



A new review of badge success

A retrospective on the impact of digital open badges on a Civil Engineering degree at the Atlantic Technological University, Galway, Ireland.

Dr Wayne Gibbons

T&L Centre Presentation December 2022



Context for the study

Year 1 Computer Aided Design module is considered difficult

Year 1 student experience can be tough for students

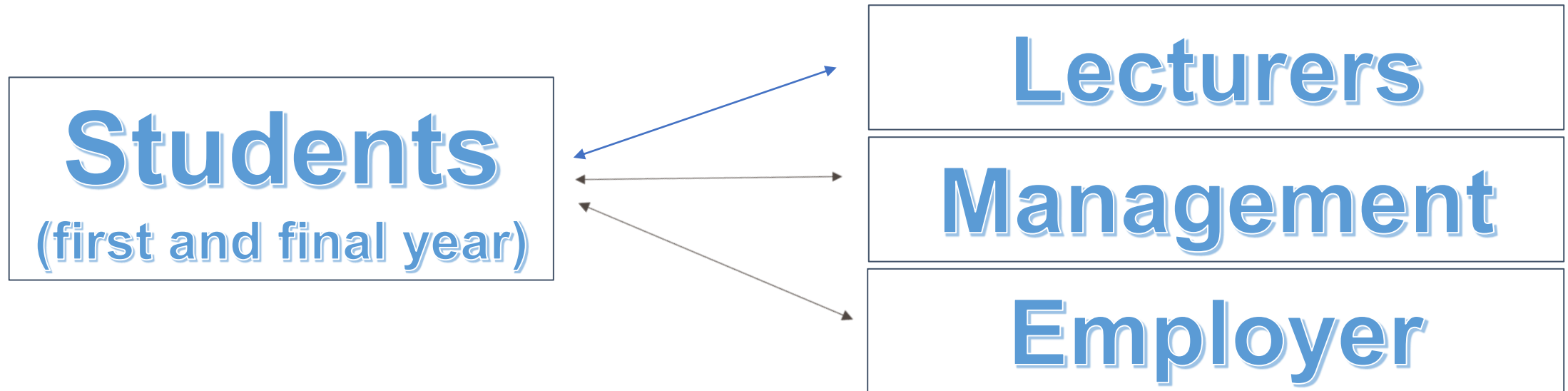
Historically the Civil Engineering degree had lower than desired retention rates

The institute management called for new approaches to increasing retention

How the project was developed

A mixed-methods approach, within a framework of action research, over 2 phases.

