

# **BRIDGING THE DIVIDE: THE CHALLENGES AND SOLUTIONS AROUND E-ASSESSMENT AS VOICED BY PRACTITIONERS AND AUDITORS**

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## **Abstract**

Assessment that is judged to be valid, reliable, fair and flexible is a key pillar of the Australian Vocational Education and Training (VET) system. Within this system, the Australian Quality Training Framework (AQTF) 2007 is the set of standards which assures nationally consistent, high-quality training and assessment services for the clients of Australia's VET system. The current study is in three parts. First a brief literature review examines some key issues around assessment and e-assessment in particular. The second part of the research involved 42 interviews with auditors, practitioners and others in VET about the challenges and solutions around e-assessment. Interviews revealed shared concerns around the need to maintain a quality VET assessment, and around the central role of assessment. Major challenges are seen around the benefits of on line assessment around flexibility, cost effectiveness and its appeal to younger learners, as against other perceptions that it can be positioned as just a cheap alternative where flexibility will actually reduce quality. Special attention is given to the assessment challenges around on-line quizzes, e-portfolios, and strategies being used to maintain the validity and the authenticity of the assessment. Finally, three case studies are presented that highlight how auditors and practitioners are working together in VET organisations so that we keep getting assessment and e-assessment 'right' for the continued well-being of our VET learners and institutions.

## **Introduction**

Getting assessment right is critical to keeping Australia internationally competitive through having a skilled and flexible workforce. Assessment is perhaps the best way to identify the support needed by learners so that they continue to make progress in developing the required levels of knowledge and skills. Their successful learning is not only linked to access to appropriate resources, and good quality and timely feedback, but also to challenging and stimulating forms of assessment that allow them to demonstrate their understanding and skills. The need for continued quality judgements by practitioners, assessors and auditor underpins the operation of the AQTF 2007. Processes need to exist and to be maintained that assist AQTF auditors in making consistent decisions around the assessment matters raised in auditing RTOs.

In particular, there needs to be continued confidence in the assessment processes for all stakeholders in the Australian system. At the same time, there are uncertainties emerging around inconsistencies that are evident in assessment practices, around the requirements of training packages, and questions around how rigorous training providers are in terms of quality assurance of assessment. Some concerns around quality assurance are linked to the increased use of technologies to enhance the variety and application of assessment. There are also concerns about the initial and ongoing training for assessors and auditors in both the traditional and more contemporary forms of assessment (Clayton, Booth and House, 2004; Hyde, Clayton & Booth, 2004).

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The current project is timely given the critical need to maintain high quality training and assessment services for the clients of Australia's VET system, and to keep getting our assessment "right". This project aims to further our understanding of the key issues and potential strategies that will maintain and promote a greater understanding among practitioners, assessors and auditors around more contemporary forms of delivery and assessment processes that are using the new technologies, and that require auditing according to the national standards of AQTF 2007.

## **Literature review**

E-assessment is a broadly-based concept that covers a wide range of activities where digital technologies are used in assessment, including the designing and delivery of assessments, and in marking (Joint Information Systems Committee, 2007). Also it includes the processes of reporting, storing and transferring of data associated with public and internal assessments. It is defined around the end-to-end electronic assessment processes where ICT is used for the presentation of assessment activity, and the recording of responses. This includes the end-to-end assessment process from the perspective of learners, tutors, learning establishments, awarding bodies and regulators, and the general public.

Various forms of e-assessment can be applied at various stages of learning. These stages include including diagnostic assessment of a learner's knowledge and skills at the outset of a course; to more formative assessment that provides developmental feedback to a learner on current understanding and skills; and more summative or final assessment of a learner's achievements around a set of knowledge or skills. The 'stakes' around the outcomes of assessment also differ. A low-stakes assessment is usually formative with results recorded locally. A medium-stakes assessment is one in which results may be recorded locally and nationally, but is not life changing. A high-stakes assessment, however, is one in which the outcomes are of high importance to both the centre and candidate, affecting progression to subsequent roles and activities.

Currently, in most countries e-assessment is more frequently found in low- to medium-stakes than in high-profile, high-stakes contexts. However, this situation is changing as the major awarding and regulatory bodies prepare for wider use of e-assessment in the second decade of the 21st century. Driving this increased use will be a better understanding of how e-learning and assessment can be effectively integrated into promoting a more flexible and supportive learning environment. A major part of this push for this better integration in the Australian VET sector will be a willingness to be open to regular reviews of changes to the nature of assessment in our VET system.

