

# ICT in Assessment: A Backbone for Teaching and Learning Process

Ishfaq Majid

Research Scholar, School of Education, Central University of Gujarat, India

[panditishfaq786@gmail.com](mailto:panditishfaq786@gmail.com)

**Abstract**— Assessment is always considered a key component in the process of teaching and learning. A major role is being played by ICT in making the process of assessment easy for teachers. As the use of ICT is increasing, the assessment is made now in a new and innovative manner. While employing ICT in assessment, the recording of responses and providing necessary feedback is likely to grow as virtual learning environments is growing day by day. Not only this the students are being empowered to make use of online or web-based assessments which in return help the students to do self-assessment of their learning. This paper is in support of applying ICT in conducting assessment for students. The paper analyses the concept of assessment with its types and explores various technological tools which will empower the teachers to make assessment much more effective in a class room situation.

**Keywords**— Informational Communication and Technology, Assessment, Computer Assisted Assessment (CAA), Computer Adaptive Testing, E - Portfolio.

## INTRODUCTION

Assessment is basically used to get an insight into a student's current knowledge. Current knowledge indicates that the student's knowledge base is always changing and judgements about a student's current knowledge will have to be made over a time interval. A student's grades, his promotion, placement as well as a suitable curriculum are all dependent on assessment. When used in a learning objective, the definition for the behavioral verb to assess means to lay down the conditions under which the behavior specified in a particular specific objective may be found. Assessment is a wide term that comprises of testing. A test is a distinct type of assessment. Assessment serves a variety of purposes for teachers, students, administrators, other school personnel, family members, policy-makers, business leaders, community members, and other establishments of higher education.

Assessment is that process which is used for recognizing, collecting and understanding information

about the leaning of students. Assessment includes using varied variety of means and tools to assess, measure student learning. Assessment has a lot of importance to improve the learning of the students in class. The teacher sets direction for improving the ongoing teaching learning process. There are various modes or types of Assessment. These kinds of assessment can be undertaken as the need arises. The various types of assessment can be elaborated in the below para as follows:

Formative assessment is that type of assessment where the assessment is made on a continuous basis. The students are given the feedback to improve their learning which prepares them well. Integration of teaching learning and assessment is followed in this phase are integrated to enhance the process of teaching and learning. Next type of assessment is summative assessment where assessment takes place at the end of the learning. The teaching learning process and assessment in this phase are not integrated. However, at the end of any part of the curriculum, assessment takes place. After summative assessment, we have the next type of assessment that is diagnostic assessment which is conducted well in advance of a learning course. The knowledge of the student is analyzed before the start of the teaching learning process.

## ICT IN ASSESSMENT

Technology is supposed to play in effective and efficient assessment of learning. The technology in modern times has reshaped the teaching learning process as it offers various number of tools that can be used in the classroom to enhance the learning to a great extent. Technology has the ability to support teachers by assessing students' learning in terms of their performance in the classroom. The use of ICT in assessment is now common where it utilizes digital devices which help in construction of assessment tasks for students. It helps in delivery of assessment tasks. Not only construction or delivery, the ICT has the ability to give grades or feedback to students. It is essential for schools to encourage themselves to strengthen their commitment to developing a better assessment practice which can support teachers, students and other stakeholders (Marina, 2015).

Geoffrey (2011) in his Teacher's Handbook that was on e-Assessment stated that the assessment which is based on ICT can be taken up with many technological devices. These devices include desktop or laptops, smart phones, iPads etc. ICT based assessment has the capability to use various kind of formats like as text, videos, images and sounds.

Teachers in teaching learning process can use these modern technologies to build their assessment, to convey these tasks to those students for which it is made. After that the teacher can assign the grades to the students based on the conducted assessment. Computers can also be helpful in analyzing the responses of the students. Not only analyzing the responses, it can give feedback to students as well as to teachers regarding the quality of the questions asked. The assessment based on ICT is also used to test the different types of capabilities in the students. There strengths and weakness can also be analyzed. There are various kinds of tasks which are not suitable for the computer to evaluate them but most of the time the technology becomes a powerful tool in carrying out the tasks which are very much tough for a common human being to evaluate in a little span of time.

*(a) Computer Assisted Assessment (CAA):*

Computer-assisted assessment is used to assess learning and performance of the students. It includes all types of assessments whether formative or summative assessment and which is then conveyed with the assistance of these modern technologies. Delivery of the assessment is made online as well as offline.

Computer Assisted Assessment follows the formative assessment where it helps the students to check their knowledge. It is basically done to know whether the student has learned the task or not and to give timely feedback to the students which mainly teaches the teacher educator to know the best way to teach any subject. The initial hope of this study had been that CAA yields better results for students and would also engage them creatively on a stronger level and therefore increase satisfaction (Schoen and Keegan, 2016). Examples of computer assisted assessment are the OMR that is used to grade MCQs and various other database programs that help in recording student marks.