Phase 1 addressed the perception of digital badges from 4 key stakeholders



Phase 2



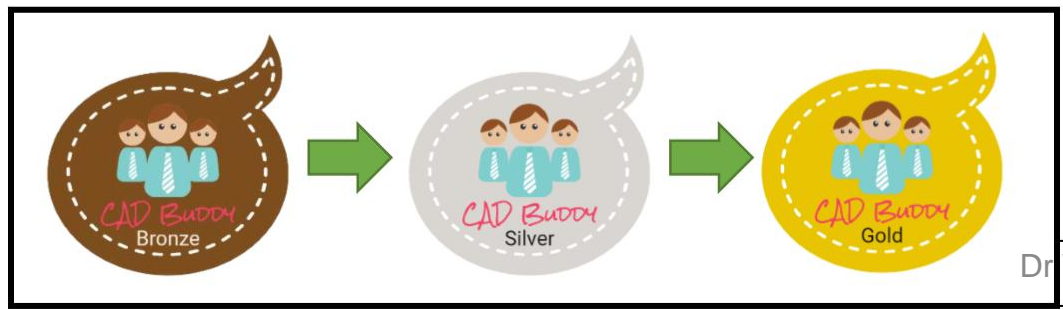
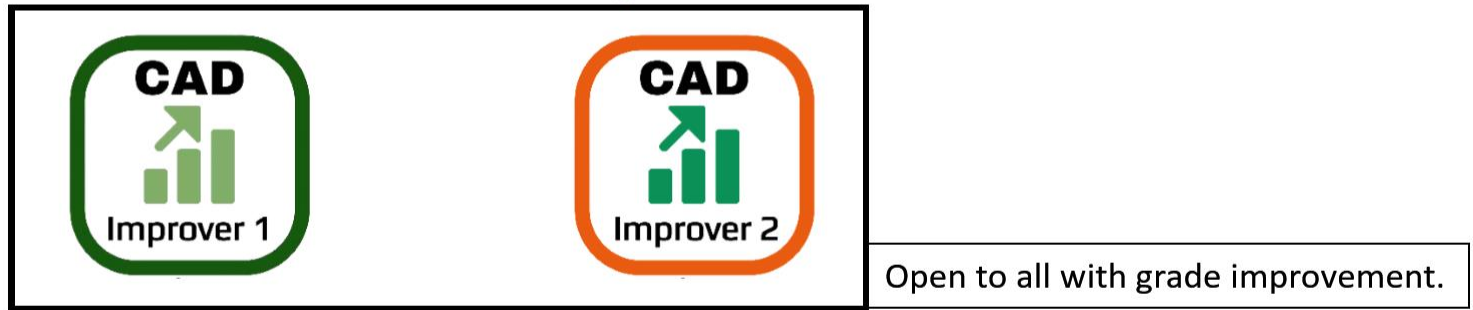
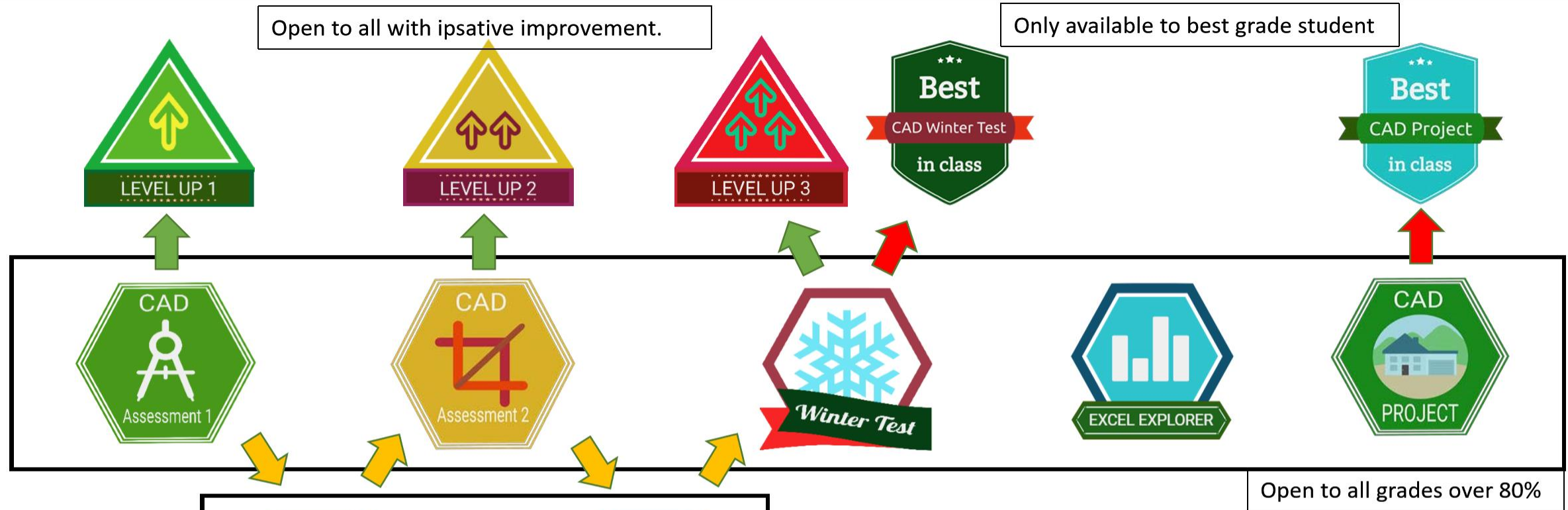
Focus shifted to the implementation and investigation of the impact of the badges



The basis for this was the badge 'pack' that was developed in response to the Phase 1 findings and the literature review



