaching in mathematics. Hence, the framed Null hypothesis is concluded to be accepted. It is inferred that Teacher bearing family is not an influencing variable in this research.

Findings

- There is no significant difference in their perception of Creative Teaching in Mathematics between student teachers who are married and who are unmarried.
- The perception of student teachers who are accessible to their own personal NET connection is significantly high in Creative Teaching in Mathematics than the student teachers who are not accessible to their own personal NET connection positively.
- There is no significant difference in their perception of Creative Teaching in Mathematics between student teachers who have a teacher in their families and student teachers who do not have a teacher in their families.

Conclusions

"Creative Teaching in Mathematics" amoung the student teachers in terms of their, marital status and teacher bearing family were not found to show any significant difference. While considering the personal internet access, it was found that, student

teachers who are accessible to their own personal NET connection are significantly better to have a positive perception towards creative teaching in Mathematics, than their counterpart.

Results and Discussions

It was found that, significant difference was not found among student teachers in their Creative Teaching in Mathematics in terms of Marital status. (Atalmış etal., 2018) and teacher bearing family by Sivakumar, A. (2018). The above findings were substantiating the present research. It is evident that, the locality and the gender were also found to show no influence in the student teachers' creativity. (Ponnusamy, 2019).

It was revealed that, the Internet usage was accessible at home for few effective teachers as per the research conducted by, Fitriah, (2018). The present finding, which expresses that, student teachers those who have access to their own personal NET connection are significantly better in their creative teaching in mathematics than their counterpart was found to be consistent with the above finding.

Educational Implications of the Paper

- Student teachers can be facilitated with access to their own internet connectivity. This may lead to develop a favourable condition for them to develop a positive perception of Creative Teaching in Mathematics. Institutional support is to be facilitated for their student teachers to access internet connectivity.
- Student teachers can be treated uniformly while developing a positive perception of Creative Teaching in Mathematics irrespective of their Marital status and Teacher bearing family. Existing support systems and peer collaboration can be maintained to maintain this uniformity.

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