Teaching Ethics by Adopting a Role-play, Scenario-based Learning Approach for an Authentic Learning Experience

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Extended Abstract

Introduction
This study examines the effectiveness of adopting and implementing a role-play/scenario-based learning approach in the module EG2401 “Engineering Professionalism” to fulfil its learning outcomes, which is to communicate ethical principles to students taking the module and in doing so, enable them to form a solid ethical framework which is essential for the authentic learning of engineering ethics. As a form of simulation activity that aims to teach through experimental learning, these approaches immerse its participants in the imposed responsibilities and duties of their selected roles, in order to put learnt material into practice and to develop a solid basis for discussion. Such active learning approaches differ from conventional lecture-style approaches, where students tend to be more passive learners, taking down information without comprehension. These activities endeavour to actively engage the students and increase interaction. In this project, we delved into the efficacy of these methods by evaluating their ability to capture students’ attention as well as their educational value. Role-play/scenario-based learning approaches have proven themselves to be valuable in helping educators achieve the learning outcomes in their courses, supporting the widespread positive advocating of active learning methods.

Implementation Methodology
The implementation of this approach in the EG2401 tutorial context (total of 21 students) made use of a two-part process. For the first part of the process, I designed and developed a relevant script for the activity. The script to be created had to represent potential ethical scenarios students may face during their professional careers. This is a key element as it forms the basis of the post-activity discussion to be undertaken by the students, and hence the outcomes of these scenarios may be appropriately left open-ended for optimal engagement; in fact, students would be encouraged to attempt a possible continuation of the scenario beyond the script. This was then followed by the enactment of these scenarios in class, along with any required script continuations. The enacting of the script was followed by the rest of the class having to identify the relevant ethical context being depicted and engaging in an open-ended discussion and arriving at possible/probable conclusions that may be derived from the script. These enactments were filmed in preparation of the next part of the process,

which would be dealt with at a later stage and would involve preparation of an educational video and using those videos to implement and incorporate the flipped teaching concept during subsequent tutorials.

**Student’s Assessment of the Technique Implemented**

The efficacy of the methods that were put in place were then evaluated on the basis of three premises: the level of student engagement, the level of argument/open-ended discussion, as well as its ability to provide the students with an authentic, relevant and active learning environment. These were measured by evaluating the student feedback (both qualitative and quantitative) as well as the instructor’s reflections about the activity.

**Student Learning Outcomes Achieved**

Through the analysis of these materials and in particular the student feedback, it was found that the techniques used elicited positive responses with regards to both student interest as well as the activity’s perceived educational value. Both quantitative and qualitative responses were sought from the students at the end of the exercise. Although some students stated that they found the integration of both traditional lecture-based learning with a role-play/scenario-based learning approaches to be beneficial, interestingly, many also opined that this technique may and should replace the traditional lecture-based teaching approach for a more authentic learning of engineering ethics. The study showed positive student reaction to the novel approach, with students indicating that they found these methods interesting and would recommend them for relevant courses in future.

**Future Directions**

These enactments could be converted into educational videos and cartoons with the help of the relevant professionals. These videos could then be used as the foundation for active learning through two methods: either by having students watch the videos and take part in a tutorial discussion incorporating the flipped classroom mode, or by enacting the video in class and having either direct or indirect student participation. With this in mind, a future project could seek to determine the optimal balance between these approaches in order to achieve students’ maximum learning potential. Increasingly open-ended or perhaps even entirely unscripted and impromptu scenarios, could be employed in future discussions to allow students to perform and learn without the aid of a pre-set script. Such projects should also address the issue of students’ misplaced focus on other aspects of the course, such as script memorisation etc., and allow for greater concentration on the intended task.

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References


