A study of Impact of Continuous and Comprehensive Evaluation (CCE) on Academic Achievement of School Students in Mathematics subject in Bhopal District

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Abstract

*The study was designed to find out the impact of continuous and comprehensive evaluation and reinforcement on academic achievements of VIII standard students in Mathematics. It was experimental design and completed in two stages with the duration of 10 days, 6 days for each stages. After completion of the stages it was found that continuous and comprehensive evaluation has significant relationship with learning and academic achievements in the subject of Mathematics at secondary school level. It is recommended that educational institutional management may arrange capacity building programs for teachers to familiarize them with evaluation, its importance and its process. Curriculum designers and developers may design and develop continuous and comprehensive evaluation tools within curriculum documents for each subject **ac**t keeping in view the requirements.*

Keywords: Continuous and Comprehensive Evaluation, and Academic Achievement.

Introduction

Education aims at making children capable of becoming responsible, productive and useful members of society. Knowledge skills and attitudes are built through learning experiences and opportunities created for learners in school. It is in the classroom that learners can analyze and evaluate their experiences, learn to doubt, to question to investigate and to think independently.

Globalization has important implications in the field of education. We are witnessing the increasing commercialization of education. We need to be vigilant about the pressures to commercialize schools and the application of market-related concepts to schools and school quality. The increasingly competitive environment into which schools are being drawn and the aspirations of parents place a tremendous burden of stress and anxiety on children, including the very young to be detriment of their personal growth and development, and thus it hampers the joy of learning. These students are back burdened by the pressure of books n examination.

The aims of education simultaneously reflect the current needs and aspirations of a society as well as its lasting values and the immediate concerns of a community as well as broad human ideals. At any given time and place they can be called the contemporary and contextual articulations of broad and lasting human aspirations and values. An understanding of learners, educational aims, the nature of knowledge, and the nature of the school as a social space can help us arrive at principles to guide classroom practices. Conceptual development is thus a continuous process of deepening and enriching connections and acquiring new layers of meaning. Alongside is the development of theories that children have about the natural and social worlds, including themselves in relation to others, which provide them with explanations for why things are the way they are, the relationships between causes and effects, and the bases for decisions and acting. Attitudes, emotions and values are thus an integral part of cognitive development, and are linked to the development of language, mental representations, concepts and reasoning

Evaluation results: Fundamental to effective teaching and learning

Success in education is determined by the extent to which the learning objectives are realized. The progress towards attainment of objectives has to be assessed and evaluated for otherwise, we will not know where we are going. One of the main purposes of evaluation at the school stage is to help the learner's improve their achievement in scholastic areas and to develop Life Skills and attitudes with reference to the larger context and canvas of life. Further, in NPE (1986) it has been emphasized that at the school level the evaluation should be formative or developmental in nature because at this stage

child is in the formative stage of learning and thus the emphasis should be on improvement of learning.

What is `Continuous' and `Comprehensive' Evaluation?

Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of students development.

It is a developmental process of assessment which emphasizes on two fold objectives. These objectives are continuity in evaluation and assessment of broad based learning and behavioral outcomes on the other. In this scheme the term `continuous' is meant to emphasize that evaluation of identified aspects of students `growth and development' is a continuous process rather than an event, built into the total teaching-learning process and spread over the entire span of academic session. It means regularity of assessment, frequency of unit testing, diagnosis of learning gaps, use of corrective measures, retesting and for their self evaluation.

The second term `comprehensive' means that the scheme attempts to cover both the scholastic and the co scholastic aspects of students' growth and development. Since abilities, attitudes and aptitudes can manifest themselves in forms other then the written word, the term refers to application of variety of tools and techniques (both testing and non-testing) and aims at assessing a learner's development in areas of learning like :

- Knowledge
- Understanding/Comprehension
- Applying
- Analyzing
- Evaluating
- Creating

Feedback of evidence to teachers and students the scheme is thus a curricular initiative, attempting to shift emphasis from testing to holistic learning. It aims at creating good citizens possessing sound health, appropriate skills and desirable qualities besides academic excellence. It is hoped that this will equip the learners to meet the challenges of life with confidence and success.

