

Drivers and barriers to the adoption of e-Assessment for UK Awarding Bodies





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Research Stakeholders

This research project is timely. It provides the first systematic survey of Awarding Bodies' attitudes and views of the drivers and barriers associated with e-Assessment. They will be taken into consideration, along with the barriers and drivers to e-Assessment from other key stakeholders perspectives, when later this year QCA publishes its e-modernisation strategy. The findings from this report will also be helpful to us as we develop an e-regulatory framework for this emerging area of the assessment arena.

As the regulator, our aim is to facilitate the development and take-up of e-Assessment for virtually any skill or qualification, across any age range and across all sectors, by working closely with providers. We consider that the information contained in this report will be of benefit to all Awarding Bodies - including those not yet e-active in developing corporate strategies.

Martin Ripley – Qualifications and Curriculum Authority (QCA)

e-Assessment is undoubtedly going to rapidly grow in importance in coming years. We recognise that it is essential that Awarding Bodies review their strategy in relation to e-Assessment in an informed and considered way. The Federation of Awarding Bodies will be seeking to support its members in doing this and considers the information contained in this report an important contribution to our understanding of the current situation.

Paul Ellis – Federation of Awarding Bodies (FAB)

Acritas was delighted to be appointed as the independent research organisation with responsibility for conducting this comprehensive study. A mixed qualitative and quantitative methodology was adopted, to combine the benefits of rich, detailed feedback with a robust element of measurable data, which has been rigorously analysed. Great emphasis was placed on accuracy and objectivity to deliver reliable, unbiased and insightful findings upon which all interested parties can base decisions with confidence. Particularly pleasing was the exceptionally high rate of respondent participation and Acritas would like to take this opportunity to thank all those who contributed their views for their time and candour, which made this project a success.

Victoria Spencer – Acritas Research

Research Stakeholders

Thomson Prometric's sponsorship of this ground-breaking independent research, with support from the stakeholders, has resulted in a high percentage response rate. This has produced robust findings which have enabled sound conclusions to be drawn. With 67% of all recognised Awarding Bodies being interviewed, QCA and FAB (as stakeholders) have acknowledged that this document represents the most comprehensive research available, which will lead to findings that shape strategy and frameworks for future e-Assessment development.

The research demonstrates Thomson Prometric's continuing commitment to the UK Awarding Bodies. By listening to Awarding Body concerns, we can offer assessment solutions to support their objectives and goals. We acknowledge recurrent themes regarding working examples of e-Assessment, understanding innovative question item types, and issues regarding security and technology. This will enable us to demonstrate listening and tailor our solutions accordingly.

Additionally, this research provides a benchmark to determine the current position of e-Assessment in the UK and future needs. I'm positive that Thomson Prometric will continue to contribute and engage with this industry debate.

Thomson Prometric is proud to be associated with this research and I wish to express my personal thanks to all who have contributed.

Martin Milner, Country Manager GB, Thomson Prometric

Executive Summary

This report details a research project undertaken following the publication and launch of the QCA's 'Blueprint for e-Assessment' in April 2004. It provides an exploration of the UK e-Assessment market and considers the impact on the UK Awarding Body community and how they intend to respond to the Blueprint. In turn, this precipitates perceived drivers and barriers to the adoption of e-Assessment systems. Questions related to topics such as suitable conditions for e-Assessment, technology providers and assessment location preference, provide responses which give the clearest indication of the state of the market and Awarding Body assessment needs.

*There is a groundswell
of positive thoughts
and actions regarding
e-Assessment*

The results suggest that there is a groundswell of positive thoughts and actions regarding e-Assessment and notable perceived efficiency gains. However, Awarding Bodies are apprehensive about the QCA's Blueprint. e-Assessment systems must be fit-for-purpose and be utilised with appropriate consultation and guidance engaging learners, third parties and appropriate higher level stakeholders.

The UK Awarding Bodies are found to exhibit the traits of an early adopter market for e-Assessment with regard to industry knowledge and uptake of programmes. It is possible to state that these findings will allow Awarding Bodies to revisit their thoughts on e-Assessment, altering the pace of market maturity in the short to medium term.

Introduction

The UK assessment industry is experiencing rapid and profound change as both Awarding Bodies and the regulator (QCA) are discussing, shaping and implementing changes that will have profound effects on all stakeholders. It is perceived that the experiences to date have been mixed, which could be creating unease about recent industry innovations.

In April 2004, the QCA launched a 'Blueprint for e-Assessment', with a speech by Dr. Ken Boston, QCA's Chief Executive. Dr. Boston talked about the need for QCA to "embrace a technological future for..assessment" and how QCA want to "vigorously drive forward towards early achievement of this vision of assessment."

The key purpose of the speech and Blueprint was to stimulate debate and raise questions of how that vision can best be achieved by QCA, Awarding Bodies and other key stakeholders.