Phase 2 focussed on Year 1 students, to measure impact over one academic year



The impact of this work

The impact of this work within the course

Added novelty and intrigue

The impact of this work within the course

Promoted altruism

The impact of this work within the course

Inspired cultural change

The impact of this work within the course

Provided encouragement
and confidence

The impact of this work within the course

Inspired peer learning activity

The impact of this work within the course

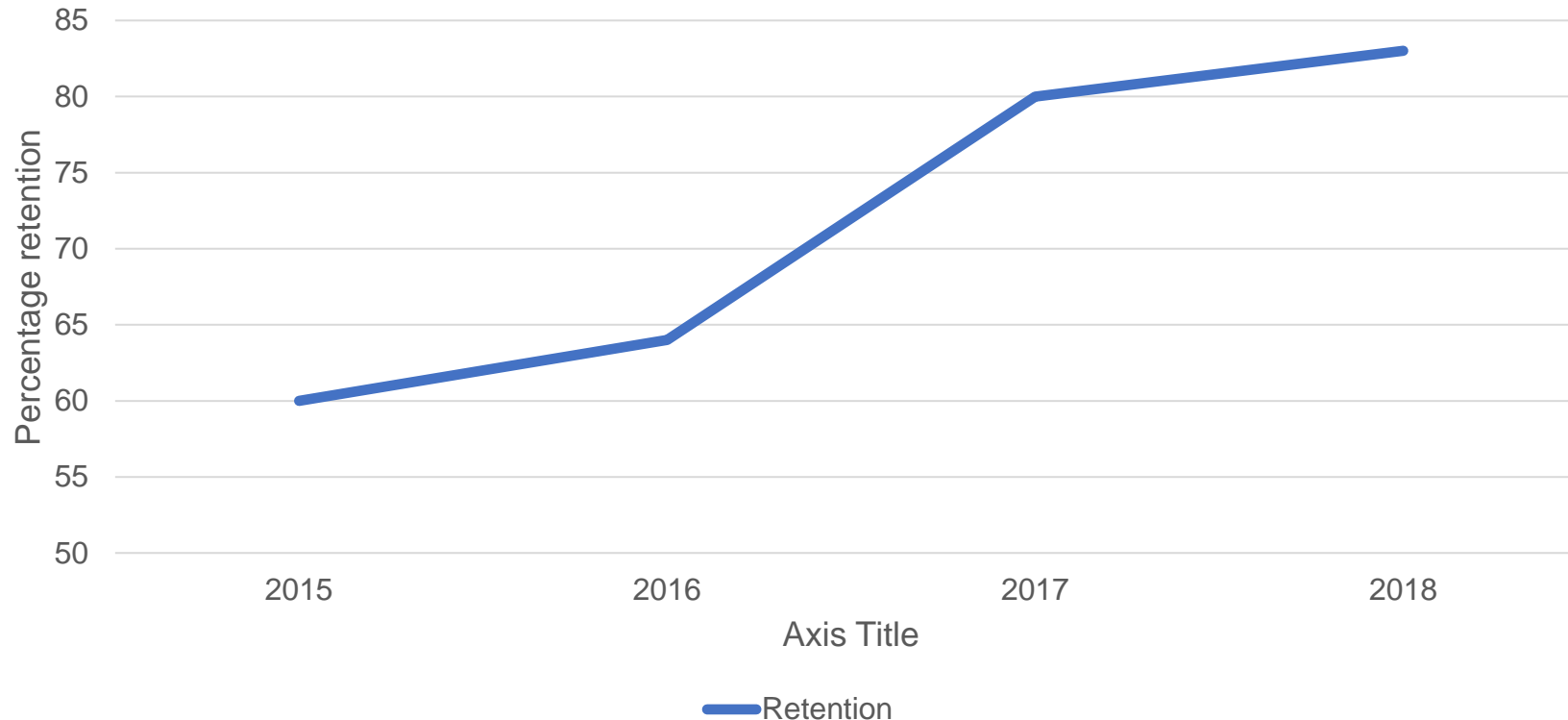
Provided links to employability

The impact of this work within the course

Increased engagement
and motivation

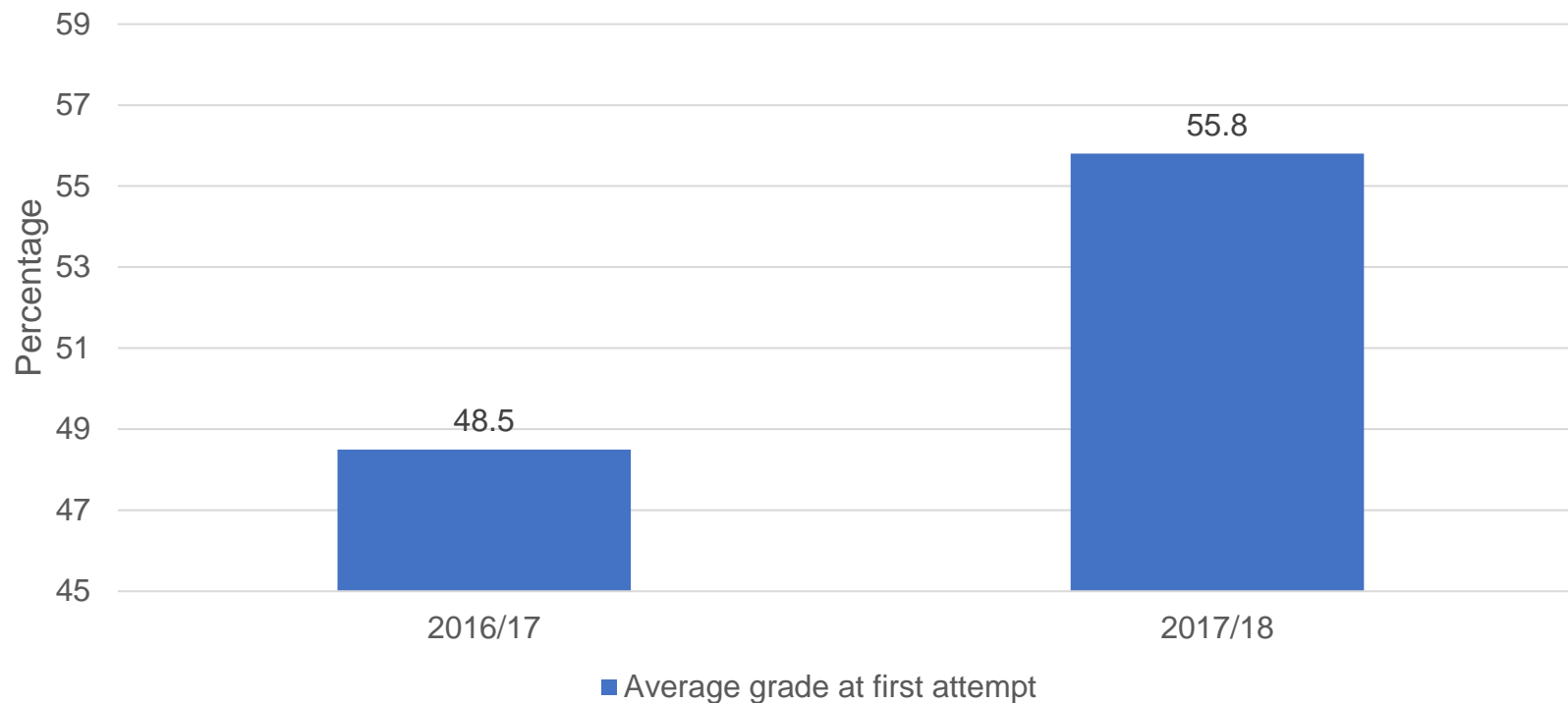
The impact of this work within the course