Important functions of Continuous and Comprehensive Evaluation are as follows:

- It helps the teacher to organize effective teaching strategies. Continuous evaluation helps in regular assessment to the extent and degree of Learner's progress (ability and achievement with reference to specific scholastic and co-scholastic areas).
- Continuous evaluation serves to diagnose weaknesses and permits the teacher to ascertain an individual learner's strengths and weaknesses and her needs. It provides immediate feedback to the teacher, who can then decide whether a particular unit or concept needs re-teaching in the whole class or whether a few individuals are in need of remedial instruction.
- By continuous evaluation, children can know their strengths and weaknesses.
- It provides the child a realistic self assessment of how she studies.
- It can motivate children to develop good study habits, to correct errors, and to direct their activities towards the achievement of desired goals.
- It helps a learner to determine the areas of instruction in which more emphasis is required.
- Continuous and comprehensive evaluation identifies areas of aptitude and interest. It helps in identifying changes in attitudes, and value systems.
- It helps in making decisions for the future, regarding choice of subjects, courses and careers.
- It provides information/reports on the progress of students in scholastic and co-scholastic areas and thus helps in predicting the future successes of the learner.

Objectives of the Study

1. To find out the impact of CCE on academic achievements of secondary school students in the subject of Mathematics.
2. To compare the performance of the control group at the time of pre-test and post-test in the subject of Mathematics.
3. To compare the performance of experimental group at the time of pre-test and post-test in the subject of Mathematics.
4. To compare the performance of control group and experimental group at the time of pre-test in the subject of Mathematics.

5. To compare the performance of control group and experimental group at the time of post-test in the subject of Mathematics.

Hypothesis of the Study

1. There is no significant impact of CCE on academic achievements of secondary school students in the subject of Mathematics.
2. There is no significant difference between the performance of the control group pre-test and post-test in the subject of Mathematics.
3. There is no significant difference between the performance of the experimental group pre-test and post-test in the subject of Mathematics.
4. There is no significant difference between the performance of the control group and experimental group at the time of pre-test in the subject of Mathematics.
5. There is no significant difference between the performance of the control group and experimental group at the time of post-test in the subject of Mathematics

Delimitations of the study

The present study was conducted only for 60 students of St. Stephens School in Bhopal**.**

Method and Procedure of The Study

Sampling

As the study was experimental in nature, the researcher preferred purposive sampling technique. A high school named St. Stephen Hr. Sec.School Bhopal was the venue of the experiment. Experiments completed in two stages. A sample of 60 students was randomly selected, for stage I, out of 120 students studying in VII class. For second stage a sample of 60 students was randomly selected out of 115 students studying in IX class. Two groups were formed for each stage of the experiment. One was called the control group and the other was called the experimental group

Data Collection

Data were collected by administering the achievement tests for pre-test and post-test to control and experimental group separately. During the experiment, teacher made test were used to measure the learning outcome as CCE. The study was completed in two stages. In Stage-I 60 students were randomly selected from VII class of St. Stephen Hr. Sec. School Bhopal. This sample was divided

into two equal groups. One served as control group and other as experimental group. A pretest was conducted to both the groups in the subject of Mathematics. Both groups were taught by subject specialist of Mathematics. Control group was only taught and was not given any treatment whereas experimental group was taught and evaluated by teacher made test during session at the discretion of teachers. 2 tests were given to experimental group of stage I for CCE and 2 tests were given to experimental group of stage II for proving reinforcement. After completion of 10 days teaching, a post test was conducted in the subject of Mathematics.

Data Analysis

Analysis was done to compare both the experimental and the control groups on the basis of their overall achievement scores by applying t test.

Testing Of Hypotheses

Hypothesis-1: There is no significant impact of CCE on academic achievements of secondary school students in the subject of Mathematics.

Table 1: Mean Scores Difference between Stage-I Control and Experimental Group Post-Test

S.No.	N	DF	Mean	SD	t-value	significance
Control Stage-I Post-Test	30	29	36.00	2.8	2.09	p>0.05
Experimental Stage-I Post-Test	30	29	40.3	3.09		

It is inferred from the table-1 that the calculated „t‟ value between the experimental and the control group with respect to their achievement in post-test is lower than the table value (2.14) at 0.05 level of significance. Therefore, there is no significant difference in the achievement of the stage-1 experimental and control group in the post-test.

Hypothesis-2: There is no significant difference between the performance of the control group pre-test and post-test in the subject of Mathematics.

Table 2: Mean Scores Difference between Control Group Pre and Post-Test

S.No.	N	DF	Mean	SD	t-value	significance
Control Stage-I Post-Test	60	59	19.70	1.42	1.52	P>0.05
Experimental Stage-I Post-Test	60	59	36.47	3.01		

In the above table-2, the calculated t value is smaller than table value 2.14 at 0.05 level of significance. Hence, the null hypothesis is accepted. There is no significant difference between the performance of the control group pre-test and post-test in the subject of Mathematics.

