

SQA's Vision and Strategy for E-Assessment

1 Introduction

This document sets out a proposed SQA vision and strategy for Computer Assisted Assessment (CAA) and, more specifically, for e-assessment of our qualifications. It also proposes ways in which SQA will communicate and build support for our vision and strategy. It is a revised version of the document first issued in March 2005.

'E-assessment' is used to describe those aspects of CAA that are experienced directly by the candidate. It includes use of e-portfolios to store assessment evidence.

SQA's primary concern is to develop and deliver high quality qualifications that meet the needs of their users and are underpinned by rigorous and effective quality assurance. The use of e-assessment must be seen to support these over-arching objectives.

E-assessment must demonstrably add value for learners and centres. It should support development of a range of qualifications and assessment regimes that are recognised as being fit for purpose, relevant to learners and employers and which provide the best possible foundation for progression to further study.

SQA recognises the importance of working hand-in-hand with its centres and other stakeholders to ensure that its development of e-assessment takes place at a pace and in a way that supports their needs and reflects their readiness.

2 Our vision for e-assessment

Against this background, SQA is setting out the following vision for e-assessment for the next five years and beyond.

- a. Where it is appropriate, e-assessment of SQA's qualifications will be routine
- b. Assessment will be one part of an integrated process of teaching and learning with the distinction between learning and assessment becoming blurred.
- c. Learners will expect 'personalised' assessment opportunities; being able to undertake assessment at a time and in a place of their choosing, subject to appropriate authenticity checks.
- d. Learners will expect to store evidence of their achievements in a personal e-portfolio.

e. Emerging technologies will allow us to assess in new ways that are more valid and reliable.

f. Scotland will be seen as a centre of excellence in e-assessment, demonstrating innovative and successful use of emerging technologies.

g. SQA's structure and practices will reflect the changing environment and needs of its candidates and centres.

During the next five years and beyond SQA will focus on the following areas as strategic priorities to help realise this vision.

a. Developing its capability to provide high quality, fit for purpose and cost effective e-assessment for its qualifications, where it is appropriate and there is demand for it.

b. Ensuring that its e-assessment provision meets the needs of learners, employers, parents and other stakeholders.

c. Working with SQA staff and appointees to ensure that they acquire the necessary skills and expertise to create and deliver e-assessment

d. Working with staff in centres to ensure they have the necessary skills and understanding to deliver e-assessment to their candidates.

e. Working with other agencies to ensure that e-assessment forms part of a broader vision for the use of technology to support learning in schools, colleges and training providers and that it supports achievement of national policy objectives.

A number of key principles have helped to shape the development of this vision and strategy. These are that it must be:

◆ capable of mapping a path from where SQA is now in use of e-assessment, to where we could be in 5 or 10 years.

◆ flexible enough not to assume that some form of e-assessment must be appropriate for every situation but to allow stakeholders to make informed judgements on which assessment models to implement in a given set of circumstances.

◆ clear enough to be communicated effectively to stakeholders and to the general public.

◆ embraced fully by SQA and supported more widely by the Scottish education and training sector including policy makers, those who deliver qualifications and those who accept qualifications for further study or for employment.

3 Moving towards the vision — next stages of SQA's e-assessment activity

Our understanding of the issues to be addressed in implementing e-assessment is continuing to develop. In planning to implement this vision, we will need to take particular account of:

1. Manageability — SQA's and centres' capacity to manage a range of assessment solutions and models.
2. Cost-effectiveness – in the development and provision of e-assessment.
3. Scalability — of technology solutions to ensure that they can expand to meet increasing demand for e-assessment.
4. Future proofing — within the limitations of predicting future technological developments.
5. Environmental impact and sustainability – the contribution of e-assessment to reducing the need to produce and distribute paper copies of assessment material

We propose, therefore, to concentrate our immediate activities on the following key areas.

a Developing online summative assessment for units of HNC/Ds

Work in this area, funded by the Scottish Funding Council (SFC) and the European Social Fund (ESF), is continuing and assessment has been piloted by a number of colleges in the 2006-7 academic year.

b Developing e-NABs for National Qualifications

Initially providing e-assessment for Units in a selection of subjects and levels, but leading to external e-assessment where appropriate.

c Developing qualifications for which provision of e-assessment is a consideration at the design stage

Evidence from our own activities and elsewhere indicates that such qualifications are particularly effective in motivating and engaging some types of candidate who have not been successful in conventional assessments.

d Continuing to support the use of e-portfolios

SQA's centres are increasingly recognising the benefits of using e-portfolios to support teaching, learning and assessment. Their potential in engaging hard to reach learners and in encouraging reflective and independent learning is of particular interest. Pilot activity

and providing guidance for centres on the quality assurance regime for e-portfolios and other systems, including online learning environments, will therefore remain priorities for SQA. A number of other awarding bodies have defined criteria for e-portfolios. These criteria are used to endorse commercially-available products as suitable to support the awarding body's qualifications. We may wish to follow this route rather than to provide an SQA e-portfolio for our centres.

