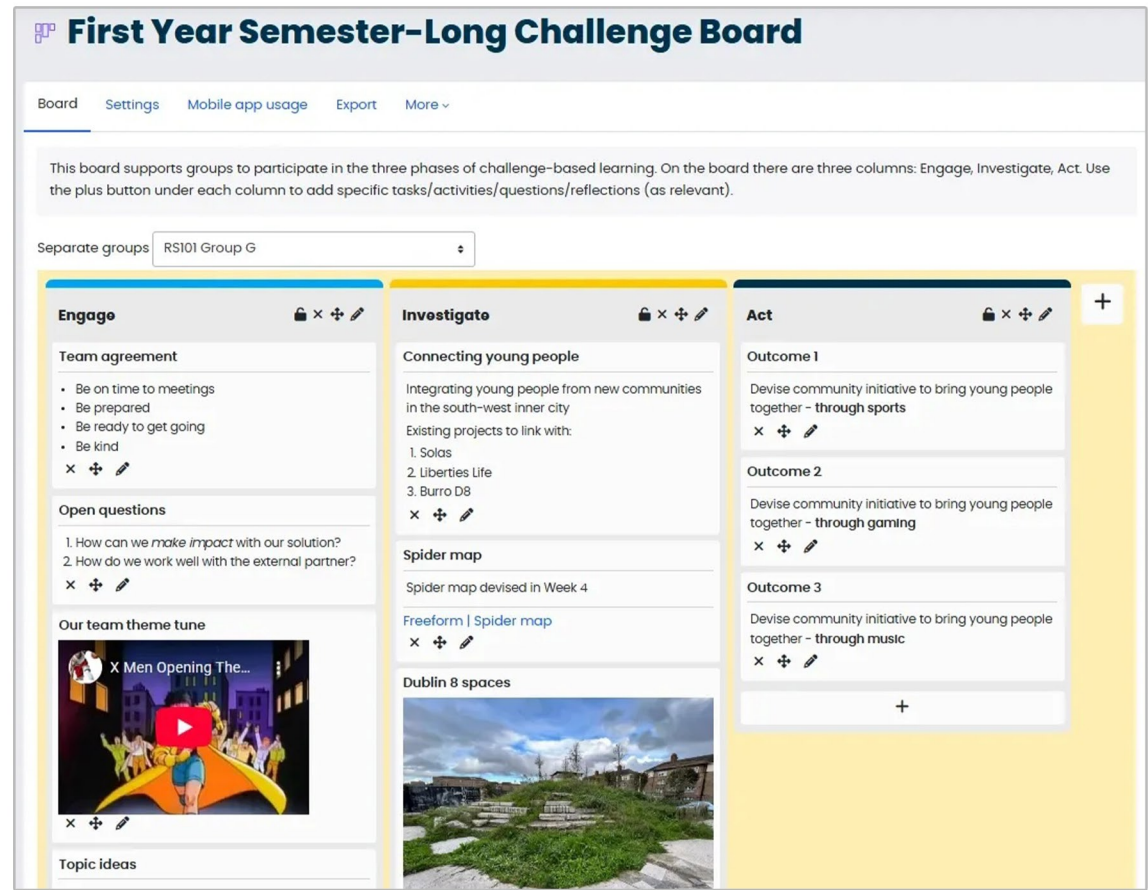


Open Source Software (OSS) as Open Educational Practice (OEP)

Dr Rob Lowney (Dublin City University), Brickfield Education Labs



Aims & Objectives

- Develop open source software to enable collaborative learning and student self-management
- Disseminate open source software so other institutions can avail of the same tools
- Reduce the reliance on commercial educational technology products

Contribution Snapshot

Date and Timeframe
Ongoing since 2021

Focus
Open infrastructure and platforms

Discipline
Teaching and Learning

What level(s) of your institution does this work affect?
Module level / Across multiple modules / Programme level / Across multiple programmes / Institutional level / Across multiple institutions

Frameworks, Policies, or Strategies Aligned

- DCU Teaching & Learning Strategy 2023-2028
- DCU Transversal Skills Framework
- ABC Learning Design
- Universal Design for Learning

Funding & Acknowledgements Details

- SATLE Funding
- Fund for Students with Disabilities
- Student Success Fund

Open Outputs

Foster learner collaboration with Board – a new Moodle plugin
<https://moodle.com/news/board-plugin-virtual-board-postits/>

Initial experiences of Moodle Board
<https://www.youtube.com/watch?v=pP0DCg2EPYM>

Moodle Planner: Signposting, goal-setting and motivating students in assessment
https://xerte.nottingham.ac.uk/play.php?template_id=49833#collapse7_1_3

Overview

There is a continuing rise in commercial technology companies entering higher education to sell products and make profit, in tandem with myriad international, national and local policy calling for increased digitalisation of education. Emergency remote teaching during the Covid-19 pandemic lockdowns was a particular threshold, as institutions heavily used technologies such as virtual learning environments (VLEs) and video conferencing platforms, and more. Where these technologies are supplied by large global companies, it raises questions about data sovereignty, vendor lock-in, overreliance on a few key suppliers, financial costs, and sustainability.

