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Abstract 2C

Positively changing student perceptions of their role in lectures

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A number of successful teaching innovations such as Peer Instruction, the Khan Academy and Flip Teaching rely on reversing the typical instructional design ordering. Instead of introducing material in lectures, these innovations place the responsibility for initial acquisition on the students prior to class; instead of deepening understanding through follow-up self-study activities such as reading, tutorial questions, and essay writing, such deepening takes place during lectures, with student debate and discussion at their core. The role of the teacher in class is less as a subject instructor and more as a facilitator of learning and exploration, who also happens to be in mastery of the subject; and the role of the student in class changes from passive observer to engaged, questioning student/apprentice.

This paper presents three different courses led by the authors where this reversed design has been adopted: a 500-participant general education course in computational thinking, an introduction to programming with 160 students, and an Honours computer security module with 40. The first two courses focus on skill development, the latter on developing a deep understanding of challenging security concepts. This spread suggests the design is flexible across class size and learning outcomes. The course designs have used voting handsets to varying degrees – a useful, but not essential, part of the model.

In all three courses, students commented on their role within the lecture sessions in these courses compared to more traditional courses. Their comments highlight: increased responsibility for their learning; greater ability to assess their progress; and significantly increased engagement with the on-going learning process.

We will present an overview of the courses and analyse the effort required to design and present a course in this format. Crucially, we will explore the student viewpoint on their role as a learner in these and other courses.

Outcomes

- appreciate and apply the structure of a novel instructional design amenable to the majority of courses; - find the underpinning literature supporting the instructional design; - have confidence in choosing to apply this method on the basis of staff and student feedback.