Whichever approach we adopt, the key issue will be to ensure that SQA approves e-portfolios that allow learners to store similar types of material irrespective of the system used. They must also support automatic collection of data to support SQA's certification processes and facilitate remote moderation. Additionally, we will need to work with other agencies to support centres as they seek to implement new e-portfolio systems.

e Establishing how e-assessment can help support achievement of the aims of Curriculum for Excellence

This will draw from a variety of sources, including the work described above on summative e-assessment, e-assessment from design stage and e-portfolios. The balance of assessment focus should become clearer as the curricular programme itself develops. However it is already apparent that the trend towards greater flexibility and personalisation in teaching and learning will present new challenges for those designing assessment models.

f Research and development

We will continue to undertake research and development and proof of concept projects as new technologies and innovative assessment models emerge. We will seek to build on our existing strong links with higher education institutions in this area. Each project will have clearly defined aims that support our objectives for the development of e-assessment. We will also ensure that all of our e-assessment development work includes a rigorous review and evaluation process.

g Information sharing and collaboration

As CAA and e-assessment develop, we will seek to learn from the experiences of other awarding bodies and agencies. Whilst commercial sensitivities must be protected, the costs and complexity of e-assessment development means that most other bodies involved in its development are keen to share learning and some are willing to engage in collaborative work.

4 Key issues for development of e-assessment

The following issues will need to be addressed as SQA seeks to develop e-assessment to support increasing numbers of its qualifications:

- ◆ selection of a suitable technology platform
- ◆ provision of staff development
- ◆ resourcing development of e-assessment

a E-assessment technology platform

To deliver large scale e-assessment securely and cost effectively to centres, we will need to secure access to a software delivery platform. We will seek to identify a single delivery platform (for external, high stakes assessment) that can be used for key e-assessment projects. This platform should also, in time, absorb the e-assessment associated with existing qualifications.

The advantages of a single platform are that it:

- ◆ offers simpler management and integration with SQA's other IS systems and with those being used in centres.
- ◆ reduces complexity and the training requirements for SQA staff, appointees and centre staff
- ◆ will speed up the development and implementation of new qualifications
- ◆ allows SQA to establish a strong development relationship with one technology partner.

These advantages need to be weighed against the disadvantages of a single platform. These are principally:

- ◆ the possible technological limitations of the single system selected.
- ◆ the risks associated with working with one technology partner.

Any platform used should be compliant, as far as is practicable, with the emerging technology standards for e-assessment and e-portfolios, and in particular with those being developed under the International Metadata Standard /Question and Test Interoperability (IMS/QTI) framework.

We will take account of, and where possible build on, related national developments. The establishment of Glow in particular should provide an infrastructure that SQA can benefit

from as we look to deliver e-assessment to schools. We will seek similar opportunities for our other centres.

Through a collaborative approach to the development of e-assessment, we can also use its roll-out to support and encourage enhancements in the use of ICT to support teaching, learning and assessment more generally, and in the provision of the equipment necessary to facilitate this. Whilst SQA has no formal role in the provision of this equipment, clear communication of SQA's plans for development of e-assessment can help to inform planning amongst those who do.

b Staff development in e-assessment

Supporting use of e-assessment in centres requires different skills from those required for conventional assessment. Experience to date indicates that training for centre staff is a key factor in determining the rate at which e-assessment is taken up. Staff should be able to access training in good practice in the creation and use of e-assessment to support teaching and learning.

As with the provision of an appropriate technology platform, staff training to support e-assessment should benefit from other nationally-led staff development activity in ICT. Training such as that offered through the Masterclass and Heads Together programmes, together with similar work undertaken by SFEU and others, offers a network of teachers and lecturers who have already experienced some training in the effective use of ICT. These teachers, with additional training, could be well placed to offer support for implementation of e-assessment in their centres.

