Learning Teaching & Assessment Resources

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Authentic Assessment Exemplar:

Assessment Title	Design and Build of task-based robotic vehicles
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Module Title that Assessment Delivered on	Engineering Design 2
Primary Student Cohort (Year on Programme / FT or PT or Both / UG or PG or AP	

Overview of Assessment (Max 100 words)

This problem based learning module gives students, working in small teams, an experience of working on an authentic engineering challenge where they must follow a systematic process to design, manufacture, debug and test a small robotic device to complete a specific task. Previous examples include Jenga block dispensers, pipe crawlers and delivery robots. Students must complete intermediate, formative milestones and the overall project within a strict timeframe, meet a particular budget and must document their activities and individual contributions in various formats during the project. In parallel to core technical skills students develop several transversal skills in completing this project.

What Change was Made to Assessment to Enhance its Authenticity? (Max 100 words)

Significant changes, inspired by the increasing availability of design software repositories and a desire to make the assessments more authentic, were made to this module in 2017. The key changes include:

- Students must engage in actually manufacturing their designs. Each robot must include parts made using a prescribed list of manufacturing process.
- Robots must be debugged and tested according to the set criteria.
- Students get advice from electrical engineering students working in a consulting style role.

Additional details summarising the changes can be found at: https://doi.org/10.21427/3r4d-jx53

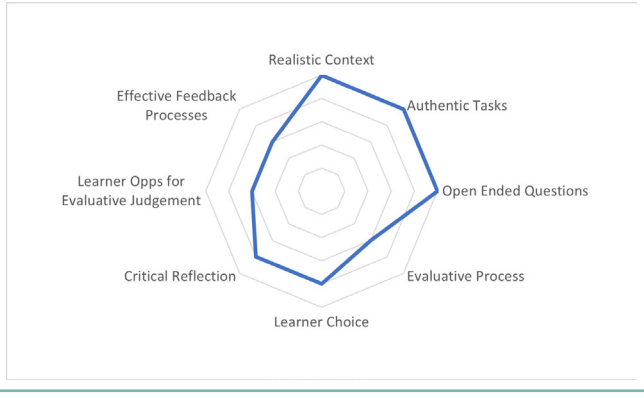
What was the Impact on Student Engagement / Performance? (Max 100 words)

There has been a noticeable increase in the engagement of students taking this module. They have an increased appreciation of how difficult it is to actually manufacture and debug their designs. Students have gained an increased understanding of how different modules relate to each other. Lecturers on other modules sequence the delivery of content to reinforce key engineering concepts. Mechanical students learn to quickly distil and explain project requirements to the electrical engineering students who are consulting for them. Students learn to critique work submitted by the electrical students and then implement what they consider to be an optimised solution.

One Thing you would do Differently Next Time (Max 50 words)

Future changes are planned based on making the module even more authentic based upon changes in technology.

Authenticity Indicators



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