



A Study on the Achievement of Students of Standard VII on the Concept of Fractions

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1. Introduction

The Great Philosopher Socrates said, "Education is not the filling of a vessel but the kindling of a flame." Humankind is born like an empty vessel but the moment they start interacting with their surrounding environment, the process of filling of the vessel begins and leads to learning. This also results in change in the behavior of the humankind. Education is that ongoing process which empower the body, mind, and spirit of men so that one can be a productive and responsible member of the family, society and the world. It equips a person with skills and competencies for successful living. Apart from that it creates a sense of curiosity .i.e. human nature to know and struggle to solve the problem that arises in mind. By the most popular instrument like education one can update his life and same way it is healthy, hopeful and it proves as a high yielding for the society and community.

However, in a society which is rapid changing into an industrial and technological society and where economic changes are coming fast, the for imparting mathematical knowledge to every citizen has gained greater importance.

The main objective of teaching mathematics is to help the child to quantify his ideas, to be precise in his thinking and to develop and utilize spatial concepts in his day-to-day life. Significance of mathematics can also be viewed in the context of the revolutionary changes that are taking place in the field of science and technology which are largely dependent on the strength of mathematical infrastructure. The National Policy on Education (NPE,1986) has rightly visualized mathematics as the vehicle to train a child to think, reason, analyze and articulate logically. Since quantitative treatment and measurements are being increasing) used in many other subjects, the relevance of mathematics is emphasized both in the context of the child's environment and in the context of the child's learning in other areas.

Mathematics is relevant for its practical applications. After all, examples of the power of mathematics are everywhere, from the engineering of the cars we derive to The present technological society required daily use of such skills as estimating, problem-solving, interpreting data, organizing data, measuring, predicting and applying mathematics to everyday situations.

Mathematics is intimately involved in every moment of everyone's life. It is the body of ideas structured by logical reasoning. The importance of mathematics thus in the present civilization is beyond any doubt.

2.Statement of The Problem

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3. Objectives of the Study

1. To study the achievements of the G.S.E.B students on the topic of fractions at class VII.

2. To study the achievements of the C.B.S.E students on the topic of fractions at class VII.
3. To compare the achievements of the G.S.E.B and C.B.S.E students on the topic of fractions at class VII.

4. Hypothesis

Following hypothesis will be tested in present research work.

H₀₁ There is no difference in the achievement of students of CBSE and GSEB of standard VII.

5. Delimitations of the study

Investigator has delimited the study to only English medium schools, of Paldi area of Ahmedabad city in Gujarat. Investigator has delimited the study to only certain topics of fractions .they are to identify the shaded part in fraction forms, to identify numerator and denominator, to add the fraction , to multiply the fraction and divide the fractions , to solve the word problems, to add, subtract, multiply and divide the decimal fractions.

6. Importance of the study

In this study researcher trying to know the achievement of mathematics of standard VII students. This study is helpful to know the difficulties faced by students in mathematics subject. This study is useful to the teachers to make maths teaching very interesting.

7. Population of the study

All the students of standard VII studying in English medium in the schools of Ahmedabad city following the syllabus commended by C.B.S.E and G.S.E.B board would constitute as a population. The information was collected from D.E.O of Ahmedabad city

8. Sample of the Study

In the beginning total 590 schools were identified, which were following the syllabus recommended by C.B.S.E and G.S.E.B. It is a stratified random sampling technique that was used to select the sample.

At first total number of schools were classified into C.B.S.E and G.S.E.B schools. Further they were classified into a small sample as per the feasibility and convenience of the researcher.

Three schools of G.S.E.B two schools of C.B.S.E were taken as sample to study.

Three schools of G.S.E.B contain 180 students and two schools of C.B.S.E contain 89 students, so total 269 students became the sample of the study.

9. Tools for Data Collection

The researchers had constructed a tool in order to study the achievement of students of class VII.

