

An Analysis of ICT integrated Continuous Comprehensive Evaluation at Secondary School from Buldhana District, Maharashtra (India)

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Abstract

The present study was carried out in selected Secondary School of Buldhana District (M.S.) focuses on how ICT integrated evaluation approaches can effectively implement CCE system at secondary level. The study reveals that ICT can play a vital role in CCE system by providing effective support to formative evaluation in terms of rubric evaluation for learners' assignments, projects and teachers' lessons, power point presentation and CBDT giving enough opportunity to the teacher to self evaluate their own teaching as well as diagnose their students' difficulties and provide subsequent remedies to them in a more practical way. In addition, learners can themselves evaluate their performance efficiently. By availing the opportunity of self training on 'CCE implementation' ICT makes the relevant State Board directives and the knowledge of use of various evaluation tools and techniques crystal clear to all teachers in a more effective and economic way. It can establish CCE as a successful flexible examination system by systematizing projects, assignments and other activities meant for the purpose of evaluation and thus reducing learners' stress. In addition, ICT helps teachers to accomplish their paper work and manage their time adequately by assisting them to track their learners' holistic development (both scholastic and co-scholastic) in a progressive and cumulative manner. Through e-portfolio and rubrics teacher and the school authority can assess learners' co-scholastic skills in a more effective manner. However, to make CCE internally accepted and really successful operational knowledge of ICT integrated evaluation tools and techniques on the part of teachers is essentially needed.

KEYWORDS: ICT, CCE, Assessment, Scholastic, Skills, Learning

1.1 RATIONALE OF THE STUDY

No doubt CCE can bring a revolutionary change in the conventional and quantitative mode of evaluation by giving it a continuous and holistic outlook but it seems that it has merely remained in paper works as formality and could not attain its expected practical form in a true sense of term due to inadequate evaluation approaches being adopted by teachers. They have either incomplete knowledge of tools and techniques to be used for evaluating scholastic and co-scholastic areas of learning and if have, they are unaware of innovative supports that can be undertaken for their effective administration.

On one hand introduction of CCE considerably enhanced the teacher engagement and it has led to close observation of student's performance and paved the path of more student-teacher intimacy but it seems to exert tremendous pressure on teachers. The useful implementation of the system is still a matter of concern. It seems that evaluation reform is not being adequately perceived by the teachers yet and hence students are unable to act as expected. Even the teacher and the school

authority are not well versed with this system. They are of the mindset that instead of making the evaluation process flexible, CCE has made it more complex which increases tension on students. Moreover, the parents feel difficulties in getting clear indication about the performance of their wards.

Joshi (2013) reported, State Board has introduced CCE system to measure the growth of students ensuring their intellectual, emotional, physical, cultural, and social development and thus not merely limited to assessment of learner's scholastic attainments. This noble objective has been diverted in the hands of the Principals of schools. The children and parents are overstressed by projects and various types of assessments. Excessive homework and assignments given by the teacher make student's life more miserable. Kumari (2012) found that CCE system at secondary level is not proving fruitful due to lack of teachers' orientation to CCE, over stress on teachers as well as students due to frequent assessments, more assignments, and projects and more paper work and difficulty in time management.

Several studies have analysed CCE system in schools and subsequently recommended remedial approaches to be incorporated in the system for its effective implementation. In this regard ICT integrated evaluation approaches can be a greater support. It seems that ICT can bring in new curricula based on real world problems and provide scaffolds and tools to enhance learning as well as teaching through greater opportunity for feedback and reflection. It can make evaluation integral to teaching learning process by diagnosing limitations of teaching and learning in a more effective manner. According to Sansanwal (2005) Computer Based Diagnostic Tests helped the teachers as well as students in identifying the gray area of each and every student. This can be put on the website of the school and the student can access it from home also.