Open source software is seen as an antithesis to profit-driven, commercial educational technologies. Open source software is free to run, free to study how it works, and adapt it to one's own needs, free to redistribute, and free to improve (Free Software Foundation, 2007). Developing and sharing open source educational software is a form of open educational practice.

Dublin City University (DCU) continues to be a supporter of open source software, as a user of open source Moodle VLE software for 23 years and Mahara portfolio software for ten. DCU contributes various software enhancements to these global user communities.

Example One

In 2021, DCU partnered with Brickfield Education Labs to ideate and develop a collaborative learning tool for Moodle: 'Board'. Learning through collaboration is powerful; learners scrutinise their own ideas, and evaluate others' perspectives as well (Laurillard, 2012). Developing collaboration skills is an important part of DCU's Transversal Skills Framework for students, and collaborative learning is one of the six learning types of the ABC Learning Design framework (Young & Perovic, 2016) which DCU utilises.

Out of the INDEX Survey 2019, DCU discovered many lecturers used a third-party commercial digital canvas tool to support collaborative learning. Questions were raised over data privacy and ad tracking practices of this tool, as well as the risks of vendor lock-in. Therefore, we went on a journey to build a free alternative, which could be plugged into the Moodle VLE so that learner data was safe, ad tracking eliminated, and that we and the wider Moodle community could continue to build upon it.

DCU contributed SATLE funding, and several other institutions such as UCL and TUS joined the partnership. Board's popularity continues to grow—nearly 4,000 Moodle sites globally use it. The most recent 2025 update (again funded by DCU through SATLE) enabled a feature to create a board from a template, such as a reflective template built on the Rolfe, et al. (2001) reflective model, a Kanban board for managing groupwork, and more.

Example Two

In 2021, DCU and Brickfield began building an Moodle assignment Planner tool to enable students to approach assignments in good time, by breaking down the task into smaller steps, scaffolding them towards their final submission point. The aim was to support them in developing self-management skills, also part of DCU's Transversal Skills Framework. Furthermore, providing them with clear guidance in how to approach an assignment task aligns with Universal Design for Learning guidelines.

Funded initially through the HEA Fund for Students with Disabilities, the Student Success Fund and latterly SATLE funding, Planner can be plugged into Moodle for 24/7 access. The tool calculates guided steps for students backwards from an assignment due date, whilst also allowing customisability for students to set their own intended dates. Dates are added to students' calendars and they receive email reminders. Teachers can choose from global templates of guided steps for students, or create their own specific one.

The plugins' code are available on GitHub, for others to take and use, to study and scrutinise, fork and develop, disseminate far and wide and ultimately enhance learning experiences in an open and equitable manner.

Impact and Evidence of Success

DCU staff evaluation of Board:
Easy to set up: 92% agree
Easy to manage board contributions: 77% agree
Supported collaborative learning: 92% agree
Will continue to use it: 100% agree

DCU student evaluation of Board:
Easy to use: 93% agree
Actively engaged with it: 87% agree
Board collaboration aided learning: 91% agree
Would like lecturers to continue using it: 96% agree

DCU student evaluation of Planner:
Encouraged early engagement with assignment: 71% agree
Helped to stay on track for assignment: 71%
Better prepared for the assignment: 93% agree
Would like lecturers continue using it: 80%

Future Plans and Sustainability

DCU will continue to work with Brickfield Education Labs to bring further enhancements to these tools as funding becomes available. Other Moodle users are also encouraged to contribute enhancements and further develop this open source software. The code is freely available on GitHub or the Moodle Plugins Directory.

Top Tips

- Instead of relying on commercial third-party software, consider what can be built as open source
- Bring other partners on board to collaborate on open source software, maximise funding potential
- Promote and disseminate it so others have the freedom to use and enhance it

Useful Resources

- https://moodle.org/plugins/mod_board
- <https://www.dcu.ie/moodle-planner>