More importantly, revisiting the role of assessment and understanding the possibilities of the process to be collaborative and learner-centred are as important as developments in technology. Learning facilitators must be creative with the available tools, blend face-to-face delivery and assessment with online strategies and ensure that assessment is an integral part of the learning process. (Booth et al., 2004; pp.82)

It is noteworthy that the emerging concerns around assessment practices that use various forms of technology are shared by educators in other countries. For instance, preparing for the increased use of e-assessment in further decades, the regulatory authorities in England, Wales and Northern Ireland are producing regulatory principles and guidance for e-assessment (Scottish Qualifications Authority, 2007).

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The current use of e-assessments is judged to be uneven in these countries, although highly effective in many cases where it is used well. However, there are concerns around the appropriate forms of the regulations that will guide these new practices and procedures around e-assessment, authentication and the training and professional development needs of staff who will be involved more often in e-assessment.

The Formative Evaluation of the AQTF 2007 revealed strong support for the intent and outcomes-focused principles of AQTF 2007, and for a continued collaborative approach to its development and implementation (KPMG, 2007). The majority of RTOs were prepared for audit under the AQTF and reported positively on the use of relevant guidelines. There were challenges identified around variations in the implementation of auditing arrangements and difficulties in interpretation and therefore the implementation of AQTF 2007 guidelines. Importantly, the report recommended a sustained focus on promoting the auditing approach to sustain the momentum and to embed changes.

Also the Quality of Assessment Practices Stage 2 report recently completed by the NQC focused upon the quality of assessment practices within the Australian VET sector (National Quality Council, 2009). The report confirms that quality assessment enhances the learning process, as well as providing final confirmation of competency outcomes. However, this national audit identified important gaps in assessment support materials that need to be addressed to build assessor capability in the VET sector. In particular, the application of e-learning and other delivery strategies has revealed new contexts and challenges for assessment in the VET sector that have yet to be fully responded to. As a result, there are gaps in assessor support materials around competency based assessment in these new online learning environments.

Also various reports by Australian Flexible Learning Framework have demonstrated this continued progress around various aspects of e-learning and its assessment in the VET sector. For example, levels of engagement with e-portfolios in the VET sector are increasing. More practitioners are recognising how the e-portfolio streamlines evidence and validation, while assessors can judge the authenticity of evidence when it is verified by appropriate Learning Management Systems. On the other hand, many RTOs still show a reluctance to embrace e-portfolios, including concerns around developing overly large and difficult to use collections of evidence. Callan (2009) found similar concerns in his review of the barriers around the greater use of e-assessment in apprenticeships in the Australian VET system.

Indeed, Figgis and Guthrie (2009) have proposed that we need to investigate whether AQTF auditing is a major barrier to the use and growth of e-learning. More research would assist employers and training providers make better decisions about when and how to use e-learning technologies in cost effective ways to maximise the flexibility of training for industries and to empower learners. In particular, Figgis and Guthrie recommended more research into evidence of the tensions and perceived divide between practitioners, assessors and auditors.

“There is a perception, mentioned particularly in the ‘feedback round’ of the consultation, that some of those currently conducting AQTF auditing are suspicious of – or unsympathetic to – e-learning evidence. It is not clear whether the perception is justified. If it is, the problem must be addressed, and as a priority. Such work might be conducted in collaboration with the National Quality Council, and with joint funding.

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So it is important that research be undertaken to identify what the issues actually are, the extent and consequences of the problem (real or perceived). It might be as simple a research project, in the first instance, as convening insightful and knowledgeable focus groups of auditors and RTOs – separately, then together – to nail down the problem and have the players themselves explore ways it might be resolved.” pp.21

However, as they note it is not clear whether this perception is justified. The current research attempts to identify the key issues, to determine their causes and consequences, and most importantly, to determine how these issues around e-learning, e-learning generated evidence and e-assessment might be resolved as part of the continued evolution of AQTF 2007.

## **Research Method**

### *Sample*

A total sample of 42 practitioners, auditors and others were either interviewed or consulted through small group discussions. Each semi-structured interview was approximately one hour in length, with follow up interviews in some cases. All interviews were completed by the first author. Respondents were from throughout Australia, while practitioners worked in both public and private RTOs. Auditors included those based in Government departments as well as those operating as private consultants. However, the size and nature of the sample means that it is not representative, but the sample provides an opportunity to investigate key issues that might be investigated with a larger more representative sample in the future.

### *Interview questions*

The interview questions examined the following: respondent’s background and experience; their current role; the primary forms of e-assessment that they are dealing with as auditors or practitioners; the implications for AQTF 2007; the key strengths they identify around each of these forms of e-assessment; the key shortcomings they identify around each of these forms of e-assessment; solutions they see at work or propose in the future; examples of good practice around e-assessment and the auditing function that they can nominate and the reasons for this nomination.

