JOHNS HOPKINS UNIVERSITY

University Council on Learning Assessment
Office of the Provost
Best Practices - Assessment in Online Instruction

Assessment Options and Alternatives

Alternative assessments depend on what the instructor is trying to measure or evaluate.

1. Skills
2. Knowledge
3. Analysis and evaluation of content
4. Creativity in synthesizing and critiquing concepts
5. Competencies
6. Lab work
7. Experiential learning
8. Simulations

Credit Bearing and Onsite Courses		
Onsite Assessments	**Online Assessment Suggestions**	**Technology**
Formative Assessments- Knowledge checks, Discussions, in class activities, presentations, Short quizzes	1. Test understanding - Create short frequent: a. Quizzes b. Polls 2. Create formative assessments to drive learning, such as: a. Performances b. Presentations c. Interactive activities 3. Self-assessments through: a. Reflection papers b. Portfolio reflections 4. Student led discussion sessions: a. Synchronous b. Asynchronous	1. Test understanding: a. Use quiz option in LMS for knowledge checks or other tools available to you b. Use poll option during synchronous sessions 2. Students create: a. Performance videos uploaded to Voicethread, Youtube, Vimeo, etc. b. Short presentations in PowerPoint, VoiceThread, Prezi, etc. c. Interactive activities: mind mapping tools, Apster, Metta, ThingLink 3. Reflections can be added in the LMS or a portfolio tool such as VoiceThread, Edublogs, or one available at JHU 4. Lead conversations in: a. Synchronous sessions: through ZOOM, or any other videoconferencing tool b. Asynchronous sessions through the LMS discussion board, Pretzl, Piaza, VoiceThread or any other discussion board tool

Summative Assessments Exams and Tests	1. Short Paper or Final Paper 2. Project, Digital Posters, Presentations 3. Case Study 4. Performance 5. Digital Portfolio 6. Exams built online: a. Open book – timed b. Randomized questions c. Randomized questions from a large pool d. Use multiple versions of an exam e. Randomized choices of answer f. Proctored exams	1. Word documents, WordPress, Padlet, Prezi 2. Project, Presentations and Digital Posters could be created in WordPress, Padlet, Prezi, PowerPoint, VoiceThread, Slack, ASANA, etc. 3. Case Study – Zotero, MindMapple, Paperity 4. Performance - Use VoiceThread, Ponapto, Youtube or Vimeo to upload or create videos 5. Portfolio tool in the LMS or other tools available to you 6. Exams built into the: a. LMS or AMS, Respondus Lockdown browser b. Plagiarism detecting software: SafeAssign, TurnItIn, iThenticate
Large Class Exams	1. Use Peer Grading/ Peer Assessments 2. Use Creative TA Grading	1. Blackboard/ Course Plus Grading systems. 2. Gradescope
Lab and Design Course Assessments		
Onsite Assessments	**Online Assessment Suggestions**	**Technology**
Lab work	1. Use virtual labs to replicate the assessment task and assess student performance 2. Use simulations and ask the students to evaluate or analyze them 3. Help students create: a. Presentations b. Performances	1. Check Labster for guidance 2. Catalogue or repository of simulations, assessments can be created in LMS, AMS, or uploaded as narratives and reflections, using Padlet, VoiceThread, etc. 3. Using available technology or open source technology: a. Presentations can be accomplished using Panopto, VoiceThread, Zoom, Prezi, etc. b. Performances can be uploaded to Youtube, Vimeo or the LMS using either recordings from a mobile device or by recording directly in Panopto or Zoom
Problem solving tasks	1. Give students options to create projects they have designed, using mind mapping tools or other technologies that prompt them to use creative approaches to their projects 2. Provide students with raw data and ask them to analyze them	1. Mind Mapping Tools such as Bubbles, Mindmeister, Vengage 2. SPSS, STATA, R, inVivo, Excel, etc.
Teamwork in problem-based learning	1. Create spaces using technology to connect and create group projects	1. Technology: Slack, Padlet, WordPress, etc.

