



A SOFTWARE APPROACH TO PROMOTE CONCEPT ATTAINMENT IN MULTIPLICATION OF FRACTION OF VII STANDARD STUDENTS

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ABSTRACT

Good mathematics instruction must be balanced and should include an appropriate combination of three elements namely concepts, skills and problem solving. All three are essential for learning of mathematics. Students learn mathematics very easily if it is introduced in a systematic manner by properly motivating them. The objectives of the study are 1. To develop a software for multiplication of fractions. 2. To find out the effectiveness of software approach on learning multiplication of fractions. The variables of the study are 1. Gain Ratio in Achievement test is the dependent variable and 2. Software developed by the investigator used for learning is the independent variable of the study. A sample of 20 VIII standard students from Panchayath Union Middle School of Muthuthevanpatti, Theni District, Tamilnadu served as the sample for the study. The treatment was given for a period of 10 days at the rate of half an hour per day. The data obtained are analyzed by using Percentage analysis. The findings of the study are as follows 1) The difference between the pre-test and post-test has revealed that the students concept attainment in multiplication of fractions was promoted by the software approach. 2) This software helped the children to reduce the time spent to learn the concept Multiplication of fraction. 3) The Software approach proved the positive transfer of learning experience.

KEYWORDS : 1. Software 2. Approach 3. Concept 4. Attainment

INTRODUCTION

Education may be defined as a process of controlling and modifying the behaviour of the young so as to produce a recognized type of behaviour in the adult. Aldons Huxley said, "A perfect education is one which trains up every human beings to fit into the place he (or) she is to occupy in the social hierarchy, but without, in the process destroying his or her individuality.

Central Institute of Educational Technology [CIET] has been established in the NCERT with 100%. Central assistance, to generate educational software in general and for teachers in particular for updating teachers knowledge skills and improving their professional growth.

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NEED FOR THE STUDY

At present the investigator is working as a Lecturer in District Institute of Education and Training at Uthamapalayam, Theni District, Tamilnadu. During the school visit, the students of VII standard studying in PUMS, Muthuthevanpatty, Theni District, Tamilnadu were found difficulties in solving the problems in multiplication of Fractions in Mathematics. It was also found that they had confusion in Multiplication of fractions more over the students easily forget the problem solving technique. Hence the researcher interested to develop software for which shall serve the purpose of all time according to the convenience of the student.

TERMS AND DEFINITIONS

- Software**-The programs used to direct the operation of a computer, as well as documentation giving instructions on how to use them.
- Approach** - to come near in character, time, amount, etc.; approximate.
- Concept** - an idea of something formed by mentally combining all its characteristics or particulars; a construct.
- Attainment** - a personal acquirement; achievement.

OBJECTIVES OF THE STUDY

- To develop software for learning multiplication of fractions.
- To find out the effectiveness of software approach on learning multiplication of fractions.

HYPOTHESIS OF THE STUDY

A software approach for multiplication of fraction enhances the performance of the students in terms of gain ratio.

METHODOLOGY

Experimental Method

Research Design: Pre - test, Post - test Design.

Research Tools - Achievement Test

Independent Variable – Software for teaching Multiplication of Fractions.

Dependent Variable - Gain Ratio

Sample

A sample of 20 VIII standard students from Panchayath Union Middle Schools of Muthuthevanpatti, of Theni District, Tamilnadu served as the sample for the study.

Statistical Techniques used in the study

Percentage analysis is carried out in terms of gain ratio

EXECUTION OF INTERVENTION

- Software for comparing the fractions and Multiplication of fractions was constructed and standardized by the investigator.
- The Tool Pre-test and Post- test was constructed and standardized by the investigator.
- Pre-test was conducted by the Investigator.
- The treatment was given for a period of 10 days at the rate of half an hour per day i.e., the basic knowledge of fraction and comparison of fraction by using the developed software constructed by the investigator.
- Post-test was conducted by the investigator.
- The difference between pre & post-test was calculated and tabulated.
- The gain score between the pre & post-test was calculated and analyzed.

DATA ANALYSIS

Table 1 - Details of Pre-test, Post-test, Gain scores and gain ratios

Respondent Number	Pre-Test	Post-Test	Gain Score	Gain Ratio %	Respondent Number	Pre-Test	Post-Test	Gain score	Gain Ratio %
1	03	10	07	35	11	16	19	03	15
2	11	14	03	15	12	13	16	03	15

3	06	11	05	25	13	12	15	03	15
4	12	15	03	15	14	11	14	03	15
5	11	15	04	20	15	16	18	02	10
6	05	13	08	40	16	13	18	05	25
7	17	18	01	05	17	17	19	02	10
8	05	17	12	60	18	06	07	01	05
9	14	18	04	20	19	03	07	04	20
10	06	13	07	35	20	09	15	06	30

interactive multimedia instruction and computer aided instruction for teaching biology. Voice of Research, 2(2).

Figure 1 . Pre-Test Performance

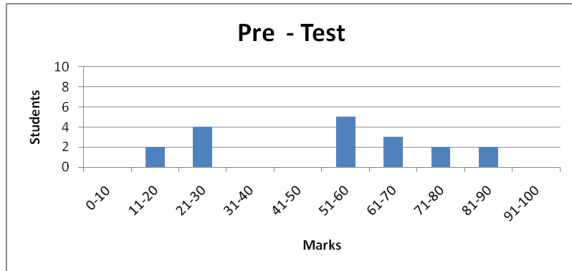
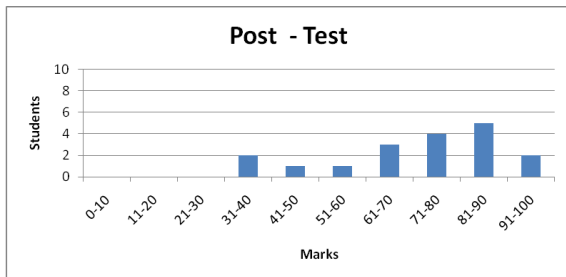


Figure 2. Post-Test Performance



HYPOTHESIS VERIFICATION

A software approach for multiplication of fraction enhances the performance of the students in terms of gain ratio.

From the tabulation and graphic representation it is found that the performance of the students and their achievement in multiplication of fractions is improved to a greater extent. The gain ratio has improved from minimum of 5% to maximum of 60%. The average gain ratio for the class is 20.27%.

Hence the formulated hypothesis is accepted.

FINDINGS

- 1) The difference between the pre-test and post-test has revealed that the students concept attainment in multiplication of fractions was promoted by the software approach.
- 2) This software helped the children to reduce the time spent to learn the concept Multiplication of fraction.
- 3) The Software approach proved the positive transfer of learning experience.

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