
RE-IMAGINING ASSESSMENT IN A PHYSICS COURSE FOR AVIATION STUDENTS

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SUBTHEME: Assessment

CHALLENGES

The traditional physics-centric assessment approaches that have been used in our Aviation Physics course are not as authentic or relevant as they should be for the cohort of Aviation students. Final examinations can be a stressful experience for many, with questions frequently left unanswered, and quiz assessments take up valuable interactive workshop time or present academic integrity issues where online quizzes are used.

ACTIONS

A group interactive oral assessment was used in place of the final exam. This assessment comprised two sub-components: a group activity where students worked collaboratively at a whiteboard to solve a set of problems, and an individual oral contribution where each student was asked follow-up questions about the problem or the group solution. The quiz assessments were replaced with a set of oral contribution activities, spread throughout the teaching period, that were undertaken during interactive workshop classes that utilise small group whiteboard problem solving. For each oral contribution, one student from the group answered questions about the physics concepts involved in, or the solution to, the problem. Assessment questions were redesigned so that there is a more direct link to the use and application of physics concepts and principles to aircraft and aviation.

OUTCOMES

The increased interactivity, relevance, and authenticity of the assessments helped lift engagement and pass rates within the course. The interactive nature of the assessments facilitated weaker students to more effectively demonstrate their learning and more immediately address their learning gaps. The interactive workshop activities, and contribution assessments within, provided students with ample experience with the assessment format, with additional serendipitous benefits of enhancing attendance and engagement rates, and reducing the apparent anxiety students displayed towards the final group interactive oral assessment.

REFLECTIONS

The switch to solving aviation-related problems in a small group environment has improved the relevance and authenticity of the assessment for aviation students; emulating the interactive problem-solving and calculation cross-checking behaviours that are utilised in a multi-crew flight deck environment. Students seemed to prefer the interactive style of assessments, as opposed to an imagined test or exam scenario, appreciating the immediacy of discussion and feedback that the oral assessments provided. Program and academic leadership were happy that the switch in assessment resulted in positive changes to engagement and student performance.