Experiential Learning Course Assessments		
Onsite Assessments	**Online Assessment Suggestions**	**Technology**
Problem solving activity	1. Replicate activity within the LMS or other environments	1. Activities can be conducted using: a. LMS team space b. VoiceThread c. Social media space, Facebook, etc.
Reflective journals	1. Create a reflection space in the LMS or another space	1. Reflection could be created in the: a. LMS portfolio b. LMS team space c. Portfolio tool outside the LMS
Presentations / Reports	1. Presentations created using available technology and uploaded to a platform of their choice 2. Reports can be created using available tools and uploaded to the LMS or available platform	1. Presentations can be uploaded to Youtube, Vimeo, LMS and created using: a. PowerPoint b. VoiceThread c. Panopto, etc. 2. Reports can be created using: a. WordPress b. Padlet c. Word d. PowerPoint, etc.
Formative assessments	1. To gauge progress and learning, instructors can create activities and performances to assess learning and improve instruction: a. Performances b. Small assessments c. Presentations d. Activities e. Discussions	1. Exam and knowledge check tool in the LMS: a. Quiz and exam tools in the LMS b. Team space in the LMS c. Videos using VoiceThread d. Discussions using the discussion board in LMS, Pretzl, Piaza, etc.
Teamwork	1. Create team spaces online to facilitate team activities: a. Creating projects b. Collaborating on papers c. Creating presentations and performances	1. Team spaces can be facilitated in the LMS, in TEAMS, WordPress, Facebook, etc. 2. Teams can use the following to create their projects: a. Publishing tools b. Presentation tools
Peer group evaluations	1. Students can evaluate each others' work in the LMS. Feedback could be private through the team space or public on the discussion board	1. Use LMS team space or discussion board

Assessment Challenges Online and Proposed Solutions

Credit Bearing Online Courses Assessment Challenges	
Assessment Challenges	**Proposed Solutions**
Academic Integrity - Cheating is easier and hard to detect online	• Timed and open-book exams • Randomized questions from a large pool • Multiple versions of an exam • Randomized choices of answers • Plagiarism detecting software • Ask questions that cannot be gathered from Internet searches, questions that require opinions and analysis of content presented – Critical thinking, Synthesizing, analyzing • Assessments that are performance based that require the students to present to the class • Ask students to sign a document indicating that they will uphold academic integrity as they take each assessment • Proctored exams or lockdown browsers
Large Classes - Exam in a large class is a challenge	• One solution is having student grade each other (peer grading/peer assessment) • Creative use of TAs in grading • Use Gradescope
Need to purposefully create interactions between students	• Group projects • Peer reviewed work • Student-led discussions
Need to purposefully create interactions between instructor and students - Frequent assessment **for and of** learning	• Short frequent assessments to test knowledge and stay connected • Extensive, meaningful, timely and personalized feedback on all assessments • Use of office hours to create a dialogue with students and gauge their learning • Summary – explain the muddiest point • Response to emails in a timely manner as well as quality of the message • Respectful interactions, demonstrate concern for their progress and provide meaningful feedback for improvement • Encourage active learning – higher order learning
Students need more structure online	• Short frequent assessments to test knowledge to help them focus and stay on task – not helpful for synthesis and analysis • Pre-test as a diagnostic measure to assess student knowledge and tailor instruction to their needs • Break up large papers and projects into smaller deliverable milestones that will culminate into a final delivery of the assignment • Guide participations and discussions, it will encourage students to participate often and stay on task – keep grading weight to a minimum as it is not assessment but part of engagement • Post weekly announcements summarizing how they are doing and give them an anchor on where they are in the learning process
Performance assessment requires use of effective technology	• Help students create presentations or performances using available technology or open source technology • Create spaces using technology to connect and create group projects