## **Key findings from the interviews**

### **Formative and summative assessment**

Practitioners and auditors believed that e-assessment was finding its place in the VET sector mostly as a form of diagnostic and formative assessment. The primary use of e-assessment for summative assessment was rare. There was little support from practitioners or auditors for the use of e-assessment as the primary form of evidence to support the signing-off of a formal qualification or certification of a skill. However, practitioners and auditors envisaged considerable growth in the future around the incorporation of various forms of e-examinations, short e-quizzes during training, and multiple choice questionnaires to test knowledge. In contrast, interviewees did not expect to see any major growth around the application of e-assessment around complex high stakes skills.

### **Maintaining quality standards**

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According to auditors, the majority of audits confirmed that quality assessment practices were occurring. They provided examples where the standards were applied as rigorously or even more rigorously to e-learning and e-assessment, as for traditional training and assessment. According to our expert practitioners, some issues around the quality of e-assessment can be linked to assumptions by some teachers that everything to do with e-assessments is located online. As a result, teachers do not prepare a study guide, a unit assessment plan or the assessment marking criteria. Also practitioners and auditors reported a “set and forget” attitude around some forms of e-assessment.

### **Maintaining confidence in assessment**

Respondents were positive about the operation of AQTF 2007. The outcomes-focused approach being adopted in the AQTF was well understood, while practitioners believed that the principles of continuous improvement were applied by internal and external auditors. However, practitioners and auditors were still coming to grips with the newer and more varied forms of assessment. Today there is a larger range of assessment strategies, processes and instruments than in the past and more complexity in the evidence being captured by these new forms of assessment. Even highly skilled practitioners were having their professional judgements around e-assessment challenged in audits.

At present, tensions do exist between practitioners and auditors around various forms of e-assessment. These tensions are around maintaining the reliability and validity of assessment, while also achieving flexibility and cost efficiencies. A central factor is maintaining confidence in the assessment system. Some practitioners and their institutions are confused around the expectations and decisions of auditors around e-assessment. However, auditors believed that they were very consistent in the messages they gave in their meetings with practitioners.

### **Audit experiences**

Auditors reported that the forms of e-assessment currently being audited were not large. The dominant e-assessment methods being audited included on line tests to assess knowledge, and the use of blogs and wikis to promote reflection and self-assessment. The use of e-portfolios was on the increase. Auditors responded that their position in any audit is not to hold any preconceptions about the form that evidence may take. Regardless of the evidence gathering methods used, auditors reported that they want to see evidence that the training and assessment is meeting clients’ needs, the principles of assessment and rules of evidence, and the assessment is aligned to AQF level. They want to be able to confirm dimensions of competency, employability skills and transferability. This message was a very consistent one in the auditor interviews.

Some auditors highlighted how the demands upon their time possibly encouraged decisions around the validity of assessment and e-assessment to fall on the side of caution. Many auditors believed that they were “naturally suspicious people”, and what they had seen around the poor use of e-assessment around authenticity supported their inclination to be cynical and suspicious. Others noted that despite considerable opportunities for professional development, many auditors were “still wedded to tradition and paper evidence more than we should be”. Current auditor training did not provide wide exposure to e-learning or e-assessment systems.

### **Issues around validity**

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Validity was a major concern for auditors. They were seeing poor assessment practices at work. E-assessments were not validly assessing the skills being tested and the assessment did not always address the intended learning outcomes. Some e-assessment had been introduced without establishing learner needs and completing training needs analysis. Auditors emphasised the need for more use of multiple assessments, independent validation from subject matter experts, and possibly mandatory interviews at the need of the learning and prior to judgements about competency. Auditors also wanted to see better practices around evidence gathering through multiple sources such as observations, testimonials and work-based assignments to support the validity of the on-line assessments.

### **Issues around authentication**

Audits revealed issues around delivery that included poor security, unreliable infrastructure that impacted upon the user in completing on-line assessment, and accessibility and ease of use. On the other hand, practitioners mentioned more trials around technological solutions to deal with many of the challenges to authenticity. It was widely accepted by those interviewed that the right technology can enhance the security of e-assessments. However, the position shared by practitioners and auditors was that high quality and supportive relationships between teachers, their on-line learners, and with employers were also critical to managing issues around authenticity.

### **The on-line quiz**

The predominant example of e-assessment is the on-line quiz. Practitioner users of quizzes cited advantages around the preparation and marking; assessing learner knowledge quickly; and providing more regular feedback. However, disadvantages included poorly constructed on line tests with limited validity and reliability. It was reported by practitioners and auditors that some teachers have little or no understanding of how to design valid and fair on-line quizzes, especially underestimating the skills and effort needed to write e-assessments. At worst on-line tests and short quizzes were described, by a number of auditors and practitioners, as “cheap options”; and “ill-thought out efforts by the provider to make money quickly or to save money”.

