MY EXPERIENCE WITH ‘UNGRADING’ A LARGE FIRST-YEAR PHYSICS COURSE

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The COVID-19 pandemic gave us an opportunity to rethink assessment. At the University of New South Wales (UNSW) pass/fail grading, which was retired in the 1970s, was brought back as an option for courses. In this grading scheme students do not get a mark, they get SY if they are successful or FL if they do not meet the requirements. Another change that occurred in the wake of the pandemic were that large courses (over 400) were no longer allowed end of term invigilated exams. The pandemic occurred the year after UNSW had moved to a three-term calendar, significantly reducing time between terms, hence making marking exams and running supplementary exams a challenge.

In response to these factors, I have changed the way we assess students in Physics 1A. Physics 1A is a large, 1700 students per year, introductory physics course that caters predominantly for engineering and science students. In 2020, the course adopted pass/fail grading with no other changes, apart from no invigilation, to the assessment structure: tests, labs and a final exam. In 2023, when we could expect students to be on campus, the assessment structure was changed to comprise of three hurdle tasks: two invigilated tests, and lab, with pass/fail grading remaining in place. The students could attempt the tests up to three times as they gained understanding. The students sit the tests online in the first-year physics laboratory, the automatic marking of the tests means that this new model does not have an adverse impact on staff workloads.

My pedagogical reasoning behind these changes to assessment is that students have been trained through high school to measure their academic success through the grades that they receive. There is increasing evidence that a fixed mindset, where students believe that grades measure how smart they are, gets in the way of learning and growth (Fernandez, 2021). There is also evidence that grades in first-year physics are predominantly a measure of privilege (Salehi et. al., 2019). Students who enter university well prepared by good high school teachers, and who consequently scored well in Higher School Certificate physics and mathematics, obtain higher grades in our courses and at similar courses in other institutes. Good assessment should give students a chance to learn from their mistakes. In this model students can practice the questions in advance, they are pulled from a large bank of over 200 three-part questions for the course, receiving constructive feedback on their attempts. If they do not pass the test the first or second time, they have at least one week to study before re-attempting it. The invigilation discourages students from applying academically dishonest assessment practices and teaches them good study habits in their first year. My experience introducing this change has been over-whelming positive: positive feedback from students in end of term surveys and during term from course representatives; a high level of student engagement with the formative tasks and forums; students are still achieving high scores on the summative tests (even though only a pass is required); no cases referred to the misconduct unit; and a lower workload for staff. I plan to roll out this same model to other first-year courses.

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