Increased retention



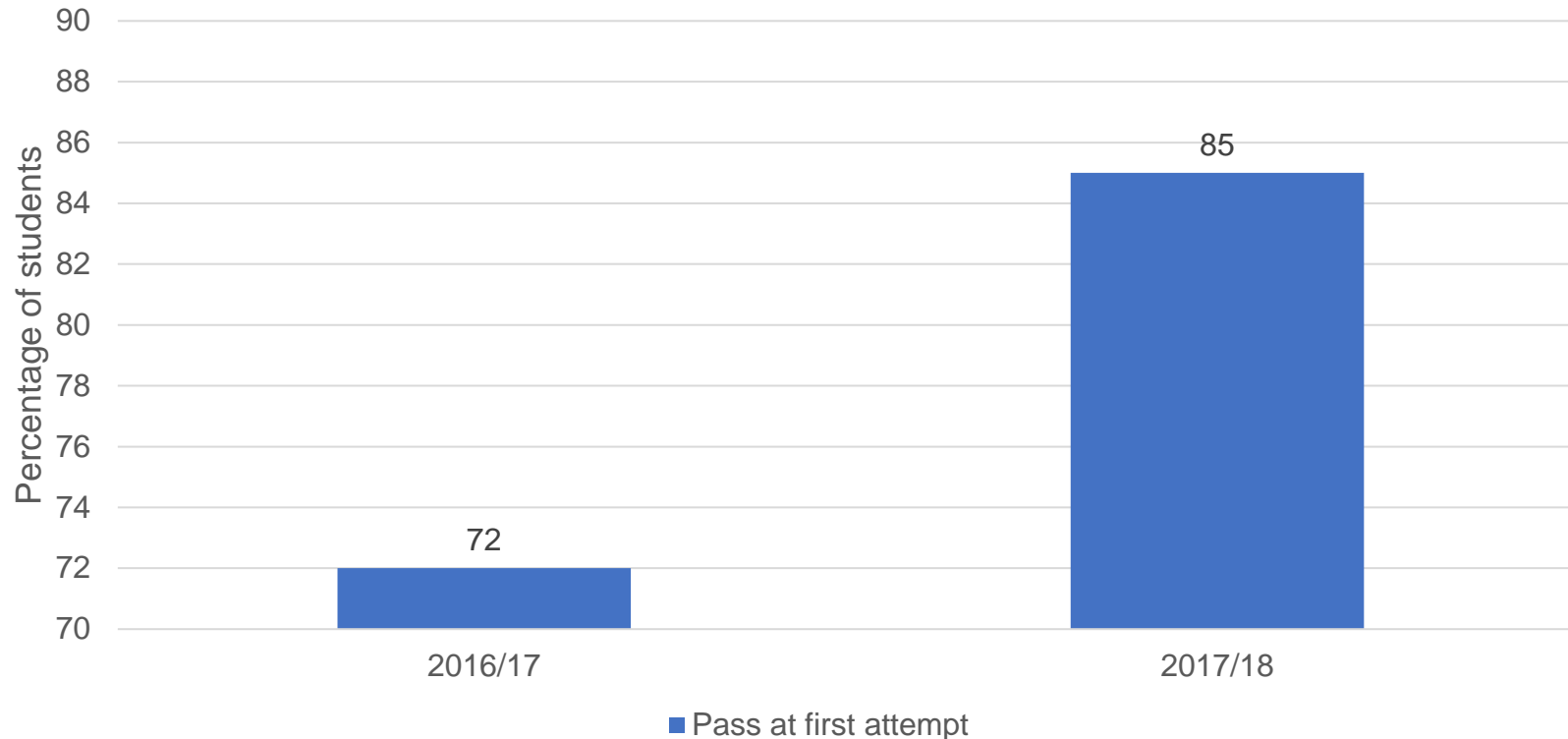
The impact of this work within the course

