

Alternative techniques of assessment for teaching science to class VII student



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CCE stands for Continuous and Comprehensive Evaluation. This is the term given to a fairly new education system in India. CCE has been implemented in classes 9th and 10th all over India in schools which follow the CBSE guidelines. This system has been initiated by Mr. Kapil Sibal, the minister of Human Resource development in India. CCE has been started to improve the quality of Education and was meant to lessen the burden of studies on Students. It was implemented in the later half of 2009 on students of the 9th class at that time.

The system preceding the CCE was the "Board Examination" system. There was one final board examination conducted throughout the country which would be marked by different teachers. This was to be given by all students of CBSE in Class 10. This earlier system has been criticized due to the lack of any real overall assessment and the complete focus being on getting marks in one final exam and not on overall quality education.

The Earlier system also resulted in many students committing suicide, which is fairly common in India these days. CCE has been a measure to relieve the students of tension and stress. CCE has been thought as a better set of innovations and ideas, many of them taken from other Education systems.

The CCE system divides the whole session into two terms. Each term comprises of one Summative Assessment (SAs) and two Formative Assessments (FAs). Formative Assessments refer to projects, small worksheets, group discussions and practical activities. SAs are simply examinations. SA examination papers are sent to each school by the CBSE.

A major difference between the earlier system and the CCE one is that answer sheets of students are not marked by teachers from other schools, but rather their own teachers. This does mean that the student does not remain anonymous but it has also been said that it is better as the teacher would be able to understand the child's work better while marking. The





class 10 in India is extremely important for students, as this is when they are supposed to opt for their specific streams. Most schools in India offer three streams, which are the Humanities, Commerce and Science. These streams are allotted to students on the basis of their marks in each subject.

CCE implies that marks from CCE from Class 9 and Class 10 of the student be combined and reflected in a common mark sheet. This gives equal importance to both the classes. CCE involves Assessments throughout the year which means that students have to work hard throughout the year and not just the exams and this was an important idea behind the CCE system.

The Board examinations which CCE replaced were supposed to be optional, and thus students have been given a choice between SA-2 or Board examinations. The weightage for Exams is also greater in the CCE system as sixty per cent of the weightage is given to SAs. Thus, CCE is also similar to the earlier system in some aspects.

The technology based teaching is a new way of thinking, it acts as a powerful enabling device to promote active learning and open new learning approaches. The CAI based teaching is helpful in making active learner than passive. The student can develop the quality of interaction with teacher as well as computer system. I.T, Multimedia and CAI packages have changed the pattern of teaching where the learner uses technology through critical thinking to manipulate and query data in newer way instead of just lecturing and reading activity.

Number of efforts has been initiated for bringing about quality improvement in education. As a result of consistent efforts one idea emerged that education should be treated as an individualized activity. This concept led to the involvement of new instructional strategies i.e., Computer Assisted Instruction (CAI). A learner can at his own pace with the help of computers.

The relevant studies conducted in India, are few in number in this field and these conducted by Prabhakar and Sansanwal (1989), Bhardwaj (1990), Jeyamani (1991), Mahapatra (1991), Reddy and Ramau (1999), Shah and Agrawal(1999),The studies which are conducted aboard is by Paul (1985), Barbara (1986), Henry (1986), Eric (1987), Calvin (1988), Moore (1988), etc.

All these studies, primarily aimed to assess the effectiveness of Computer Assisted Instruction



in terms of student's achievement in various subjects. Sansanwal and Dahiya (2006)



KEY TERM ICT, Evaluation

OBJECTIVES OF THE STUDY

1. To study the effectiveness of the material developed for the alternative techniques of evaluation in terms of
 - a. The students' achievement in Science.
 - b. Reaction of the students towards the material
 - c. Students participation in the classroom
2. To compare the achievement in Science of the students of experimental and control group.
3. To study the relationship between the intelligence and achievement in Science
4. To study the relationship between the personality and achievement in Science
5. To study the effect of gender, intelligence and their interaction on the students' achievement in Science
6. To study the effect of gender, personality and their interaction on the students' achievement in Science

METHOD

Experimental method was employed for the present study. There were two groups, i.e., experimental group and the control group. The experimental group was exposed to the material developed for alternative assessment techniques and the control group was taught through the traditional method of teaching and evaluated through the traditional practices of evaluation.

