

Application Of Basic Concepts Of Mathematics In Life And Study Environment Among B.Ed Student Teachers

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ABSTRACT

This present study aims to find out the application of basic concepts of mathematics and study environment in student Teachers of B.Ed colleges. Survey method is used in the present study. Sample consists of 155 college of education from the pedagogy of Mathematics student teachers, selected using convenient sampling technique in Villupuram district. Mathematics Application Questionnaire (MAQ) and Study Environment Scale were developed by P.Sivagnana Sakthivel with the help of research guide. The sample reliability is established by test re-test method by the researcher. The correlation co-efficient is found to be such as 0.83, and 0.81. Descriptive, differential Analysis and correlation Analysis were used for analyzing the data. The result shows the level of mathematics application and study environment of B.Ed student teachers is moderate.

Keyword: Application, Mathematics, Study Environment and Student-Teachers

Introduction

In contemporary education, teaching is not only about content delivery but also about fostering skills that can be used in everyday life. Mathematics, which is often regarded as a purely abstract field, holds profound relevance in real-world situations, influencing various aspects of both personal and professional life. For B.Ed students, who are future educators, the application of basic mathematical concepts is essential. This research investigates how student teachers incorporate mathematical principles into their life and learning environments, thereby contributing to both their academic performance and teaching methodologies.

Review of Related Literature

Yannick J et al, (2020) the Fourier transformation (FT) is a mathematical process frequently encountered by chemistry students. However, it remains an automated background process perceived by many students as difficult to understand. A simple open-source web application, which can help students to understand the basics of the FT applied to nuclear magnetic resonance (NMR) spectroscopy.

Ganihar & Shaikh (2004) investigated the relationship between school effectiveness and some related personal and institutional variables. Data was collected from 490 teachers and 700 students. Findings revealed that classroom climate of effective schools was more congenial, atmosphere more orderly and organizational health more sound.

Objectives of the Study

- ❖ To identify the level of application of basic concepts of mathematics in life and study environment among B.Ed student teachers.
- ❖ To find out the level of application of basic concepts of mathematics of B.Ed student teachers with respect to gender, locality and medium of instruction.
- ❖ To examine the relationship between application of mathematics and study environment.

Hypotheses of the Study

- ❖ The level of application of basic concepts of mathematics in life and study environment of B.Ed student teachers is moderate.
- ❖ There is no significant difference in the application of basic concepts of mathematics in life among B.Ed student teachers with respect to gender, locality and medium of instruction.

- ❖ There is no significant relationship between application of mathematics in life and study environment.

Methodology

The researcher used the survey method for the present study.

Sample for the Study

The sample for the study consists of 155 student teachers from various colleges of Education in Villupuram district in Tamil Nadu. The sample is selected through convenient sampling technique.

Tool for the Study

Mathematics application questionnaire developed by P.Sivagnana Sakthivel (2024) with help of the guide is used to identify the mathematics application of student teachers. The sample reliability was established by test re-test method, which shows a correlation co-efficient of 0.83. Study Environment Scale developed by P.Sivagnana Sakthivel (2024) with help of the guide is used to identify the study environment of student teachers. The sample reliability was established by test re-test method, which shows a correlation co-efficient of 0.81.

Statistical Techniques

- Descriptive Analysis
- Differential Analysis
- Correlation Analysis

DATA ANALYSIS AND INTERPRETATION

DESCRIPTIVE ANALYSIS

Hypothesis – 1

The level of application of basic concepts of mathematics and study environment of B.Ed student teachers is moderate.

TABLE – 1 Showing Mean and Standard Deviation of the student teachers in their mathematics application and study environment.

Variable	N	Mean	SD	Max. Score
Mathematics Application	155	21.82	4.51	40
Study Environment	155	65.63	10.74	120

From the table 1 it is found that mean of total mathematics student teachers is 21.82 and the standard deviation is 4.51. It is observed that an individual can score a maximum of 40. In comparison with the maximum score, it is found that the obtained mean score is 54.55% of the maximum score, which means the mathematics student teachers have moderate level of mathematics application.

From the above table it is found that mean of total mathematics student teachers is 65.63 and the standard deviation is 10.74. It is observed that an individual can score a maximum of 120. In comparison with the maximum score, it is found that the obtained mean score is 54.69% of the maximum score, which means the mathematics student teachers have moderate level of study environment.

DIFFERENTIAL ANALYSIS

Hypothesis – 2

There is no significant difference between the mean scores of male and female student teachers in their mathematics application.

TABLE - 2 Showing Mean and Standard Deviation of male and female mathematics student teachers in their mathematics application

Max. Score: 40

Group	N	Mean	SD	t' Value	p Value
Male	42	21.27	4.14	0.753	0.452
Female	113	21.64	4.75		

From the above table 2 the calculated 't' value is found to be 0.753 which is less than table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. Therefore it is concluded that there is no significant difference between the mean scores of male and female mathematics student teachers in their mathematics application.

Hypothesis – 3

There is no significant difference between the mean scores of rural and urban student teachers in their mathematics application.

TABLE - 3

Showing Mean and Standard Deviation of rural and urban mathematics student teachers in their mathematics application

Max. Score: 40

Group	N	Mean	SD	't' Value	p Value
Rural	107	19.18	4.20	4.901	0.000
Urban	48	21.59	3.95		

From the table 3 the computed 't' value is 4.901 which is greater than table value 1.96 at 0.05 level of significance. Hence the null hypothesis is rejected. Therefore it is concluded that there is significant difference between the mean scores of rural and urban mathematics student teachers in their mathematics application.

Hypothesis – 4

There is no significant difference between the mean scores of Tamil and urban student teachers in their mathematics application.

TABLE - 4

Showing Mean and Standard Deviation of Tamil and English medium mathematics student teachers in their mathematics application

Max. Score: 40

Group	N	Mean	SD	't' Value	p Value
Tamil	107	19.02	4.69	2.743	0.006
English	48	20.15	3.52		

From the table 4 the computed 't' value is 2.743 which is greater than table value 1.96 at 0.05 level of significance. Hence the null hypothesis is rejected. Therefore, it is concluded that there is significant difference between the mean scores of Tamil and English medium mathematics student teachers in their mathematics application.

Hypothesis – 5

There is no significant relationship between application of mathematics in life and study environment.

TABLE - 5

Showing significant relationship between application of mathematics in life and study environment.

Variables	N	df	r Value	p Value
Application and Study Environment	155	153	0.462	0.000

From the table explains the relationship between Application of the basic concepts of mathematics in life and Study Environment was 0.462, There is a positive and significant correlation between application of mathematics and study environment. Hence the null hypothesis is rejected.

Findings of the Study

- ❖ The mean score of the mathematics student teachers have moderate level of mathematics application and study environment.
- ❖ It is inferred that there is no significant difference between the mean scores of male and female mathematics student teachers in their mathematics application.
- ❖ It is observed that there is significant difference between the mean scores of rural and urban mathematics student teachers in their mathematics application. Since, urban mathematics student teachers are more influence than rural mathematics student teachers.
- ❖ It is concluded that there is significant difference between the mean scores of Tamil and English medium mathematics student teachers in their mathematics application. Since, English medium mathematics student teachers are more influence than Tamil medium mathematics student teachers.
- ❖ There is a positive and significant correlation between application of mathematics and study environment. A better study environment leads to higher application of mathematics.

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