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Redesign of the assessment materials for the Module EE3517 Medical Imaging Modalities

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Background:

Medical Imaging Modalities is a third-year module for the students of Biomedical Engineering. As a final year module, the content is more advanced and assumes previous knowledge in Physics, Mathematics and Computing, and the activities include laboratories where the students engage directly in hands-on experience. The students not only reinforce the theory behind the experiments, but also develop skills that would later in life be a valuable asset in their careers.

Laboratory Assessment:

The laboratory materials were to be followed by the students, and when finished, a report should be submitted by the end of the term. This was marked and returned several weeks later. MEQs would highlight, on one hand, that students liked the module and the lectures, and on the other, that they disliked considerably the laboratories. Whilst the laboratories tried to engage students in active behaviour, which is generally aimed as a key element of learning (Biggs and Tang, 2007), the structure of the labs was too rigid to provide autonomy for the students as they found the labs boring as they were copying and pasting commands.

Redesign of the Laboratory Assessment:

Instead of delaying the assessment until the end of term, a quiz to examine the exercises developed by the students was assigned every week. Instead of the report, in each session the students would assess their learning through the quiz and would be able to receive immediate feedback. A system of multiple option questions, with a single correct answer, posed a challenge which required students to combine concepts and experience with practical experimentation as described in the seminal work of Kolb (Kolb, 1984). In addition, the reflective observation process (Kolb, 1984) was initiated after submitting the quizzes as feedback was provided immediately.

Results:

The redesigned laboratory assessment was well received as shown by MEQ scores and comments and made marking quicker and easier. Online quizzes are now considered a “tried and tested” activity, which are preferred by staff with limited time, resources and support (Graham and Crawley, 2010).

References

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