### **Assessment support materials**

Respondents recognised gaps in assessor support materials around competency-based assessment in these new online learning environments. A major concern was the plethora of poor quality e-assessments tools being used on-line, on intranets and in blended learning. Both practitioners and auditors noted that due to inexperience some teachers are failing to identify these poor quality tools. More practitioners were becoming aware of the potential for toolboxes around e-assessment, especially as toolboxes do involve projects that can be completed on-line.

### **The use of e-portfolios**

Practitioners and auditors reported growth in the use of e-portfolios in training organisations. Practitioners noted that e-portfolios can streamline evidence and validation, while the authenticity of evidence can be verified by appropriate learning management systems/strategies. Some auditors, however, had concerns about e-portfolios as audits had raised serious questions around the authenticity of evidence gathered by learners and the

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validity of the assessment tasks given for units of competency. Practitioners also reported a reluctance to adopt e-portfolios due to the lack of guidelines and good examples around structuring suitable pieces of assessment.

### **Auditor consistency and training**

Practitioners appreciated the cross-jurisdictional experience that some auditors now brought to the audit. Such experiences helped both practitioners and auditors become more confident in recognising good practice around assessment and e-assessment. However, some training providers delivered training across multiple jurisdictions had experienced different audit outcomes for NARA and other audits.

A number of ideas were put forward by our expert auditors about how to promote better levels of consistency among auditors. One strategy is to allocate the task of training auditors to a third party with no direct interest in the outcome. To improve audits around new issues like e-assessment, there was some discussion about the need by auditors or auditing organisations to engage RTOs at an earlier stage than at present. Auditors were very up front about the need to continue to broaden their understanding of e-learning and e-assessment.

### **More well trained and informed practitioners**

Many practitioners and auditors proposed that the assessment knowledge and skills of VET practitioners must be enhanced. The current VET practitioner needs to be more able to:

- possess the technical skills to devise or create valid, reliable and authentic assessment and e-assessment
- demonstrate knowledge and understanding of assessment best practice
- understand and address issues relating to the use of e-assessment
- access e-tools or resources that are easy to use and cost effective
- access high quality continuing professional development courses that allows them to become familiar with the principles and best practice of e-assessment

### **The need for worked examples of e-assessment**

Practitioners and auditors agreed that a wide range of the traditional assessment tools can work effectively in the online environment. However, as with traditional approaches, assessment strategies need to be selected to fit the learner's abilities and experience, and to match the outcomes that need to be achieved. In addition, practitioners want access to better examples that illustrate the use of quality e-assessment. They require examples from both practitioners and auditors around e-assessment that meets the requirements of the relevant Training Package or course.

### **The need to formulate e-assessment guidelines**

As noted by numerous interviewees, the VET sector has not put enough thought into what the guidelines are for on-line delivery and assessment. Currently those working in the sector are confused. They are trying to make their processes appear to fit guidelines that are grounded in paper-based approaches to assessment. Most respondents talked of the need for a separate handbook or resource that was a collection of examples that address all assessment, and include examples in both traditional and e-assessment modes.

### **Next steps**

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There needs to be continued confidence around traditional assessment and in the new forms of assessment that will emerge. Significantly, those interviewed agreed that the time is right to pull together a shared understanding of the key issues. Importantly, this report also puts forward ideas that might promote a greater understanding by both auditors and practitioners of more specific actions around building confidence in e-assessment.

Following on from the findings from our interviews, we propose further discussion of the following ideas:

1. Preparation of guidelines for e-assessment in the VET sector titled *E-assessment: Guide to effective practice in the VET sector*.
2. Collation of examples of good practice around the use of a wide variety of e-assessments.
3. The delivery of workshops that promote a broader discussion between practitioners, auditors and others of the key issues raised in this report.
4. Preparation of support materials around the design and delivery of on-line quizzes.
5. The development of units of competency in e-assessment that become part of any planned revisions to the current TAA.
6. An independent organisation for e-assessment that provides support for professionals in the field, collecting best practice guidelines and communicating the positive aspects of e-assessment.
7. Towards assisting in the preparation of the Guide and best practice examples, to complete a state-of-the-art review of techniques in e-assessment which should be considered for application in the VET sector.

## **Conclusion**

Online technologies will continue to play an increased role in the assessment and recognition of current competence. However, there are numerous issues that require further understanding, agreement and development. The recent *e-Assessment Guide* by the Scottish Qualifications Authority (2007) adopted the position that a single operational model of e-assessment does not exist. Nor does it expect to see similar job roles and responsibilities within centres that offer e-assessment (i.e. colleges, workplaces, training centres, community education centres). Rather, quite different arrangements can exist around the management and delivery of e-assessment, including differences around the use of e-portfolios for assessment.

Advances in information and communication technology will continue to change the nature of how learning is designed and delivered in our VET environments. Online technologies will play an increased role in the assessment and recognition of learner competence. However, this evolution will not be without its tensions, misunderstandings and understandable differences of opinion among those passionate about maintaining a quality VET system.

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