The student can prepare the topic and chapter and can take the test to find exactly what he has not understood? The teacher cannot do this manually. The student progress can be monitored and his performance can be improved. This will develop confidence in students and may change their attitude towards the subject. However, development of CBDT is costly and tedious as compared to paper and pencil test and teacher should have knowledge of computer language to develop the test. Thereafter, the instructional material designed specifically for meeting the individual needs of students can be uploaded on the School website and then the ICT can be used for providing Remedial teaching Programme. Sansanwal and Dahiya (2006) developed Computer Based Test can be used by individual student for self evaluation of his learning. The student can instantaneously get the feedback about the status of his understanding. If the answer is wrong, he even can get the correct answer. Such tests can be uploaded on the website for wider use. The students from other institutes can also make use of it. Not only the students even the teachers can also use it to assess their own understanding of the subject. If used by teachers before teaching the topic, they can prepare the topic properly. Such software can be used for internal assessment.

Innovative practices based on ICT should be an integral part of CCE system. According to Chairperson, CBSE (2011) ICT can help a teacher to go beyond monotony and better time management. One of the immediate uses of ICT is the help it provides in processing of records and records-keeping for the teachers. It also facilitates good learning environment inside the classroom. ICT usage is supportive to

CCE implementation with respect to large number of students in the classroom (<http://www.Indiagovernance.gov.in>; <http://www.Digitalllearning.eletsonline.com>). ICT can be used for CCE as it can enable a number of interactive applications supported by database which can facilitate search and query. Simple question banks, automatically generated question papers, online tests, automated assessment and feedback can improve the practices of tests and examination (http://www.ncert.nic.in/departments/nie/dse/deptt/activities/pdfs/Chapter_7.pdf).

ICT integrated CCE system is being practiced in selected Schools of Buldhana District (M.S.). Keeping in view the contexts discussed above it was intended to analyse how ICT can affect implementation of CCE.

1.2 OBJECTIVES OF THE STUDY

- To study the process followed for implementation of ICT integrated CCE system in the school at secondary level.
- To study the activities conducted by different teachers for evaluation of students as per CCE system
- To find out the ICT tools and techniques used for evaluation of these activities.
- To study perception of school authority, teachers and students of secondary level about CCE system and its integration with ICT

1.3 RESEARCH QUESTIONS

- What process is followed for ICT integrated CCE system in the school?
- What activities are conducted for evaluation of students as per CCE system?
- What tools and techniques are adopted for evaluation of these activities?
- What is the perception of school authority, teachers and students of secondary level about CCE system and its integration with ICT?

2.0 RESEARCH METHODOLOGY

The present study was a qualitative study having a case study approach.

2.1. Sample

The study was conducted in selected schools of Buldhana District (M.S.) where ICT integrated continuous comprehensive evaluation system is being implemented at secondary level. School authority, subject teachers teaching in classes IX and X and randomly selected four boys and four girls from each of the classes IX and X were considered as sample for the study. Some purposively selected activities organized for the evaluation were also assessed.

2.1. Tools

The tools for data collection were a questionnaire for the subject teachers, a semi-structured interview schedule for the principal, a focus group discussion format for the students and observation schedule for activities.

2.2 Procedure of the study

An attempt was undertaken to study the process followed for ICT integrated CCE system in the school at secondary level. First three days were spent to develop congenial rapport with the personnel and students and get acclimatized with the school environment. There after the questionnaire was administered with the sample teachers and their responses were collected. A semi-structured interview was conducted with the principal of the school and his perceptions were recorded. In the meanwhile some activities organised for the purpose of evaluation were observed. Finally, a focus group discussion was carried out to collect the respective responses of the sample students.

2.3 Analysis of the Data

The collected data were analysed with the help of Inductive Analysis Method.

3.0 ANALYSIS AND INTERPRETATION OF THE DATA

The collected data were processed and then analysed by inductive analysis method. It was then interpreted to draw sensible inferences. The general facts collected about evaluation of scholastic and co-scholastic development of learners have been presented in table-3.1 and table-3.2.

All the teachers organised one activity per week for formative assessment. They organised different types of activities like quiz, group discussion, assignment, project, practical test, presentation, experiment, survey etc. ; in case of language-reading, recitation, speech and debate, creative writing, thematic appreciation etc. While organising any activity the teachers took the help of ICT integrated tools and techniques. Students prepared assignments and projects in the form of electronic word document or multimedia CDs which are evaluated systematically by the teachers as well as learners themselves with the help of rubrics based on certain indicators like ingenuity, creativity, interactivity, comprehension, originality etc and they got immediate feedback of it.