Dr. Boston was explicit when he specified the following challenges by 2009:

The 'Blueprint for e-Assessment' was launched with specific challenges to be achieved by 2009

- *All new qualifications will include an option for on-screen assessment.*
- *All Awarding Bodies should be set up to accept and assess e-portfolios.*
- *Ten new qualifications, specifically designed for electronic delivery and e-Assessment, should be developed, accredited and live.*

Operationally, Dr. Boston suggested that this could be performed under the following possible scenarios:

- *e-Assessment field trials in at least two subjects per Awarding Body during 2005.*
- *75% of key and basic skills tests delivered on screen by 2005.*
- *A code of practice finalised by the end of 2006 to include agreed standards for quality, reliability and access.*
- *Live GCSE exams in at least two subjects each with field trialing in at least one custom-designed electronic qualification by that time.*

The concluding 'line in the sand' from Dr. Boston was that "by 2009, e-Assessment should certainly be normal, if not the norm, for thousands of students each year."

Project Theme

In view of the speech and Blueprint, a research proposal was mooted by Thomson Prometric, QCA and the FAB. Preliminary discussion gave forth to research ideas regarding how the UK Awarding Bodies would react to the challenge of e-Assessment and how they viewed the Blueprint.

The research was intended to establish UK Awarding Bodies readiness and capability to meet the QCA Blueprint. In doing so, it would identify drivers and barriers to e-Assessment adoption, thereby informing future assessment policies and commercial offerings. By undertaking a tightly scoped qualitative research study, it was intended that this would help to drive forward the vision by identifying, and also to promote, positive messages gained from stakeholder feedback.

The specific areas of research would include:

How capable and ready are UK Awarding Bodies for e-Assessment?

- *Detail the extent of feelings towards the Blueprint and the changes therein.*
- *How the Awarding Bodies are thinking about implementing the Blueprint.*
- *Detail the Awarding Bodies' perceptions of e-Assessment.*
- *Highlight the spirit of co-operation and/or tensions that exist and/or are generated when Awarding Bodies and technology providers work in partnership.*
- *Understand the impact of e-Assessment on Awarding Bodies and how this is managed with internal and external stakeholders.*
- *The risks associated in introducing and using e-Assessment.*
- *The resolution issues that require solutions so that Awarding Bodies are in a position to provide e-Assessment solutions that are valid, reliable and fit for purpose.*
- *How the Awarding Bodies want the QCA to help and/or facilitate stakeholders in introducing e-Assessment.*
- *The factors that might accelerate movement towards e-Assessment adoption.*

Purpose and Scope

The research study would consult the 116 QCA recognised UK Awarding Bodies and other key stakeholders as to their perceived drivers and barriers to e-Assessment. In addition, and more specifically, to assess and understand their reaction and response to QCA's proposals for e-Assessment and raise questions about how national assessment policy issues and commercial offerings could be re-shaped to ensure that e-Assessments are reliable, valid and fit-for-purpose.

Target Audience

The focus is on those responsible for the exam or qualification system

It was conceived that this should be as far as possible a 'census' of the 116 UK Awarding Bodies that are recognized by the QCA who regularly hold exams that are currently performed with pen/pencil and paper, or are currently using an e-Assessment technology provider. The contacts will be those people who have a specific responsibility for e-Assessment or general responsibility for the exam or qualification system.

For the initial qualitative stage, an additional 25 additional organisations affiliated to QCA were considered including; the Department for Education & Skills, (DfES), the Teacher Training Agency (TTA), the Learning and Skills Council (LSC), and the Sector Skills Councils (SSCs) amongst others. The findings from the initial phase would then influence how the questionnaire was designed.

Methodology

The recommended approach was to start with thorough face-to-face interviews within the Awarding Bodies and QCA partner organizations, to gain a detailed understanding of the e-Assessment arena and potential developments. The results of this qualitative stage would be used to inform the following wider interview stage. Following a scoping workshop, a project plan was approved and a topic guide for the qualitative interviews was also prepared.

Qualitative Interviews

Ten qualitative, face-to-face interviews were performed with Awarding Bodies, a regulator/Awarding Body and UK governmental bodies in order to gather data which describes stakeholder issues in detail and aids understanding of how the e-Assessment marketplace is changing. Each interview took place on a one-to-one basis at the respondent's office.

Quantitative Interviews

A structured questionnaire was then designed which was fully informed by the qualitative research findings. This employed both open and closed questioning techniques in order to combine the benefits of detailed verbatim feedback together with measurable data.

Quantitative Interview Topics

Seven main topic headings for the quantitative interviews were determined:

1. Market opinion and communication.
2. The use of technology and Awarding Body partnerships with technology providers to deliver e-Assessment.
3. The level of information available to Awarding Bodies about e-Assessment and its supply.
4. The role of regulation for e-Assessment.
5. How Awarding Bodies are seeking to deliver e-Assessment.
6. What security, technology and invigilation measures need to be in-situ at the place of e-Assessment testing.
7. The Awarding Body's opinion of the QCA Blueprint and how they would achieve the targets.