Random sampling technique was employed for the study. Rajeev Gandhi School, Bhopal was selected, randomly. The class VI has two sections, i.e., A and B. Again, A and B section was selected randomly for the assignment of the treatment. The students of B section was designated as experimental group and the students of A section was designated as control group. The experimental group was exposed to the material developed for alternative assessment techniques and the control group was taught through the traditional method of teaching and evaluated through the traditional practices of evaluation. There were 35 students in each section. In total there were 70 students in both the groups.





Achievement Test The achievement test was developed by the investigator for the purpose of measuring the achievement in science of the students. The investigator developed the test of 50 marks which has the items of objective type test items, rubrics, portfolio, self evaluation and peer-evaluation.

Intelligence Test The Verbal Intelligence test developed by Ojha and Chaudhri was considered the most appropriate for measuring intelligence of the students, in this study. This test is meant for the age group of 13-20 years. Thus, on the basis of age, nature of the subject taught, and language, Verbal Intelligence Test developed by Ojha and Chaudhari was preferred to assess the intelligence of students. Thus, intelligence of both the experimental group and control group was measured with the help of verbal intelligence test developed by Ojha and Chaudhari (1971).

Personality Test The personality of the students was measured with the help of the standardised Adolescent Personality Test (4-PF) developed by Pandey (1999). It has 80 items which is divided in to four factors of 20 items each. Each item has three options of ‘Yes’ undecided and ‘No’. The maximum score of the test is 160 and the minimum score is 80. The personality was categorised as extroversion and introversion.

Findings

Following findings were emerged from the analysis of the data.

- The material developed for the alternative techniques of evaluation was effective in terms of the students’ achievement in Science.
 - The material was effective in terms of the students’ participation in the classroom.
 - There is a significant difference in mean achievement score of the students taught through the ICT-based alternative techniques and the students taught through the traditional method.
 - There was significant relationship between the achievement in Science and intelligence.
 - There was significant relationship between the achievement in Science and personality.
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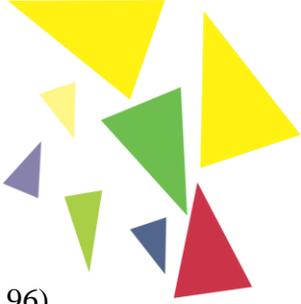


- There is no significant effect of gender on achievement in Science.
- There is a significant effect of intelligence on the students' achievement in Science.
- There is no significant interactional effect of gender and intelligence on the students' achievement in Science.
- There is a significant effect of personality on the students' achievement in Science.
- There is no significant interactional effect of gender and personality on the students' achievement in Science.

EDUCATIONAL IMPLICATIONS

- Alternative techniques of assessment is not only effective for collecting baseline information, but for giving students a realistic picture of their true skill levels.
- Evaluation as viewed as an integral part of the development or change process and involves 'reflection-action'. Subjectivity is recognised and appreciated.
 - There is a focus on dialogue, enquiry rather than measurement, and a tendency to use less formal methods like unstructured interviews and participant observation.
- It is approached as an 'empowering process' rather than control by an external body. There is a recognition that different individuals and groups will have different perceptions. Negotiation and consensus is valued concerning the process of evaluation, and the conclusions reached, and recommendations made.
 - The evaluator takes on the role of facilitator, rather than being an objective and neutral outsider. Such evaluation may well be undertaken by 'insiders' – people directly involved in the project or programme.
 - Longitudinal summative assessment of practical skills is the truest measure of learning.
 - Libraries should implement appropriate performance, affective, behavioural measures to provide a complete and accurate assessment of learners' information literacy skills and attitudes.





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