The teachers can also get the feedback about their own lessons and course materials. Thus, the teachers could easily diagnose learners' difficulties and his own teaching limitations and the learners' got enough opportunity of self evaluation as well as peer evaluation. Moreover, while preparing assignments, projects, presentation etc. students took the help of web 2.0 tools like blogs, wiki, forum etc. which make evaluation more integral to the teaching-learning process. Students sometimes made power point presentation with the help of digital projector and simple white screen or interactive white board. Teachers with the help of electronic observation schedule or checklist assessed the learners' performance effectively and keep the record of their performance in an organized way which can be retrieved easily whenever required. During group discussion the participants took the help of interactive white board, show certain electronic materials to substantiate their discussion. The teacher used computer based checklist for assessing their participation. As many as 60 percent teachers expressed that computer based diagnosis test (CBDT) could be used by the teacher for further diagnosis of learners' difficulties after getting preliminary experience from formative evaluation and subsequently providing suitable remedial teaching. CBDT could also be adopted by the teacher for evaluating their own teaching.

Physics teacher expressed that for practical test virtual laboratory was used where student could take different types and shapes of objects, change the distance between mirror and object to any extent, change the thickness of the mirror, etc. and can see how such attributes affect the focal length of the mirror as revealed by physics teacher. About 20 percent teachers expressed that web- based oral test, electronic survey can also be used for formative evaluation. All the teachers conducted paper – pencil test for formative assessment but they differed in frequency- 60 percent teachers 4 times in a year, 20 percent teachers 2-3 times in a year and other 20 percent once in a year. About 80 percent teachers developed computer based test and uploaded over the website of the school. The online tests and automated assessment and feedback provided intrinsic motivation to learners. They opined that web based question bank could also be used for preparing question for the test. The time allowed for the test was one class period (30-35) minutes.

Some time online test was developed based on question paper of State Board syllabus. Processes supported by audio-visual and interactive media help the learners to better comprehend the questions especially high order thinking questions. The items included multiple choices, very short, short, and long answer type questions. The maximum marks allotted were 80. It was given 20 percent weightage in first term and 40 percent in second term. The time allotted was 3hrs. In case of work experience and art education a monthly task was given to all the students and the students were assessed with the help of electronic checklist or rating scale based on the dimensions of their explorative nature, innovativeness and creativity. For assessment regarding Physical and health education, the students were assessed throughout the year. It was found that they were evaluated on the basis of their team spirit, level of participation in different physical activities through e-observation checklist or rating scale. E- portfolio was used to maintain record of cumulative progress of learners' abilities. E- anecdotal record was used to keep track of students' specific responses in different activities. As far as co-scholastic activities are concerned, these are organized throughout the session as per the school calendar and school time table. It was found that the students were evaluated on the basis of their participation and achievement in these activities with the help of e-observation checklist or rating scale. E-portfolio and anecdotal records were also used.

All the teachers were of the view that the class teacher maintained cumulative record of students and the merit list was decided on the basis of cumulative grade point assessment in which they took the help of electronic databases which could store and facilitate search and query. Most of the teachers as well as the principal opined that CCE could proved fruitful only when it is adequately implemented. ICT could provide orientation to CCE processes and techniques to all subject teachers with the help of multimedia CDs showing many different scholastic and co-scholastic activities being evaluated through different tools and techniques in a more practical and economic manner, ICT could reduce overstress on teachers as well as students by systematizing frequent assessments in terms of well organised group discussion, assignments, projects etc. and managing teachers' paper work and time availability effectively. Thus, ICT could help in adequate implementation of CCE in the school system. However, this required to ICT savvy teachers.

Analysis of data gathered from focus group discussion with sample students revealed that all the students were aware of CCE system. They expressed that the use of ICT for assessment of different activities motivated them to actively participate in

activities with all sincerity. Their performance in various activities were thoroughly observed and recorded by the teacher. About 80 percent of them were of the view that ICT integrated evaluation tools provided them with greater opportunity for self as well as peer evaluation in a more comprehensive manner.

