

The TEAM project: Investigating and enhancing assessment in science and health practical sessions with digital technologies.

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Aims and objectives

The TEAM (Technology Enhanced Assessment Methods) project focused on implementing and evaluating digital technologies to enhance assessment in science and health practical sessions. The objectives were:

- To gather baseline data on students' perspectives and experiences of practical assessment in Science and Health.
- To gather data on lecturers' experiences of technology-enhanced assessment approaches.
- To evaluate specific implementations of technology-enhanced assessment approaches in practical sessions.
- To draw broader conclusions about the potential of digital technologies to enhance the student experience of practical sessions and to inform the development of these approaches.

Project structure, findings and impact

Guided by a national digital roadmap (NFETL, 2015) and via an initial baseline analysis complemented with an extensive literature review (Bree, 2018), four thematic areas were identified for pilot development: [1] Pre-practical videos combined with online/app quizzes, [2] Electronic lab notebooks, [3] Digital Feedback and [4] Rubrics. In collaboration with student partner groups, employers and academic staff, the TEAM project implemented and evaluated 42 pilots in practical sessions across the four partner institutions, engaging almost 1,600 students across 45 programmes. A series of workshops helped further share findings with colleagues nationally. The project has led to the adoption of digital technologies to support the student learning experience in practical sessions across the partner institutions.

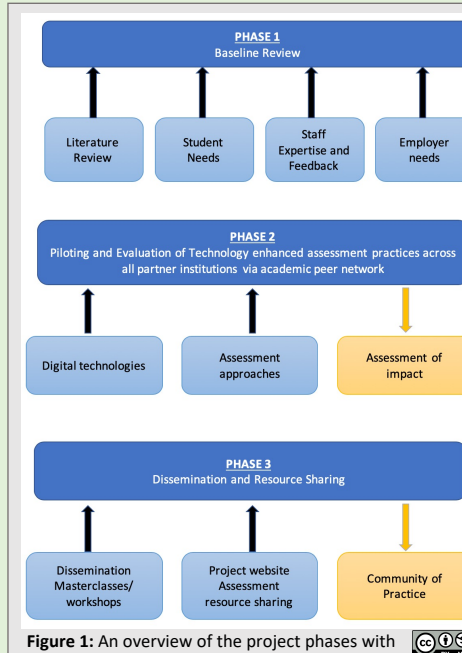


Figure 1: An overview of the project phases with inputs and outputs indicated.

TEAM visuals

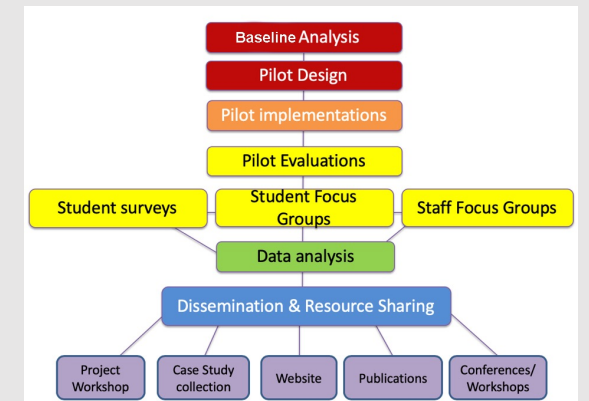


Figure 2: Flowchart overview of the project methodology.

Pre-practical approaches	Change preparation mindset for practical sessions. Customised videos can focus learning. App-based quizzes can incorporate feedback to immediately facilitate student understanding and for staff, identify areas requiring further revision. Pre-practical talk can become more focused.
Electronic Lab Notebooks	Online submission of reports, using templates, can focus analysis and writing. Develop employability skills in learners. Opportunities for feedback rubrics to be incorporated; and kept in one place. Metadata/data security/searchable reports for students.
Digital Feedback	New approaches to engage in dialogue with learners. Audio feedback can help explanation of feedback comments. Screencast feedback can help illustrate feedback at right place on submission. Use of familiar software but for feedback purposes (e.g. Turnitin).
Rubrics	Rubrics can be designed in collaboration with learners. Skill set tests in practical sessions can be assessed via rubrics digitally, providing immediate results to learners. Facilitate learners realising 'high quality' criteria. Can be complemented with exemplars.

Figure 3: An overview of how the digital technologies implemented during TEAM can be considered to promote assessment, learning and skill development.

References

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