Hypothesis-3: There is no significant difference between the performance of the experimental group pre-test and post-test in the subject of Mathematics.

Table 3: Mean Scores Difference between Experimental Group Pre and Post-Test.

S.No.	N	DF	Mean	SD	t-value	significance
Control Stage-I Post-Test	60	59	19.69	1.45	4.28	P<0.05
Experimental Stage-I Post-Test	60	59	40.90	2.75		

Table-3 reveals that the calculated „t" value 4.28 is higher than the table value 2.14 at 0.05 level of significance. Hence, the null hypothesis is rejected. There is significant difference between the performance of the experimental group pre-test and post-test in the subject of Mathematics.

Hypothesis-4: There is no significant difference between the performance of the control group and experimental group at the time of pre-test in the subject of Mathematics.

Table 4: Mean Scores Difference between Pre-test Control and Experimental Group.

S.No.	N	DF	Mean	SD	t-value	significance
Control Stage-I Post-Test	60	59	19.69	1.45	4.28	P<0.05
Experimental Stage-I Post-Test	60	59	40.90	2.75		

Table-4 shows that, the calculated t value is smaller than table value 2.14 at 0.05 level of significance. Hence, the null hypothesis is accepted. There is no significant difference between the performance of the control group and experimental group at the time of pre-test in the subject of Mathematics.

Hypothesis-5: There is no significant difference between the performance of the control group and experimental group at the time of post-test in the subject of Mathematics.

Table 5: Mean Scores Difference between Post-test Control and Experimental Group.

S.No.	N	DF	Mean	SD	t-value	significance
Control Stage-I Post-Test	60	59	19.69	1.45	4.28	P<0.05
Experimental Stage-I Post-Test	60	59	40.90	2.75		

Table-5 results depicts that the mean score of experimental stage-i & ii post-test is higher than that of control group stage-i & ii post-test. The obtained „t" value 5.95 is significant at 0.05 level. This result indicates that there is significant difference between the experimental stage-i & ii and control group stage-i & ii. Therefore, the above null hypothesis is rejected and there is a significant difference between the performance of the control group and experimental group at the time of post-test in the subject of Mathematics.

Discussion

Students in experimental groups improved their performance significantly from pre-test to posttest. On the post-test measure, students in the experimental groups scored significantly higher than students in the control groups. While students accomplished the greatest development in their academic attainments under CCE by their teacher, subjects played a more active role in their own learning and also made important improvements in their plans under both evaluation conditions. The researcher cum teacher reported that CCE enabled students to increase a better understanding of the content and concepts. This study explored out impact of CCE on academic achievements of secondary school students in Mathematics. Post-test scores were modestly, but significantly higher than the pre-test scores across the two groups. The result suggests that the CCE was effective in improving learning outcome of secondary school students in Mathematics.

Conclusion

CCE has stronger impact on learning and academic achievements in the subject of Mathematics.The scheme of CCE is an effective tool to enhance the quality of teaching learning processes in the school. The emphasis is now ensuring that every child not only acquire the knowledge and skills but also the ability to use these competencies in real life situations. CCE is an examination reform initiative which has the potential of removing almost all the ills of examinations improving learning through continuous feedback and brings in qualitative improvement in education at school level. The CCE model can be of immense significance in creating and institutionalizing a learner centric education system in India. The operational and implementation challenges need to be taken care of by the provision of adequate teaching resources and training facilities. The new teaching-learning Continuous and Comprehensive Evaluation patterns envisaged by CCE will reap benefits in the long run by initiating Indian education into stress free education. In concluding the discussion it can be said that the new concept comprehensive and continuous evaluation is a multidimensional one encompassing within its fold the act of identifying the weakness of a learner at every stage and thereby helping the process of remedial measures. It is also an indicator of lacuna/pitfall/short coming, if any, in planning the educational activity itself. It will reduce stress and anxiety which often builds up during and after the examination which could have an adverse impact on young students. It will also help the learners to develop holistically in terms of personality by also focusing on the co-scholastic aspects which will be assessed as part of the Continuous and Comprehensive Evaluation scheme. Indian schools need reasonable teacher-student ratios and changes in the nature

of the teacher-student relationship, from an unequal, hierarchical relationship to that of co-participants in a joint process of knowledge construction. So also the creation of adequate resources and opportunities in schools for the development of the multiple facets of students' personalities, involving students and parents both in understanding the aims of assessments and ways of achieving it.

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