4.0 DISCUSSION AND CONCLUSION

From the above findings it can be concluded that CCE system can be effectively implemented in the school by incorporating ICT with evaluation tools and techniques. ICT integrated CCE. system help the teachers to adopt various innovative practices for teaching-learning process (www.Indiagovernance.gov.in) and provide flexibility to use different means of assessing learners, continuous and holistic development. ICT helps the teacher to go beyond monotony and for better time management by organizing the activities meant for the purpose of evaluation efficiently and keeping track of learners' performance in a progressive manner (Joshi, 2011, Kumari 2012). Providing alternative approaches of evaluation like power point presentation, online computer based test, e-portfolio, anecdotal records, observation checklist, rating scale etc giving immediate and automated feedback to the learners can improve the practices of tests and examination (www.ncert.nic.in/departments/nie/dse/deptt/activities/pdfs/Chapter_7.pdf).

Computer based diagnosis test can be used for detecting students' learning difficulties as well as teachers own teaching deficiencies and subsequently adopt appropriate remedial measures effectively as revealed by Sansanwal (2006). Thus, ICT makes evaluation more inbuilt to the teaching-learning process. Hence, ICT should be adopted as a practical measure to support CCE in achieving its expected objectives efficiently and establish itself as a continuous and comprehensive evaluation system in a real sense of term. However, ICT equipments and software should be made economically available for the school as well as the teachers should have adequate knowledge of operating them for the purpose of evaluation.

Table-3.1
Assessment of Scholastic Areas

Particular Area	ICT integrated Techniques	ICT integrated Tools	Periodicity	Reporting	
				Marks	Grade
Scholastic Part-1	Oral Test, Written Test, Observation, Practical Test, project, Assignment, Survey, Experiment, Power Point Presentation	Test(for written test), Web-Based Question Bank, Virtual laboratory, Oral Questions, Rubrics, Electronic Observation Schedule, Checklist, - Portfolio, Anecdotal	Computer Based Continuous process (Assessment in April, may, July, August, October, November, December, January, February are formative in nature and	Using absolute grading at the end of each term through nine point grading scale	
				91-100	A1
				81-90	A2
				71-80	B1
				61-70	B2
				51-60	C1
				41-50	C2
				33-40	D
				21-32	E1
				0-10	E2

		record, Rating scale, class/Home assignments, Power Point presentation	those at the end of September and March are summative in nature). Consolidation for certification twice in an academic session.		
Scholastic Part-2	Observation	Electronic Observation schedule, Checklist, Rating scale, Portfolio, Anecdotal Record	As per school time table Consolidation for certification once i.e. at the end of an academic session.	Using absolute Grading at the end of the session through five point grading scale	
				Grade	Descriptive Indicators
				A+ A B+ B C	Most Many Some Few Very Few

Table-3.2
Assessment of Co-scholastic Areas

Particular Area	Integrated Techniques	ICT integrated Tools	Periodicity	Reporting
Life Skills	Observation, Interview	Electronic Observation schedule, Interview schedule (Webcam and Ear Piece mediated Echart), Checklist, Rating scale, Portfolio, Anecdotal record	Consolidation for certification after a period of observation over one year by the class teacher in consultation with subject teachers	Using Absolute grading at the end of the session through five point grading scale
Attitude and	Observation,	Electronic	Consolidation	Using Absolute

Values	Interview	Observation schedule, interview schedule, Checklist, Rating Scale, Portfolio, anecdotal record	for certification after a period of observation over one year by the class teacher in consultation with subject teachers	grading at the end of the session through three point grading scale	
				Grade	Descriptive Indicators
				A+ A B	Most Many Some
Literary and Creative skills, Scientific skills, Aesthetic skills, Art and Clubs	Observation during participation in activities	Electronic Observation schedule, Checklist, Rating Scale, Achievement in the activities, Portfolio, anecdotal record,	As per school calendar and school time table A student is expected to choose any two activities and are assessed on their participation level and achievement by the concerned teachers	Using Absolute grading at the end of the session through three point grading scale	
Games, Yoga, Scouting and Guiding, NCC, Swimming, Gymnastics, First Aids, Gardening	Observation	Electronic Observation schedule, Rating scale, Checklist	assessed on any two activities by the concerned teachers	A student is Using Absolute grading at the end of the session through three point grading scale	

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