	• Give students options to create projects using mind mapping tools or other technologies that prompt them to use creative approaches to their projects
Student expectations differ from f2f to online, they require more visual and interactive presentations online	• Add visuals to your assessments • Make assessments interactive • Generate tests that require: a. Creating images b. Identifying parts of images related to content c. Filling in answers based on hot spots on an image
Students with accommodations – Need print copies	• Mail copies to their space • Ensure they have access to printers
Lab and Design Course Assessments	
Assessment Challenges	**Proposed Solutions**
Hands-on Instruction: Students need to develop kinesthetic skills using tools, a task and assessment that are harder to replicate in the online environment	• Use Virtual labs to replicate the assessment task and assess student performance • Use simulation from open education resources and ask students to analyze processes, outcomes, research design, etc. • Help students create presentations or performances using available technology or open source technology • Create spaces using technology to connect and create group projects • Give students options to create projects using mind mapping tools or other technologies that prompt them to use creative approaches to their projects • Provide students with raw data and ask them to analyze them
Inquiry-based Instruction: Students are provided with materials and information but are given the freedom to design the experiment. Can be replicated and assessed online with some adjustments	
Discovery-process Instruction: Students are directed to solve a problem or come up with hypotheses to meet the stated outcome. Can be assessed online with adjustments	
Problem-based Learning: Requires students to engage in teamwork and are dependent on others on the team to solve the problem. Can be assessed online with adjustments	• Help students create presentations or performances using available technology or open source technology • Create spaces using technology to connect and create group projects • Give students options to create projects using mind mapping tools or other technologies that prompt them to use creative approaches to their projects

Experiential Learning Course Assessments	
Assessment Challenges	**Proposed Solutions**
Outcomes of experiential learning can be varied and unpredictable Students may choose to solve a problem differently Experiences and learning from the same event may differ between students Process and Product are both important - Each may require separate learning outcomes and criteria	• Give students the freedom to choose how their work will be evaluated. They can be part of creating the grading rubric • Ask students to create a reflective journal to document reflections on their experiences • Have students create a digital portfolio to showcase the best of their work • Students can create presentations and reports using available technology • Students can self-evaluate and reflect on their experiences and performance • Formative assessments in the form of short quizzes where students can evaluate their improvement and weaknesses • Instructor assesses the students learning orally, using a videoconferencing tool • Ask students to develop a project using lessons learned: Project could be individual or in teams • Peer group evaluation of the student's work

Assessment Types Using Bloom's Taxonomy

Bloom's Taxonomy	Question Type	Assessment Type
Remembering	Knowledge Question	• They are asked to define or recall information: a. Quiz b. Exam
Understanding	Comprehension Question	• They are asked to explain concepts: a. Paper b. Exam c. Quiz
Applying	Application Question	• They are asked to explain and apply knowledge: a. Paper b. Exam (open ended questions) c. Project d. Case Study
Analyzing	Analysis Question	• They are asked to compare and contrast concepts and situations: a. Paper b. Exam (open ended questions) c. Project d. Case Study
Evaluating	Synthesis Question	• They are asked to create artifacts that could have addressed the situation: a. Paper b. Project

		c. Case Study d. Presentation e. Performance
Creating	Evaluation Question	• They are asked to evaluate concepts and their effect on the larger situation: a. Paper b. Project c. Case Study d. Presentation e. Performance