10. Description of Test

Total Question 40, Total Time 1hr, Total Marks 100

11. Data Collection

For data collection an investigator took ID Card of IGNOU as a M.Ed. Student and wrote a letter of permission to seek permission from principals of different schools of Ahmedabad city. Researcher took an appointment of the principal and took permission to execute a test in class VII for 1hr. On the convenience of students & the school the test was conducted.

12. Data Analysis

The data collected was in quantitative form. To achieve first objective and second objective, frequency table was prepared to not down the marks of the students. As different schools were taken the lowest marks and the highest marks differed from each school. So, the class interval as 1-10, 11-20, 21-30.... was taken. As the total marks of the test was 100. A tally was marked to every correct answer so in all a tally was marked for 269 students. A final table was prepared after analyzing the answer of the students in which easy questions were positioned first and the difficult one were placed at the end.

13. Findings

The result of the present study showed that the CBSE schools had performed better to the GSEB schools. This strengthen the study conducted by Kothari & Shelat (2011). The error committed by the students were more or less same as mentioned by authors. Students were found weak in the concept which they have already learned. This study agrees to the several studies conducted by Goel (1996), Sarala (1990), Raman (1989). One of the main reason for the weak performances of the students was that they were weak in applying the rule. In the present study it was also found that

1. The students were not able to solve the word problem. When the same concept was asked in the direct form, like add the following students were able to solve it.
2. It showed that students are unable to link the theory with the practical examples.
3. Also, it was observed that the students lack the basic arithmetic skills. Majority of the students were not able to multiply, add or even subtract the two digits number. All the above raised problem, need immediate attention.
4. The present semester system in GSEB VII standard doesn't have any chapter related to fraction which delink the learning of the students in higher standards.
5. The textbook of CBSE found to be more self-explanatory compared to GSEB. The CBSE textbooks contain many examples on each topic step wise.
6. CBSE has many practice books to solve with many examples. whereas GSEB doesn't have this thing.

14. Implication of the Study

1. It was found that the students of class VII were weak in the concept of Fractions. So it is necessary for the teachers to know the entry behavior of the students. For that the teacher can conduct a test before starting the new concept, doing this will help the teacher can conduct a test before starting the new concept, doing this will help the teacher to know how far the students had adhere the related concepts.
2. Until and unless they have not the clear the doubt of the students, they should not move ahead with the new concept. As vertical relationship exist in concepts, without the understanding of past knowledge it will be difficult for the students to progress ahead. Hence it is very well required to clear of doubt of related concept/past learned concepts for very well understanding of the new concepts for longer period of time.
3. It was found that the students forget the rules and laws which they have learned in the past years. So a teacher should do recapitulation of those law or rule before and after applying it.
4. As students were not able to apply their theoretical knowledge into practical form like solving the word problem. So teacher should try to link the concept with real life situations and may give daily life similar examples which may be related to the word problem for better understanding of the concept.
5. Students were found weak in important concepts like increasing or decreasing, adding or subtracting fractions; classifying the proper & improper fractions, etc, so diagnostic and remediation programme can be prepared for those students who have actually scored less in the content.
6. MLL based approach can help for understanding the concept.
7. A PLM can be made in order to help the students who scored low in the content.

14.1 Suggestion for Policy Makers

1. As it was observed that state board students have scored less as compared to the CBSE board. So there is a need to add a test before starting any chapter in the textbook to know the entry behavior of the students. This will help the students to recapitulate the important concepts learned in the previous classes. Also the teacher should make sure that the test should be taken seriously and regularly.

14.2 Suggestions for the Further Research

1. A study is required to see how the contents are actually transmitted and how the students are understands the concepts in faced by students can be conducted on the same topic.
2. A case study can be done on the students who have either achieved low or high in the content.
3. A study on the learning style of the students can be done who are low or high achievers.
4. An extensive research can be done including various variables like:
 - Social-Economic Status.
 - Motivational effects and the school climate.
 - Teacher's qualification.
 - Amount of home work given to the students.
 - Role of tuition classes in the achievement of the students.
 - Role of parents in the achievements of the students.

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