Training in the development and quality assurance of high-quality e-assessment will also be required for those members of SQA's staff who will support this activity and for members of SQA's examining teams and verifiers. To help achieve this, we will continue with the development of SQA Academy and its model of web-based training and development packages, designed for flexible online and/or workshop delivery.

c Developing a business model for e-assessment

Development of a sustainable business model for e-assessment is one of the key challenges facing SQA in this area.

It is clear that the immediate impact of increasing the scale of our e-assessment work will be to require significant additional resources for development and implementation. However there may be potential for cost savings in the longer term, particularly in the efficiency with which e-assessments can be delivered, taken, marked, quality assured and certificated. The elimination of paper and transport costs will also contribute to the developing environmental and sustainability agendas.

The key costs will be associated with:

- ◆ Licensing or purchasing and implementing a software delivery system(s) and its integration into SQA's existing systems.
- ◆ Ensuring that centres meet the specified technical requirements and that links with SQA are working effectively
- ◆ Training authors, reviewers and verifiers in the development and use of e-assessment instruments
- ◆ Training and supporting centre staff in the use of e-assessment.

SQA's initial development of e-assessment has been funded by a number of different bodies depending on the nature of the e-assessment and the candidate group for which it is designed. This is not sustainable in the long term. A more considered and strategic approach is required to ensure that the benefits of e-assessment are available to learners on a planned basis.

There are a number of possible models for resourcing development of e-assessment. Decisions on which is the most appropriate will be taken after careful consideration and with reference to the wider development of SQA's commercial strategy. The models include:

- ◆ Development funding for specific projects drawn from a range of sources (eg SFC for HN, Scottish Executive for e-NABs).
- ◆ Costs of e-assessment built into entry charges made by SQA across the full range of its qualifications
- ◆ Costs of e-assessment built into entry charges **only** for those qualifications for which e-assessment is available.

It is likely, in the early stages at least, that more than one of these models will be adopted. For SQA's 'core' qualifications, the most appropriate model may be one that:

- a. Combines specific purpose development funding from other national agencies such as the SFC or Scottish Executive with that provided internally from a proportion of entry charges and other sources of revenue.
- b. Ensures these funding sources provide for a defined amount to be available over a given time period, ideally no less than three years.
- c. Allows SQA to publish a development schedule based on this funding. This schedule would set out a timetable of development of e-assessment to support HN and NQ.

In working with this or other models, we recognise that the resourcing available for the development of e-assessment will depend to some extent on how funding bodies assess its contribution to the achievement of national policy goals for education and training.

5 Communicating our vision

SQA needs to communicate this vision and strategy for e-assessment to its own staff, stakeholders, the wider public and the media. This communication must help all parties to appreciate the main issues and to have confidence that they are being managed effectively.

In summary, these issues are that:

- E-assessment is not ultimately an option but neither is it a panacea. Whilst a mixed economy of conventional and e-assessment will exist for some time and the speed of adoption will differ across sector and candidate groups, it is clear that e-assessment will become an increasingly common component of the assessment landscape.
- E-assessment is about providing learners with fit-for-purpose, flexible assessment that enhances their experience of teaching and learning.
- E-assessment is not just about multiple choice objective testing; technology can be used to provide assessment opportunities not possible with pencil and paper.
- E-assessment can provide learners with a more flexible assessment model; however this has implications for teaching and learning which will need to be explored
- SQA will proactively manage the risks associated with e-assessment, real or perceived, and will work with its centres and other national bodies to ensure that there is adequate support to meet this challenge.
- E-assessment will bring a variety of costs and benefits to SQA, centres and learners. However, in the initial stages of its development, e-assessment is about enhancing the quality of assessment and not about saving money.

SQA will be proactive in communicating this vision and strategy, and four broad strands of activity are proposed. These are that SQA will:

- a. Ensure that all of its staff, through briefings, intranet and other communication channels, are made aware of the vision and understand why SQA is pursuing it.
- c. Ensure that all part-time and field staff (e.g. verifiers) are fully briefed and able to act as e-assessment ambassadors for SQA in the centres they visit.
- d.. Use technology itself to develop engaging ways of communicating SQA's vision and work in e-assessment. A DVD has already been produced and a section of the main SQA website is dedicated to this area of work.
- e. Invite the media to try e-assessment for themselves to help counteract the negative stories that can easily undermine positive communication work.

These strands of activity will form part of a comprehensive communications strategy. This strategy will aim to ensure that the key messages relating to e-assessment for each stakeholder group are identified and appropriately communicated.

SQA

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