APPENDIX A

Principles in Online Assessment

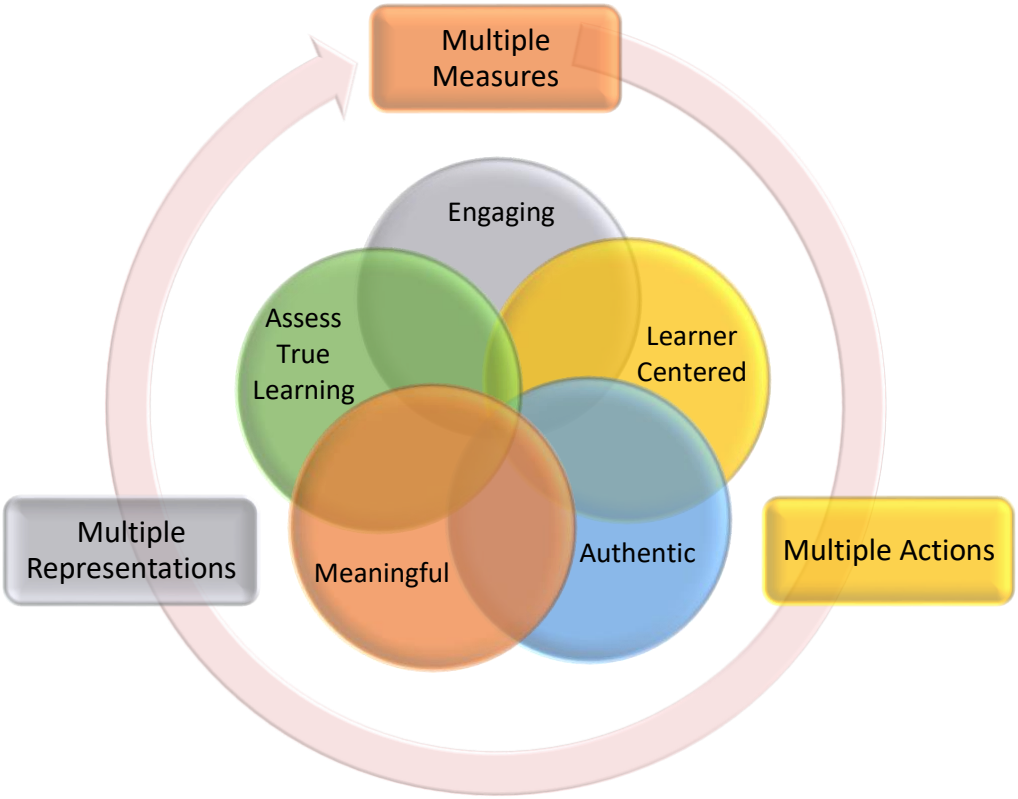

Figure 1. Framework for Online Assessments - Based on UDL, Best Practices in Online Learning, and Quality Matters

Assessments for online learning are grounded in teaching and learning theories, in addition they rely on a purposeful action to create community, engagement, and authenticity.

Core Values of Assessment

In the online space, assessments are:

1. Engaging: Assessments allow students to engage in the evaluation process in multiple ways.
2. Learner-Centered: Assessments are designed to meet students where they are in technology skills, learning preferences, and special needs. Assessments are based in constructivist approaches to learning.
3. Authentic: Assessments are grounded in actual contexts and linked to valid tasks.
4. Meaningful: Assessments are inquiry-based, involve problem solving, go beyond assessing items on a test to incorporate skills students need for lifelong learning.
5. Assessing True Learning:
    a. Align to Learning Outcomes

b. Use rubrics to assess learning
c. Assess at multiple stages of learning to acquire multiple measures of student growth

Assessment Delivery

For assessments to be true to student learning outcomes, they need to rely on multiple methods of assessments, such as diagnostic, formative, and summative. To that end, faculty need to assess prior to instruction as a diagnostic tool, during instruction as a formative tool to assess learning acquisition and use assessment as a guide for learning, and finally summative assessment to measure attained learning against stated program and course learning objectives.

Assessments Use:

1. Multiple Measures: Assessments measure the learning objectives multiple times to gauge learning and student growth.
2. Multiple Actions: Assessments allow students to demonstrate what they have learned by assessing the same outcomes in multiple ways, such as presentations, projects, knowledge checks, etc.
3. Multiple Representations: If at all possible, assessments are provided to the students in different formats as possible options, to meet specific student needs and situations.

References

Conrad, D, & Openo, J. (2018). *Assessment strategies for online learning: Engagement and authenticity*. Athabasca, Canada: AU Press.

Quality Matters (QM). (2018). *Course Development Rubric for Higher Education* (6th edition).