

# **EDUCATIONAL TECHNOLOGY AND ICT**

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**Lecture-34**

## **Module-34: Assessment & Educational Technology (Part-II)**

Hello dear learners, welcome to SWAYAM-NPTEL course on Educational Technology and ICT. I am your course coordinator, Dr. Sarita Anand, from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal, India. Today, in Module 34 on Assessment and Educational Technology, this is Part 2 and Lecture 34. Before going to the lecture, we will see the concepts covered. Earlier, in the previous lecture, we covered assessment and educational technology, which was Part 1, where we discussed the types of assessment, additional technology-enhanced assessment, advanced advantages of using technology for assessment, and technology in assessment for learning.

Now, we will talk about educational technology in assessment. Earlier, we discussed the importance of assessment in the teaching-learning process, and these days, ICT is involved; technology is involved in the assessment procedures. Now, we will discuss one by one what kind of advanced technologies we are using for assessment purposes. The first one is e-portfolio. E-portfolio is about the students where, in a traditional classroom, teachers evaluate students' learning materials such as homework, project reports, test papers, artwork, and lab reports. These materials are usually in physical form; teachers collect, review, and return these documents to the students.

The organized collection of such learning materials and educational evidence is known as a portfolio. In the academic context, it is referred to as a student portfolio, where the student portfolio serves various purposes, including tracking academic progress, assessing whether students meet learning standards, encouraging self-reflection, and preserving records of student work. Thus, portfolios are a valuable tool for assessment. These portfolios are maintained by the students. or the institutions, there are three types of portfolio-

First one is document portfolio or the for for that the development portfolio is required, they develop utilize this developmental portfolio which reflects the students progress and improvement over the time. So, developmental portfolios goal is to check the record of the student that how they are progressing in their learning journey. It contains the ongoing work capturing the learning journey for example, the homework, the project report and other assignments that are showcase continuously their development. These portfolios help in evaluating students progress throughout their academic journey. The assessment portfolio.

The assessment portfolio highlights the student's proficiency skills in specific areas. It presents a collection of refined work that meets the academic standards and serves as evidence of learning outcomes. This type of portfolio is commonly used for the final evaluation such as term and examination, scripts and lab reports. Teacher assesses these materials to measure students' overall performance.

And the third one is Showcase portfolio- This showcase portfolio features a student's best work in a particular field. For example, students excelling in the literature may compile their literary work while those skilled in art can include their artwork. These portfolios not only serve as the assessment tool, but can also be presented to the potential employers as a proof of student's expertise.

So, the transition to e-portfolio with technological advancements learning materials such as homework, projects, lab reports, artwork can now be created and submitted digitally. This ah portfolio by the teachers can collect and evaluate digital submissions and students can maintain a record of their work electronically. This digital collection of student work which tracks learning progress over the time is known as an electronic portfolio or e-portfolio. Essentially an e-portfolio is a digital version of traditional e traditional portfolios.

So, Lorenzo and Elson (2005) defined an e-portfolio as a digitized collection of artifacts including ah demonstrations, resources and accomplishments that represent an individual, group, community, organization or institution. This collection can include text, graphics, multimedia elements and can be archived on a website or stored in an electronic media such as CD-ROM or DVD. The digital content in an e-portfolio may consist of text-based documents, presentation, essays, posters, images, videos, artworks, multimedia elements, blogs, comments, hyperlinks, etcetera. So, e-portfolio are also commonly referred as to digital portfolios or online portfolios.

The students can digitally collect and store the documents they create during their learning journey. This compilation of student work serving as evidence of their progress is referred to as an electronic portfolio. So, essentially an e-portfolio is the digital counterpart of the traditional portfolio. The tools for creating e-portfolios like Evernote. Evernote offers both free and paid versions for creating digital portfolios.

Students can upload various artifacts, including notes, audio recordings, images, and other digital content. I have given the site here. We will go through Evernote. The next KidBlog is a widely used digital portfolio tool designed specifically for students. It provides teachers with full administrative control over students' portfolios.

Additionally, parents can access their child's portfolio through a secure password. Students can upload content such as images, slideshows, videos, and podcasts. Now, the next one is Quizzes. The first one was your e-portfolio; the next one is quizzes. A quiz is a knowledge-based game or mental challenge designed to assess the understanding of learners.

