Agricultural Extension in South Asia

Digital Assessment and Evaluation Methodologies

Platform: ICAR-NAARM Centre of Lifelong Learning in Agricultural Education (COLLAgE) E-Learning and MOOC Portal
Duration: 4 weeks
Certification: Yes, paid

Assessments play a significant role in judging the level of understanding developed by a learner. The advent of online education has increased the responsibility on teachers to design diverse online assessments to evaluate students' performance effectively. Consequently, teachers must become well-versed in appropriate methodologies for assessment and evaluation in an online learning environment.

To address this critical need, the ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad, designed a Massive Open Online Course (MOOC) titled **"Digital Assessment and Evaluation Methodologies."** This was the tenth course in NAARM's MOOC series, offered from September 1 to September 30, 2024, targeting teachers, aspiring educators, and faculty members. The course emphasized practical approaches for developing innovative methods to evaluate student performance effectively.

The course content was structured into four weekly modules comprising short, engaging video lectures, assignments, and discussion forums. Participants were required to allocate approximately 40 hours over the 30-day duration to complete the course. The course was led by Ms. Nirmala P. G. (ICFAI Foundation for Higher Education, Hyderabad), Dr. Indira Koneru (ICFAI Business School, Hyderabad), Ms. N. Kaumudi (Founder/Director, Learning Space, Hyderabad), Dr. G.R.K. Murthy (Principal Scientist, Education System Management Division, ICAR-NAARM), Dr. Navneet Kumar (Principal Scientist, Education System Management Division, ICAR-NAARM), Ms. T. Sushumna Rao (Educational Technology Specialist, Hyderabad), and Dr. M. Balakrishnan (Principal Scientist, Information and Communication Management Division, ICAR-NAARM).

Course Highlights

Week I:
Principles of Assessment and Evaluation: Covered fundamental concepts such as validity, reliability, objectivity, and comprehensiveness in educational evaluation.
Paper Setting Methods: Provided systematic approaches for designing balanced, fair question papers using blueprints and rubrics.

Week II:
Assessment Types and Feedback: Discussed formative, summative, and diagnostic assessments, emphasizing feedback's role in bridging performance gaps.

Basics of Rubrics in Education: Introduced holistic and analytic rubrics to maintain fairness and guide self-assessment.

Week III:
Orientation to e-Assessment: Explored the digital transformation in education, including tools like Moodle and Gradescope for online evaluations.
Tools for Asynchronous Models: Focused on platforms such as Google Classroom and LUMI-H5P for interactive content creation and assessment.

Week IV:
Tools for Synchronous Modes: Examined real-time engagement tools like Kahoot, Quizlet, and Zoom polling for collaborative online learning.
Declaration of Online Results: Highlighted digital result management for transparency, accuracy, and accessibility.

The modules, including video lectures, discussions, educational resources, and assignments, were gradually made available to participants. These sessions were instrumental in helping participants learn to design reliable assessments, interpret outcomes, and make data-driven decisions to enhance teaching and learning effectiveness. Participants gained an understanding of the systematic approach to test construction, including designing blueprints and preparing effective question items. The sessions also emphasized various functions of assignments and the qualities of effective feedback, such as timeliness, constructiveness, and clarity.

A variety of tools and technologies for e-assessment were explored, including Learning Management Systems (LMS) like Moodle, Blackboard, and Sakai. Tools such as iRubric and RubiStar were presented as user-friendly platforms for creating, customizing, and reusing rubrics. Polling tools (Zoom), quizzes and games (Kahoot, Quizlet, and Gimkit), and collaborative platforms (Microsoft Whiteboard, Padlet, and Etherpad) were also introduced.

This course encourages educators to embrace digital techniques and create interactive, engaging, and outcome-driven online sessions. For aspiring educators, the course provides skills to design assessments that motivate and challenge learners.

The final examination tested learners' understanding through the submission of a course assignment, which required creating an online class using tools like Google Classroom or H5P. Certification eligibility depended on assignment submission, peer evaluation, and participation in the quiz.

As a research scholar in Agricultural Extension Education, I found this course intellectually stimulating and practically enriching. While the course primarily focused on pedagogy, it also incorporated elements of andragogy by emphasizing the measurement and analysis of student learning outcomes in digital education. Designed for adult learners (teachers and researchers), it emphasized the autonomous and practical application of knowledge through interactive tools like Google Classroom and H5P, which enhance self-directed learning and problem-solving abilities.

Additionally, this course holds immense potential for use in extension education. Extension programs often involve teaching diverse adult audiences, such as farmers and rural communities. The digital tools and methodologies taught in this course can be adapted to design interactive and engaging learning modules for extension programs, develop assessments to measure the impact of interventions, and utilize platforms like Google Classroom or H5P to deliver training effectively. Hands-on experience with tools like LUMI-H5P and Google Classroom made the learning process lively and enjoyable. And they enhanced my problem-solving skills and deepened my understanding of digital education.

This course is highly recommended for educators, researchers, and anyone interested in mastering digital assessment techniques. Researchers, in particular, can greatly benefit from this course as it equips them with essential digital tools and methodologies for effective assessment and evaluation—critical aspects of academic and field research. The hands-on experience with platforms like H5P, Google Classroom, and Moodle enables researchers to design surveys, create interactive learning modules, and manage data collection efficiently. The emphasis on rubrics and feedback mechanisms aids researchers in analysing qualitative and quantitative data systematically. Exposure to synchronous and asynchronous digital tools enhances academics' abilities to conduct online workshops, focus group discussions, and training programs. Furthermore, it improves their capacity to evaluate project impacts and disseminate findings to academic and non-academic audiences effectively.

The course's structured modules, expert-led sessions, and emphasis on practical application make it an excellent resource for enhancing professional competence in the evolving landscape of online education.

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