*(b) Computer Adaptive Testing (CAT):*

In the recent development in technology is the use of

computer adaptive testing which enhances the testing process to a great extent. While a student is subjected to answer questions, the technology is capable of adjusting the level of the difficulty. The technology accesses how a student is answering the questions and how much mistakes the student is making, Based on that concept the technology will adjust the other questions accordingly. If the student is making many mistakes while answering the questions, the software will take the student back to the previous questions. Further, the technology is capable of putting questions from previous learned content as well. As the technology is increasing its area, it became as the easiest method to use it in the educational contexts. (Khoshsima and Toroujeni, 2017).

*(c) E-Portfolio:*

Electronic portfolio is a process of gathering of e - evidence collected and maintained by a person on the web. Such kind of e-evidence include written text, files, multimedia, images and hyperlinks. The E-portfolios is basically useful for assessing the abilities of the person. The person maintaining these kinds of portfolios online is having an eye on his strengths and weaknesses.

An e-portfolio works as a learning record for the person where his achievements can be analyzed by the person himself or another person. These kinds of records are related to learning of a person to a great extent. We are usually having two kinds of portfolios i.e. the traditional and e-portfolio. The main gape is that in the traditional and e-portfolio is only the sharing or making the progress or achievement available online. (Donaire et. al., 2010).

*(d) Digital Rubrics:*

A rubric is basically a criterion which is set for the work of the students. The rubrics has included descriptions in the subjective manner about the performance of the students. Rubrics is mainly used to have a look at the key constituents of an assignment. Rubrics assume the expectation from students before the start of the learning activity. They make students aware of the thing that learning is to make integrated with the necessary skills.

After making the use of a rubric, the student are able to access their weakness. The way of assessment in rubrics follows the formative type of assessment as student is able to know the weakness in any area where he/she needs to improve. Teachers in the schools can extend their support to students in the construction of a rubric.

*(e) Online Assessment:*

Online assessment is usually followed when any instructor needs any information pertaining to some content. The assessment is made online where an instructor sets some sort of a questionnaire to get it filled from the opponent. With the help of the emerging technology, it is easy for instructors to design an online test and get the response of that test via web. There are a lot of agencies working under this platform. Some of them are free while most are paid.

*(f) Survey Tools:*

There are many online survey tools like survey monkey, poll daddy or lime survey. These kinds of tools can be used to collect feedback from students regarding any matter. In some situations where we are creating a survey of bipolar set of opinions, this kind of web-based tools can be used

*(g) Wikis:*

A wiki is a website that allows users to collaboratively edit and create content. A very good example of a wiki is Wikipedia, a collaboratively created online encyclopedia. The Wikis are becoming very much popular now a day. Because it facilitates collaboration among learners. The contribution made in wiki by the learners can be assessed by the teachers as well. Therefore, it can be very much helpful while using it as a tool for accessing peers.

#### CONCLUSION

The discussions of this paper suggest that ICT based technology can be bitterly used for assessment of the students in classroom situations. Computer can be used as the medium for testing, scoring tests and test score analysis. Computer Based Testing and Computer Adaptive Testing are the application of ICT in assessment practice in which students perform the test while sitting in forward-facing of a computer device. It also supports students in completing their assessment tasks such as the use of electronic portfolios and project-based assessment. The teachers can be empowered by providing them assess to the e-portfolio and project with the help of a rubric that is capable of assessing not only the process and product, but also the use of technology by students.

There are uncountable methods of incorporating Information Communication Technology in assessment practices. The Schools or the other institutions can find the most appropriate method that suits their context. Therefore, it is now essential for schools to encourage themselves to strengthen their commitment to

developing a better assessment practice which can support teachers, students and other stakeholders.

#### REFERENCES

- [1] Donaire, S. R., García, B. A. and Olmo, S. L. D. (2010). E-Portfolio: a tool to assess University students' skills. Retrieved from <https://goo.gl/n7cqfz>.
- [2] Geoffrey, C. (2011). Teacher's Handbook on e-Assessment. Australian Learning and Teaching Council. Retrieved from <https://goo.gl/GivH4L>.
- [3] Khoshsima, H. and Toroujeni, S. M. H. (2017). Computer Adaptive Testing (Cat) Design; Testing Algorithm and Administration Mode Investigation. European Journal of Education Studies, 3(5), 764-795. Retrieved from <https://www.doi.org/10.5281/zenodo.576047>.
- [4] Marina (2015). Information and Communication Technology (ICT) and Its Role in Educational Assessment. Englisia, 3(1), 23-37. Retrieved from <https://www.doi.org/10.22373/ej.v3i1.664>.
- [5] Schoen-Phelan, B. and Keegan, B. (2016) Case Study on Performance and Acceptance of Computer-Aided Assessment. International Journal for e-Learning Security, 6(1), <https://www.doi.org/10.20533/ijels.2046.4568.2016.0061>