DIGITAL OPEN BADGES AT GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Designing, implementing and investigating the impact of

DIGITAL OPEN BADGES

On a Civil Engineering Degree at GMIT by Dr Wayne Gibbons

Digital open badges are a relatively new arrival in higher education. Essentially, they are a communication device, which the earner can use to verify achievements and behaviours.

In a recent doctoral study at the Galway-Mayo Institute of Technology, the use of digital open badges to increase student engagement and motivation was investigated. These are two factors which influence student retention.

The findings of the study show that stakeholders are positive towards the use of digital open badges, and that the badges play multiple roles in enhancing the learner experience. 3 types of badge are highlighted as important for broader implementation.

The Problem

Increasing student retention is a key aim in higher education. Retention, however, is a complex issue involving many factors. Most of these factors are outside the control of lecturers. However, lecturers can influence student engagement and motivation: two of the factors involved in retention.

The doctoral study investigated the design, implementation and impact of digital open badges on a Civil Engineering degree. The intention was that the digital open badges would increase first-year student engagement and motivation.

The Research

A mixed-methods approach was adopted for the case study. This involved interviews, surveys and learning journals with students, plus interviews with other key stakeholders: lecturing staff, institute management and an employer.

The initial output from this was the development of a suite of digital open badges to be used at the implementation stage. This 'Starter Pack' was designed to recognise and reward high achievement in assessments, academic improvement, self-directed peer learning, mentoring and 100% attendance.

The Findings

The 'Starter Pack' suite of badges was implemented in 2017/18 on the 1st Year "Computer Aided Design" module. Students were able to earn the badges for a variety of activities/behaviours.

• 13 roles for digital open badges were identified by the stakeholders.

• 7 enablers for participation in the scheme were identified, which provides a framework for successful digital open badge scheme design and implementation.

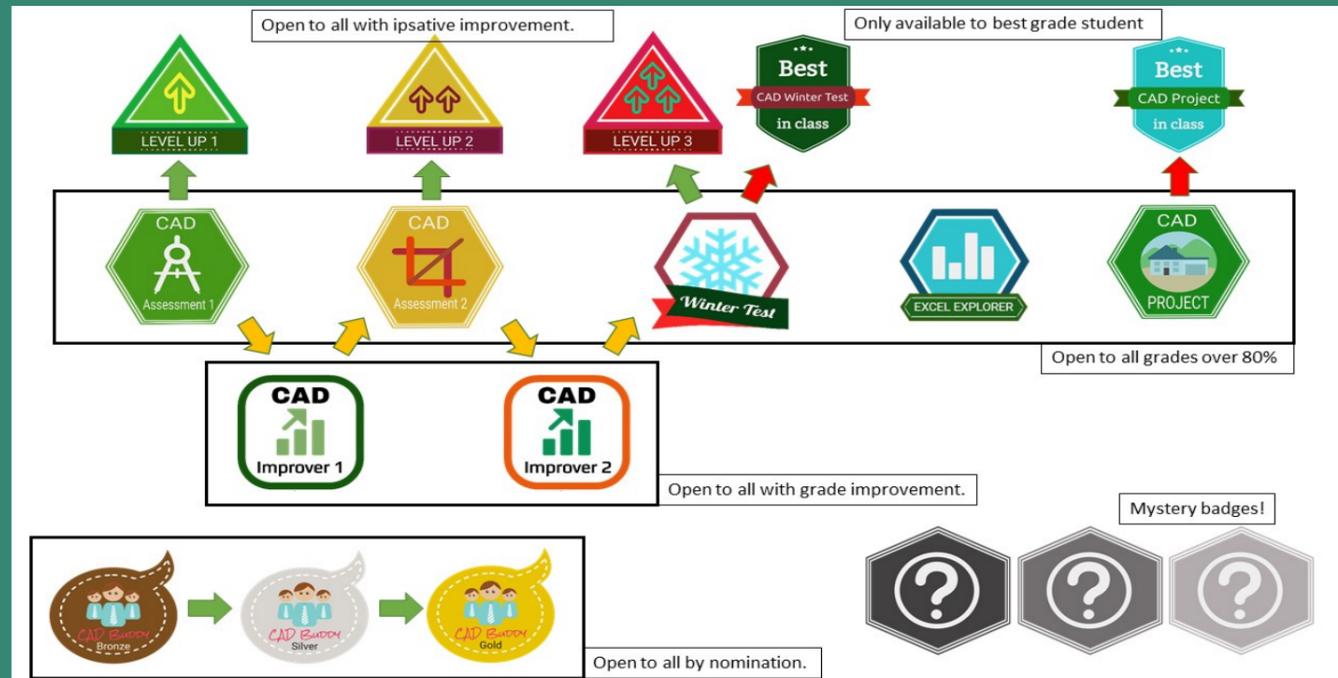• 86% of the students said that they liked earning the digital open badges.