Increased grades



The impact of this work within the course

Increased pass rate





What others can learn from this project

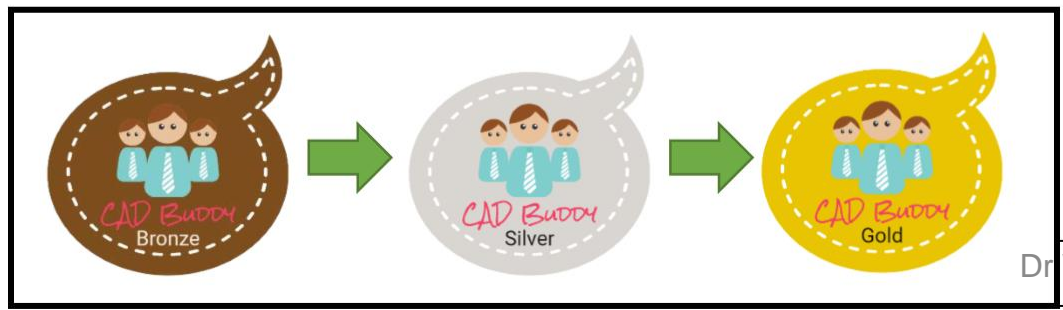
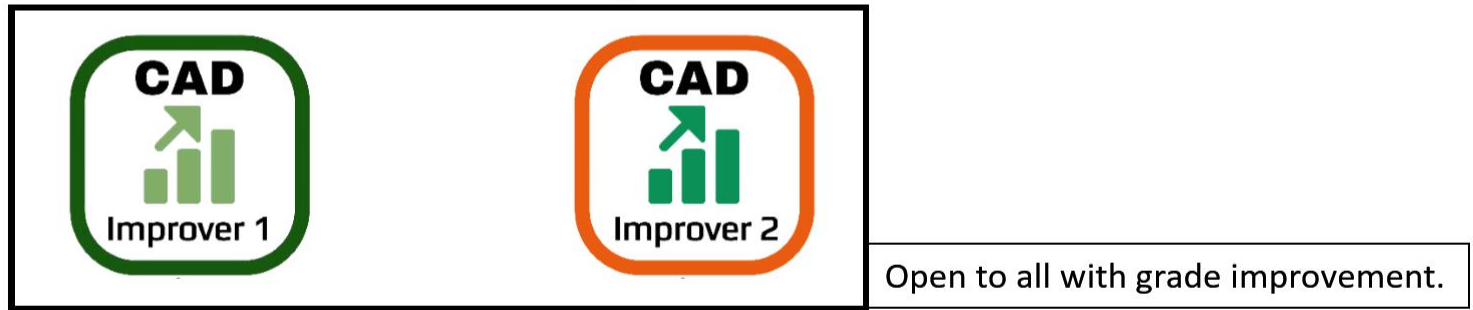
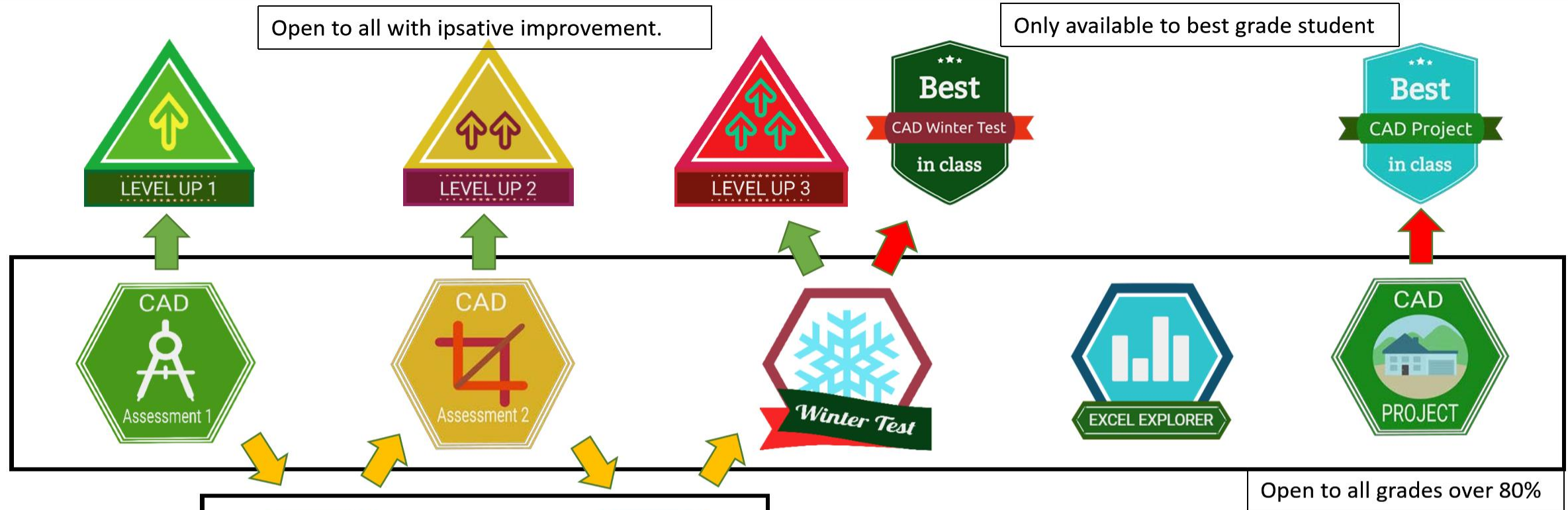
Quite simply, a proven framework for designing and developing open badges.