It serves as both an entertaining activity and an assessment tool, conducted individually or in groups, where participants answer questions correctly to earn points or marks. The individual or team with the highest score is declared the winner. In an educational setting, quizzes are used to evaluate a student's knowledge, skills, learning process, and progress. They function as a form of assessment, helping educators measure comprehension and retention. Quizzes can be presented in various formats including MCQ, true and false, short answer,

essay type, fill in the blanks, matching, jumbled sentence, crossword puzzles, etcetera. Educators can incorporate quizzes at different stages of their learning and teaching process, such as after completing a unit, multiple units, or at the end of an academic year. Now, tools for creating quizzes. There are many learning management systems such as Moodle which provide the built-in quiz creation features. Also, several specialized apps and platforms are available for developing quizzes and assessments, including those used for summative evaluations.

These tools allow educators to design engaging and interactive assessments tailored to their students' learning needs. I have prepared a list of different quizzes and how they are being used. I have categorized them into two parts: proprietary tools or apps and the free tools. These proprietary tools are of two types: to be downloaded or hosted on the internet. The free tools are also divided into two parts: to be downloaded or hosted on the internet.

Here you can see in the proprietary tools or apps to be downloaded, I have given the quiz maker, content generator, etcetera, whereas in the hosted on the internet, class marker, easy test, and so many others are there. You can go through them in your content portion. The free tools to be downloaded include quizzes and hot potatoes and quiz favor, whereas those hosted on the internet are Google Forms, Testmoz, or different other quiz apps and software. So, the technology for self and peer assessment definitely in traditional teaching, where teachers evaluate the students' work and provide feedback to enhance their learning. However, the students can also assess their own progress, a process known as self-assessment or assessment as learning.

This approach is just as essential as assessment of learning and assessment for learning because if the student knows how he or she is performing, that has a greater impact on them. Self and peer assessment help students deepen their understanding of the subject matter, learning objectives, and evaluation criteria. Actively engaging in these processes enables students to take control of their learning, making them valuable tools in education. So, for self-assessment, there are many criteria or established criteria. According to Burke and Mantis (2011) self-assessment involves students measuring their performance against predefined standards and engaging in goal setting, self-regulation, and reflection. This reflection is very important. Similarly (1995) we find self-assessment as students identifying assessment criteria and determining how well they meet them. It extends beyond merely grading one's work and includes understanding what constitutes quality performance.

For instance, when a student solves a math problem independently and verifies the solution, they are assessing their own problem-solving skills. Likewise, answering check-your-progress questions in self-learning materials serves as a form of self-assessment, helping students know their understanding of concepts. Then comes peer assessment. Peer assessment involves students evaluating the work of their peers, their classmates. Rinholtz (2015) described peer assessment as a process where individuals provide judgment on others' work.

Bowden (1995) explained that students apply assessment criteria and standards to evaluate their peers' work and offer feedback. Peer assessment can be both formative and summative. It fosters learning by helping students recognize strengths and areas of improvement. Definitely, peer assessment has an impact on their peer group.

So, additionally, in some cases, peer assessment contributes to grading. For example, a student might evaluate a classmate's response to a question, provide feedback on a project, or assign marks to their peer's work. In teacher training programs, When B.Ed. students go for micro-teaching and simulated teaching, peer assessment occurs, where the peer group assesses the teaching style or content knowledge of their own classmates or peers.

So, how are self and peer assessments conducted? To facilitate self-assessment, students should be encouraged to document their thoughts, challenges, and understanding of concepts throughout the learning process. They can later reflect on their notes to evaluate their progress. For peer assessment, students may review their classmates' works such as projects, assignments, practical tasks, or exam responses, or their performance on any given activity, and provide feedback.

They might also assign marks based on predefined criteria. This process enables students to recognize their shortcomings, strengths, and skill levels, fostering deeper learning for a better understanding of the concept. So, the next one is tools for self and peer assessment. Successful implementation of self and peer assessment requires motivation and structured tools. Various instruments help students document their learning; these include anecdotal records. Definitely, these anecdotal records are brief observations on student progress. The checklists are lists of learning objectives and tasks, and they can give their checklist, rating scales, and rubrics. These rating scales and rubrics are also very important, as they provide a detailed scoring guide outlining the expectations. By integrating these assessment techniques and tools, students become more reflective, independent learners and actively involved in monitoring their academic growth.

