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Research Paper

Effectiveness of Instructional Modules in Enhancing Achievement in Mathematics at Undergraduate Level"

Education

KEYWORDS :

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ABSTRACT

The present educational system becomes complex due to lack of individual attention in the classroom. The expansion of education in the form of greater enrolment of learners in schools and colleges makes the system more rigid and complex. The best answer to this problem is the application of instructional modules which endeavors to remove monotony, but at the same time, enhances motivation and interest among learners. This piece of research intends to find out the Effectiveness of Instructional Modules in Enhancing Achievement in Mathematics at Undergraduate Level".

Introduction

The road to effective mathematics instruction starts with a well-conceived and constructed plan of curriculum. Mathematics educators come from mathematics backgrounds and have a little or no mathematics education training can benefit from the use of an instructional module tool that guides them through the complex task of designing an instructional module, i.e., a single course that can span over a specified duration of time. One of the main components of instructional module development is the Learning Objective Features. The learning objective features consists of an interface and the backend intelligence needed to help the user(instructor) to create specific and measurable learning objectives and link them with other aspects of the instruction module design.

Objectives of the study

- To find out the difference between pre and post test mean achievement scores of the control group.
- To find out the difference between pre and post test mean achievement scores of the experimental group.

Method of Study

This study adopts Pre test-post test control group design

Research tools

The following tools will be adopted

- Instructional modules in mathematics
- Achievement tests

Sample of the study

The researcher selects Government Arts College, Villupuram based on purposive random sampling technique

Statistical techniques used

This study utilizes descriptive and differential analysis

Testing of Hypotheses

Hypothesis: 1

There is no significant difference between pre -test and post-test mean achievement scores of the control group.

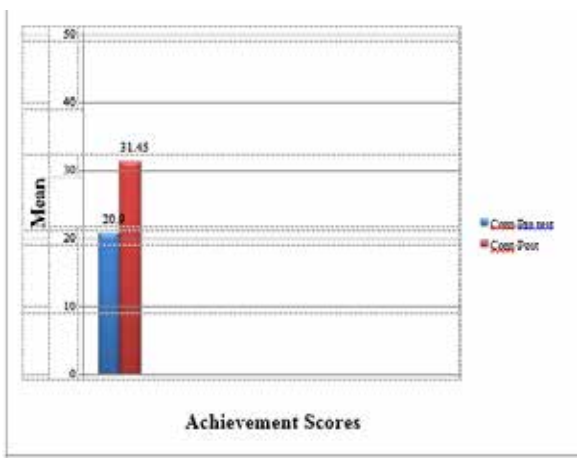
Table. 1Shows Mean, Standard Deviation and t Value of the pre -Test and Post- Test of the Control Group.

S. No	Achievement Test	N	Mean	S.D	t value	Level of Significance
1	C-pre -Test	20	20.9	4.064	21.106	Significant at 0.05
2	C-Post-Test	20	31.45	2.417		level

The achievement of control group in the pre –test and post –test was analyzed. The mean of the pre -test for the control group is 20.9 where as for the post-test is 31.45.This shows that the mean of the score of the post-test is greater than the pre-test of the control group. Also the obtained't 'value is 21.106 is greater than the table value of 2.021 and is significant at 0.05 level. The post-test has achieved better than the pre –test.

Hence Null Hypothesis is rejected, that is, there is a significant difference between Pre- test and post- test mean achievement scores of Control group. This shows the effectiveness of learning through instructional modules in mathematics is high over traditional method.

F-1 Comparison of Mean Scores of Pre Test and Post Test of Control Group



Hypothesis 2

There is no significant difference between pre -test and post-test mean achievement scores of the control group.

Table. 2 Shows Mean, Standard Deviation and t Value of the pre -Test and Post- Test of the Control Group.

S.No	Achievement Test	N	Mean	S.D	t value	Level of Significance
1	C-pre -Test	20	20.9	4.064	21.106	Significant at 0.05
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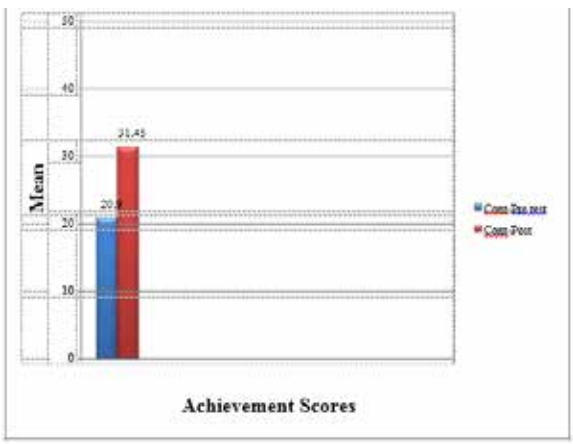

EDUCATIONAL IMPLICATIONS

The results of the study proved that instructional modules in mathematics are more effective than the traditional method of learning at undergraduate level. Therefore, it is recommended to utilize the instructional modules in the teaching – learning process of mathematics at undergraduate level. Instructional modules enhance the memory power of the student and it helps them to score high marks in mathematics.

Conclusion

The present study was carried out to find out the effectiveness of instructional modules in enhancing achievement in mathematics at undergraduate level. As the present teaching – learning process at undergraduate level is rigid, time bounded and outmoded, it is planned to learning tasks in the form of an instructional modules for the benefit of the learners, so that the learners can attain mastery of the subject according to their own pace and ability and feel motivated through personal involvement in the process of learning.

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