Guidelines for developing and using e-assessments with vocational learners

Project overview







Ako Aotearoa

Ara Institute of Canterbury — Ara rau, taumata rau

Te Tapuae o Rehua — Collaborating to achieve Māori success

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This project's primary aim was to develop guidelines for the effective implementation of e-assessments. These guidelines were derived through the analysis of innovative e-assessment approaches. E-assessments for learning were designed to support level 3 to 5 learners in a variety of disciplines including aeronautics engineering, automotive, carpentry, cookery, outdoor education and quantity surveying.

E-assessment for learning were developed by seven teams to provide learners with feedback on their learning. The sub-projects included:

- using apps to help cookery students learn the vocabulary and skills for the tasting of food;
- supporting project based learning and work integrated learning with note taking platforms;
- deploying video to help with the learning of carpentry and kayaking skills;
- developing virtual reality (VR) learning activities to help carpentry students learn the dispositions and apply their knowledge of workplace safety;
- Improvement of welding practice through the use of VR welding simulators.

In each of these sub-projects, the emphasis was on using technology to assist learners with:

- the gathering of material for feedback;
- supporting the access to feedback from peers or tutors;
- interpreting feedback to enhance the learning of skills or dispositions
- making plans to meet the feed forward steps towards progressing learning goals.

The project's research methodology consisted of two distinct parts.

1. The participative action research (PAR) approach was used by each sub-project to refine the innovative e-assessment processes. Through PAR, various challenges deploying e-assessment were identified, reflected upon and resolved.
2. Case study methodology was used to collate the various strategies used and to synthesise the guidelines for optimal deployment of e-assessments.

Project team

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Project outcomes

The **guidelines** distilled to support e-assessments include:

Selection and Development of e-assessments for learning

1. Align graduate profile and learning outcomes to assessments for learning.
2. Explore and identify the difficult to articulate, undescribed learning outcomes required by learners to 'become'.
3. Match e-tool to learning outcome/s, with emphasis on enabling the 'hidden' multiliteracies / modalities of learning.

Deployment

1. Ensure teaching team capability.
2. Prepare the learner.
3. Make learning overt.
4. Leverage off learning analytics, for teachers and learners.

Implementation

1. Review after each iteration.
2. Scaffold learner capability to use e-feedback so that it becomes personalised to their own learning.

Evaluation

1. Re-evaluate holistically – the learning goals, the e-tool/s and the resulting learning.
2. Keep up with the play on e-tools and their capabilities to support e-feedback.

Project objectives with connections to project outcomes

Project objective	Evidence from project
1. Align assessment to graduate profile outcomes.	1. Sub-projects focused on holistic outcomes. For example, to improve sensory evaluation, problem-solving, attitudinal approaches to safety, etc.
2. Assist learners to attain important multiliteracies (including academic, digital, cultural literacies and self-management and problem-solving traits) to meet graduate profile outcomes and as preparation for future lifelong learning.	2. As above, with emphasis on improvement of the multimodalities and multiliteracies, which characterise vocational education.
3. Provide e-assessment activities to support and enhance learning for disengaged learners.	3. Sub-projects matched learning activities to learner profiles and needs, ensuring engagement by learners. Learner feedback collated by the sub-projects support this outcome.
4. Acknowledge the worldview of learners' different cultures and honour these in the design and implementation of curriculum and e-assessment practice.	4. Encouraged learner co-creation of evidence of learning.
5. Extend the capabilities and potentialities of e-assessment beyond text-based paradigms.	5. Innovative use of technology supporting a range of learning activities e.g. using apps, OneNote Class notebook, Virtual reality.

Project objective	Evidence from project
1. Transition from narrow task-based to authentic/holistic teaching, learning and assessment practices.	1. Holistic assessment for learning approaches were deployed.
2. Test the multiliteracies-based learning approaches' alignment to graduate profile outcomes.	2. There was a good match between multiliteracies-based learning approaches and graduate profile outcomes.
3. Contextualise e-assessments for compatibility with vocational learning.	3. The e-assessments developed connected well with the precepts of vocational learning.
4. Apply sound pedagogy to and evaluate innovative, leading edge e-assessment approaches, exampled by e-Portfolios, role-play and simulation in virtual environments and VR platforms.	4. Sound pedagogy ensured the learner and learning are at the centre of designing and implementing e-assessments for learning.
5. Disseminate the guidelines through methods which will reach vocational educator and workplace training audiences.	5. A dissemination plan will be drawn up post-project.
1. Increase expertise in e-assessment to achieve better outcomes for students, e.g. through real-time tracking of student progress.	1. All the sub-project tutor/teacher participants, reported an increase in expertise including better understanding of the role of e-assessments for learning to support VET learning.
2. Diversify delivery methods to meet the needs of a wider range of learners.	2. All the sub-projects included non-text-based evidence and feedback processes.
3. Improve deployment of e-assessments across multiple campuses.	3. Digital tools allowed for easier sharing of data across the sub-projects.
4. Build capability for reflective practice, including through PAR, across Institutes of Technology and Polytechnics (ITPs) and other organisations.	4. There was engagement across the sub-projects and several continue their PAR beyond the formal project completion.
5. Identify synergies across sub-projects and organisations to ensure cross-pollination of good e-assessment for learning is implemented.	5. Workshop, at the beginning of the project, assisted in building relationships across sub-projects.

Future work and next steps

- Report completed.
- Dissemination has included conference presentations both in New Zealand (x8), Australia (x2), Germany (x1) and the US of A (x1). These conference presentations have been at various vocational education and training practitioners' conferences / symposia and vocational education and training research conferences. Two conference papers have been published in proceedings.
- Journal articles are being worked on.
- Tools for the design, selection of e-assessment tools, and development of e-assessments for learning have been developed. These will be incorporated into the online assessment tools selection http://oats.net.nz/ site and also into the Ako Aotearoa 'assessment' on-line professional development course.