

Summary:

How people learn framework highlights four overlapping lenses for creating and developing effective learning environments, namely (1) learner centered, (2) knowledge centered, (3) assessment centered and (4) community centered. In order to prepare engineering graduates to address the grand engineering challenges of the 21st century, faculty and curriculum designers should take into account the type of knowledge, skills and attitude that students require to be successful practitioners. To operationalize the engineering content knowledge in the form of a syllabus for a particular course, instructors can formulate their goals and learning objectives with the help of learning taxonomies, e.g. Bloom's taxonomy. To effectively monitor students' progress and recalibrate their teaching strategy if necessary, instructors' can use various assessment strategies in the form of formative assessments. Instructors should consciously maintain the alignment between their learning objectives and the appropriate assessments. Their instructional approach should take into account the needs and motivation of their learners. Being familiar with principles of adult learning can assist instructors to design suitable learning interventions. To foster critical thinking and problem solving, inquiry based learning models can be used. This type of learning models can utilize cooperative learning techniques such as think-pair-share, and effectively use technology as a cognitive tool in the form of video vignettes. Thus, amongst several factors, adopting an integrated and holistic approach wherein the learning objectives, the instructional activities and the assessments are aligned to each other contribute to the design of effective learning environments. Finally, taking into account how people learn can enhance student learning, engagement and motivation.

References:

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