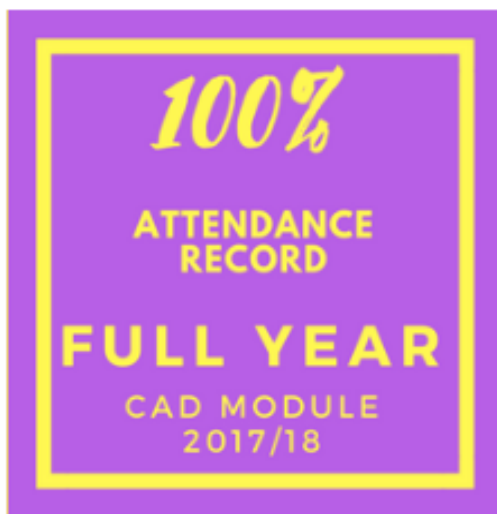
Seven enablers have been identified as vital for successful design and implementation.

Evidence that open badges can work to increase engagement, motivation, enjoyment, peer learning, grades and retention.....the difference this project has made is being replicated by others already.

1. Consultation with all stakeholders at design stage
2. Consultation with students before and after implementation
3. Ensure all students have opportunity to obtain at least some digital open badges
4. Allow students to make peer nominations for badge award
5. Include a variety of ways that badges can be earned
6. Afford control to the students
7. Review and modify as required

Enablers of participation





100% ATTENDANCE ALL YEAR

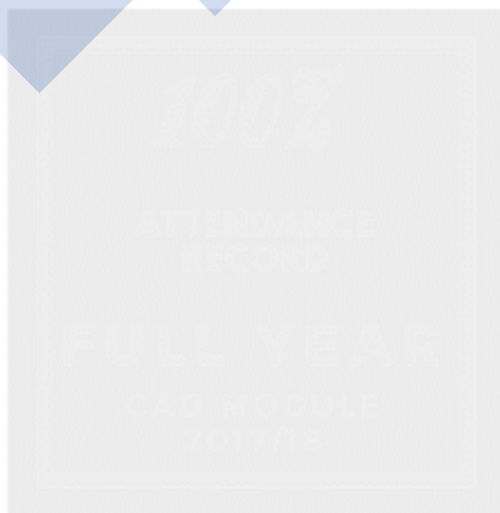
This badge is awarded for 100% attendance over the whole academic year in the Computer Aided Design module in Year 1 of the Civil Engineering degree at the Galway-Mayo Institute of Technology.

#cad

In most cases there is a close correlation between attendance at a module and subsequently passing that module.

Over the full academic year, students will have received a maximum of 78 hours class contact time (tutorials, lectures) and training on how to use AutoCAD. To maximise learning, a good attendance is essential. In addition, self-directed and peer learning will have taken place outside of class contact hours.

To earn this badge, the student has attended 100% of the classes for CAD over the entire academic year. This demonstrates an excellent level of discipline and commitment, both of which are desirable traits not only in student-life, but in the broader community of practice as well.



100% ATTENDANCE ALL YEAR

‘We have some very good students who are going to pass anyway. But had they actually been attending, they would have been a **very good support** to everybody else, and maybe challenge the lecturers a bit ...which would help the whole class learn.’
(Institute manager)

To earn this badge, the student has attended 100% of the classes for CAD over the entire academic year. This demonstrates an excellent level of discipline and commitment, both of which are desirable traits not only in student-life, but in the broader community of practice as well.



LEVEL UP 1

This badge is awarded for engaging with skills mastery in the first assessment on the Computer Aided Design module in Year 1 of the Degree in Civil Engineering at the Galway-Mayo Institute of Technology.

To earn this badge, the recipient undertook extra work to improve on their performance in the first assessment in the CAD module. The extra work took the form of a second attempt at the assessment test, which measured the following aspects:

- correct selection of drawing template
- correct drawing management
- use of absolute, relative, polar and tracking co-ordinates
- ability to draw basic shapes (lines, arcs)
- ability to draw and edit polylines
- ability to correctly select appropriate layer

No change in grade is associated with this badge (the student's first attempt is the official grade awarded as it was obtained in an exam situation). However, the earner of this badge has shown that they are motivated to improve their CAD skills even where grade reward is not available.



LEVEL UP 1

This badge is awarded for engaging with skills mastery in the first assessment on the Computer Aided Design module in Year 1 of the Degree in Mechanical Engineering.

