Teaching Tip Series

Assess Prior Knowledge to Support Student Learning

Students enter our classrooms with various levels of pre-existing knowledge, which can influence how they interpret and organize new information and how they engage in the learning process (Ambrose et al., 2010). As such, it's important for instructors to take steps to understand students' prior knowledge. Assessing students' prior knowledge will allow you to learn more about the diversity of experiences in your classroom, target knowledge gaps or misconceptions about course concepts, and create a bridge between students' previous knowledge and new material in your course. Assessing prior knowledge will also help you track students' learning across the semester. Here are a few suggestions for assessing the pre-existing knowledge of your students.

- Low-stakes assessments: You can give a low-stakes assessment near the beginning of the semester or before you begin new units to determine the level of knowledge they already possess. You can have students take a multiple-choice quiz, complete a few short-answer questions, or have them write a short essay that examines knowledge of concepts and terms students need to know.
- Self-reflection: You can assess students' prior knowledge by providing them with anonymous opportunities to assess their own knowledge and skills. Include questions that focus on the prerequisite skills that students need to be successful in your course as well as the knowledge you expect students to leave the course with. See the page below for a sample activity for students to complete at the beginning of the semester or module.
- Concept maps: Concept maps can help to assess your students' knowledge of the relationships between concepts and ideas in your course. Students can also return to these maps as the course progresses to integrate their developing knowledge with their pre-existing knowledge. Mindmeister and Popplet are two free, easy-to-use tools for creating concept maps.

When using background knowledge assessments, make sure that students know these assessments will not be graded and that they are intended to provide you with an overall idea of the range of knowledge students have as a whole. Feedback from these instruments will help you to direct students to supplemental materials and to plan appropriate instructional activities that will enhance student learning.

References

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). How learning works: Seven research-based principles for smart teaching. Hoboken, NJ: John Wiley & Sons

Colleen Davy I cd3082@columbia.edu
Delores Amorelli I da2711@columbia.edu
Naureen Madhani | nm2628@columbia.edu
Zach Kornhauser I zk2124@columbia.edu

Sample Self-Reflection of Content Knowledge

Please reflect on the extent to which you are able to answer each of the following questions. (Please note that you are not being asked to answer the questions, but simply reflect on how well you are able to answer each question.)

	I am not familiar with the content of this question	I cannot answer the question, but I know how to find the answer	I know the answer to this question	I know the answer to this question, and I can provide at least one example	I know this well enough to teach my classmates about it.
What is the difference between outputs, outcomes, and impacts?	○	○	○	○	○
What is the difference between formative and summative evaluation?	○	○	○	○	○
Describe ways to engage stakeholders in program evaluation	○	○	○	○	○