So, tools for self-assessment and peers we can go through them one by one. The first one is a rubric. I hope you all have heard the term 'rubric.' It is an assessment tool used to evaluate students' performance based on predefined criteria. It serves as a structured scoring guide that outlines the essential assessment parameters and corresponding levels of performance.

A rubric consists of two main components: the first one is criteria in the vertical column and the levels of performance in the horizontal column. In the criteria of the vertical column, it represents the key aspects of the task being assessed. What you want to check, what you want to assess in the students' performance like introduction, use of images, text integration, and the conclusion whatever you have decided in your rubric, you will assess and the second one is the level of performance; this defines the different levels of

achievement, usually ranging from basic to advanced, and there is an option you can write. Like poor, average, good, very good whatever the type of rubric is yours, you can use it.

So, rubrics help in understanding or standardizing the evaluation process, providing clear expectations and offering constructive feedback to the students. Teachers can modify the number of criteria and the performance levels as per their assessment needs. So, the sample rubric I have prepared here you can see on the vertical line there are criteria: introduction, adding images, adding text, and conclusion, and the weightage is given how many marks may be given to the learners or the students. And on the horizontal column, you can see that the remarks are there: poor. Average and good, and scores are given accordingly: 1 point for poor performance, 2 points for average, and 3 points for good performance. And accordingly, the calculation will be done by the evaluator, whether it's a peer or the teacher, and the score will come out.

So, the total score will be calculated, and the student will know that by the summing of all the scores on the. Four criteria and their performance levels. So, this kind of rubric helps the students self-assess their performance and understand the areas of improvement. And another example we can take from the B.Ed. students- that the students are performing in the teaching-learning process, preparing their teaching aid. So, if we are going to assess the teaching aids, we have vertical criteria in the first line that relevance of the subject and topic, creativity and innovation, clarity and simplicity, effectiveness in teaching, presentation and aesthetics and durability and reusability.

These are the criteria set by the teacher that how when they are the students B.Ed. students are you preparing the teaching aid what kind of criteria will be there then the scores. Here weightage is given and the horizontal point or top point you can see that poor average good and excellent. So, if someone is performing very good excellent then 4 points will be given and a poor performer will be given only 1 point.

And this kind of rubrics you can prepare at the time of assessment of the student's performance either they are teaching or playing or writing or performing any kind of task, rubrics may be made by the teachers, scores will be decided, how much score will be given and finally, these scores will be calculated and total calculation will be done. Here I have mentioned that the example of the teaching aid prepared by the B.Ed. students. Although rubrics are having highly beneficial creating the time intensive task, we have thought process for deciding the criteria careful planning, but integrating today's rubrics development can be significantly reduce our time and effort as a teacher.

Because there are instant rubric apps or softwares are available for your ease I have mentioned few of them. There are available many thedigital rubrics like e-Rubrics including I-Rubrics, Rubricstar, Quick Rubric, I have highlighted these rubrics and you can use whichever you feel suitable for your subject area. So, the second one is portfolio you got the essence of portfolio its type and all and what kind of content can be covering the portfolio like photograph, sketches, visual representation, write ups and whatever your collection is there arranged in a sequence in your portfolio. So, portfolios serve a very important role in assessment these days, allowing students to evaluate their own progress.

If they go through their portfolio, they will know what kind of development is going on—whether they are improving or not. So, advancements in digital education allow students to now create various digital resources such as e-text, audio-video content, images, and animations. coding, and they keep their information—those creations—in this portfolio or e-portfolio. To store and manage these digital materials, e-portfolios are used, and an e-portfolio is the digital counterpart of the traditional portfolio, which we have already discussed. In conclusion, we can say that e-portfolios, e-rubrics, online discussion forums, and quizzes apply dynamic ways to evaluate students' understanding and skills.

So, self and peer assessments encourage students to actively engage in their learning journey, fostering critical thinking and opportunities for better learning. So, we can say that these digital tools simplify the process, making assessments more efficient and interactive. Similarly, e-rubrics provide a structured and automated way to assess student work, reducing the time required for evaluation while maintaining transparency. E-portfolios, on the other hand, serve as a comprehensive record of students' progress, showcasing their achievements over time.

So, I hope you will go through the given references, which I have mentioned here, for further learning. Thank you, keep learning.