‘...the individual that takes that on, knowing that his original grade on paper doesn't change, but **he knows himself, that he will improve**. I think that's really good. And I'd be looking out for that individual. That's the individual I want working in this organization.’
(Employer)

- ability to draw basic shapes (lines, arcs)
- ability to draw and edit polylines
- ability to correctly select appropriate layer

No change in grade is associated with this badge (the student's first attempt is the official grade awarded as it was obtained in an exam situation). However, the earner of this badge has shown that they are motivated to improve their CAD skills even where grade reward is not available.



CAD BUDDY (BRONZE)

This badge is part of the suite of digital open badges available as part of the Computer Aided Design module on the BEng in Civil Engineering at the Galway-Mayo Institute of Technology, Galway, Ireland.

This badge is awarded to a student that has been nominated by a classmate for it.

Peer-learning, collaboration and communication skills are essential skills for a student to practice. As an example of this, when a student helps a classmate to solve a problem, they are putting into practice these valuable skills. However, it can be difficult to adequately acknowledge when such interactions occur.

This digital open badge can be understood as a means of recognising and rewarding when peer-learning, collaboration and communication skills are used.

This "Bronze" level badge is an entry-level badge, and further (Silver and Gold) versions are awarded for repeated and prolonged demonstration of peer-learning, collaboration and communication skills.

The earner of this badge has demonstrated that they are capable and willing to offer help and guidance to a classmate on the Computer Aided Design module.

Every student on the module has the opportunity to earn this badge.

When a student has received help (this can be both in-class and/or at any point in time), they have the opportunity to nominate the person that helped them. As part of the nomination, they provide their own name, the name of the person they are nominating, the date of the event and a brief description of how the nominee was helpful. This nomination application is then reviewed by the lecturer, and the badge is released if the nomination is deemed accurate and valid.

The Bronze level CAD Buddy badge is an entry-level award, and further (Silver and Gold) versions are awarded for repeated and prolonged demonstration of peer-learning, collaboration and communication skills.

To earn the Bronze badge, the student had to be nominated on one occasion.



CAD BUDDY (BRONZE)

This badge is part of the suite of digital open badges available as part of the Computer Aided Design module on the BEng in Civil Engineering at the Galway-Mayo Institute of Technology, Galway, Ireland.

This badge is awarded to a student that has been nominated by a classmate for it.

‘...in some cases, maybe **engagement is more important than actual attendance**, which is why I like that mentoring one or the peer learning one. Because I do think that, you know, as a lecturer, you see, sometimes students completely tuning out because they're tired or whatever, but as soon **as you put them in groups and get them to respond to their peers, they're suddenly engaged again**. So that whole peer thing is very, very important’. (Institute manager)

The Bronze level CAD Buddy badge is an entry-level award, and further (Silver and Gold) versions are awarded for repeated and prolonged demonstration of peer-learning, collaboration and communication skills.

To earn the Bronze badge, the student had to be nominated for one occasion.

Dr Wayne Gibbons, ATU, Galway



CAD BUDDY (BRONZE)

This badge is part of the suite of digital open badges available as part of the Computer Aided Design module on the BEng in Civil Engineering at the Galway-Mayo Institute of Technology, Galway, Ireland.

This badge is awarded to a student that has been nominated by a classmate for it.

‘...that you're able to take the information in, process it yourself and share it with someone else and, like, give them a way that they might be able to....say the way I'd learn something might be different to the way the other person might learn it...so that you'd be able to take it, turn it around and **show them in a way that they'd understand it and they'd be able to use that information again to help someone else.**’ (Student)

When a student has received help (this can be both in-class and/or at any point in time), they have the opportunity to nominate the person that helped them. As part of the nomination, they provide their own name, the name of the person they are nominating, the date of the event and a brief description of how the nominee was helpful. This nomination application is then reviewed by the lecturer, and the badge is released if the nomination is deemed accurate and valid.

The Bronze level CAD Buddy badge is an entry-level award, and further (Silver and Gold) versions are awarded for repeated and prolonged demonstration of peer-learning, collaboration and communication skills.

To earn the Bronze badge, the student had to be nominated on one occasion.

Dr Wayne Gibbons, ATU, Galway

Thank you for listening

Contact me

Email: wayne.gibbons@gmit.ie

Phone: +353 91 742429

Website: www.about.me/waynegibbons

Twitter:
<https://twitter.com/TheWayneGibbons>

Mastodon:
<https://scholar.social/@TheWayneGibbons>



Dr Wayne Gibbons, ATU, Galway