• A statistically significant increase in motivation due to interest/enjoyment emerged from the data.

• Students reported changing behaviour as a result of badge availability.

Open to all with ipsative improvement.

Only available to best grade student

LEVEL UP 1 — LEVEL UP 2 — LEVEL UP 3

Best CAD Winter Test in class

Best CAD Project in class

CAD Assessment 1 — CAD Assessment 2 — Winter Test — EXCEL EXPLORER — CAD PROJECT

Open to all grades over 80%

CAD Improver 1 — CAD Improver 2

Open to all with grade improvement.

Mystery badges!

CAD Buddy Bronze — CAD Buddy Silver — CAD Buddy Gold

Open to all by nomination.

3 Key Badge-types To Consider For Broader Future Implementation

CAD Buddy Gold

'Buddy' badges are available through student nomination, to reward peer-learning. Students value this as a way to recognise and reward helpful classmates. The employer values this as it marks respect from peers: a quality desirable in potential graduate employees. Earners of this badge demonstrated mentoring skills, which are a positive addition to the learning environment.

LEVEL UP 1

'Level-up' badges are available to students taking on optional extra work to improve their CAD skills. To earn this badge, a student must make a second (non-graded) attempt at an assessment which is better than their first (graded) attempt. The employer values this type of badge, as it indicates that the earner is self-motivated to improve their performance at tasks, having recognised a weakness.

100% ATTENDANCE RECORD SEMESTER 1 CAD MODULE 2017/18
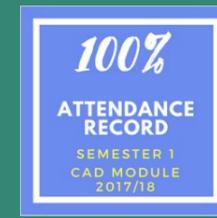
'100% Attendance' badges are available for full attendance in Semester 1, Semester 2 and across the full academic year. Students reported changing their behaviour (to come to class) due to the availability of this type of badge. The Institute Manager values this badge, as it provides an incentive and a positive vehicle for discussing the value of attendance with students and staff.

The 13 Roles Identified For Badges

1. increases engagement and motivation (e.g. the students indicated that the 100% Attendance badge encourages attendance, and that the reward of badges for assessment performance motivates to increase effort to obtain them)
2. maps progress (e.g. badges issued for assessment performance and levelling-up, which the students view as useful for self and other consumers)
3. generates interest in the module (e.g. the 'Mystery' badges added intrigue)
4. reassures ability (e.g. the 'CAD Buddy' badges reassure the earner that they are able to use the software well enough to help their classmates)
5. indicates potential to perform better (e.g. the 'Improver' badges signal an increase in ability which the students said would encourage them to maintain effort)
6. proves capability in areas that a grade cannot capture (e.g. the 'CAD Buddy' badge is seen by the students as demonstration of communications, teamwork and mentoring abilities)
7. signifies prestige (e.g. where a badge is awarded to a small number of recipients)
8. proves reliability (e.g. the '100% Attendance' badge is seen as verification of commitment and engagement)
9. marks respect from peers (e.g. receiving a nomination for a 'CAD Buddy' badge is seen as a mark of respect by the students)
10. encourages altruism (e.g. the willingness to help classmates is encouraged by the 'CAD Buddy' badge)
11. provides a confidence boost (e.g. the students provide many examples of where receiving a digital open badge has given them a confidence boost, particularly in relation to performance in assessments)
12. vehicle for cultural change (e.g. the badges for attendance in particular)
13. preparedness for continual professional development (e.g. the self-reflection needed to earn the 'Level-up' badges)