Sample

The interviewers were instructed to adopt an 'intelligent interactive' approach, probing for further details where appropriate on open questions. The responses were fed directly into specialist data processing CATI (Computer Aided Telephone Interviewing) software, ensuring accurate and reliable data capture. This would aid data analysis and charting. The research team was fully briefed on the background and objectives of the project to ensure an informed approach. The interviews were all conducted at the respondents' convenience.

Qualitative Findings

Seven themes and comments of face-to-face qualitative interviews

1. Positive attitude towards e-Assessment and that e-Assessment is a positive step for Awarding Bodies.
2. Candidate feedback and needs will drive e-Assessment adoption rather than the QCA's set timeframes or UK government agenda.
3. The incumbent QCA vision appears to be UK schools-orientated rather than appealing to vocational qualifications.
4. Assessment has a requirement to assess the curriculum, rather than what e-Assessment is capable of assessing.
5. Greater publicity, promotion and facilitation of the benefits of e-Assessment is needed.
6. More robust examples of sophisticated scalable e-Assessment uses are needed to inform Awarding body development plans.
7. There is a perception that what the larger Awarding Bodies want and can achieve in e-Assessment will lead the way in terms of timescales, capabilities and setting learner expectations.

*87 out of 116
Awarding Bodies
took part in
the study*

Number of Quantitative Respondents

87 respondents from 116 Awarding Bodies (currently accredited by the QCA) responded to the quantitative phase of the research. This covers over 67% of the research universe, a notably high figure for this type of study.

Statistical Confidence Levels

For a question where respondents gave a single answer, the research findings will be within 5% of what the entire 116 Awarding Body population would say. For example, if 70% answered yes to a question, between 65 and 75% of the 116 Awarding Bodies would give the same response.



74% of respondents are not currently delivering an e-Assessment programme

Quantitative Results

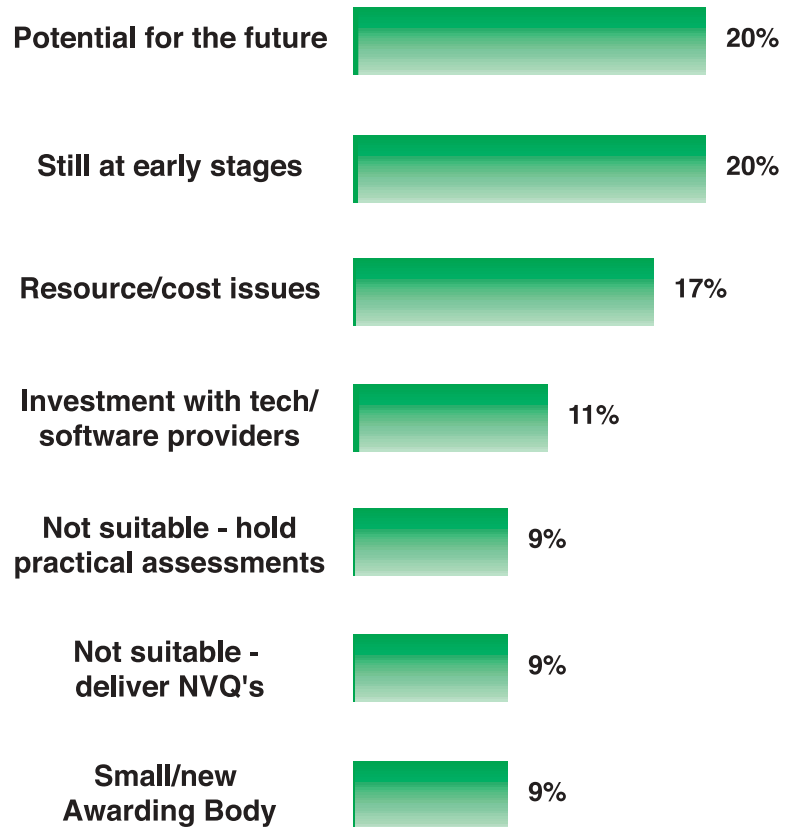
e-Assessment Delivery

Q: Can you outline any reasons why you are not currently developing e-Assessment? (Spontaneous)

Of the 74% of respondents who do not currently deliver e-Assessment, 46% are in the process of developing or piloting an e-Assessment programme.

Reasons given for those Awarding Bodies who are not in the process of developing/piloting e-Assessment are provided below.

18% of those not developing e-Assessment programmes believe that it is not suitable for their needs. This could be one element that affects opinions relating to the QCA's e-Assessment Blueprint and a weak understanding of e-Assessment capabilities.



Base: 64 out of 87 not running e-Assessment



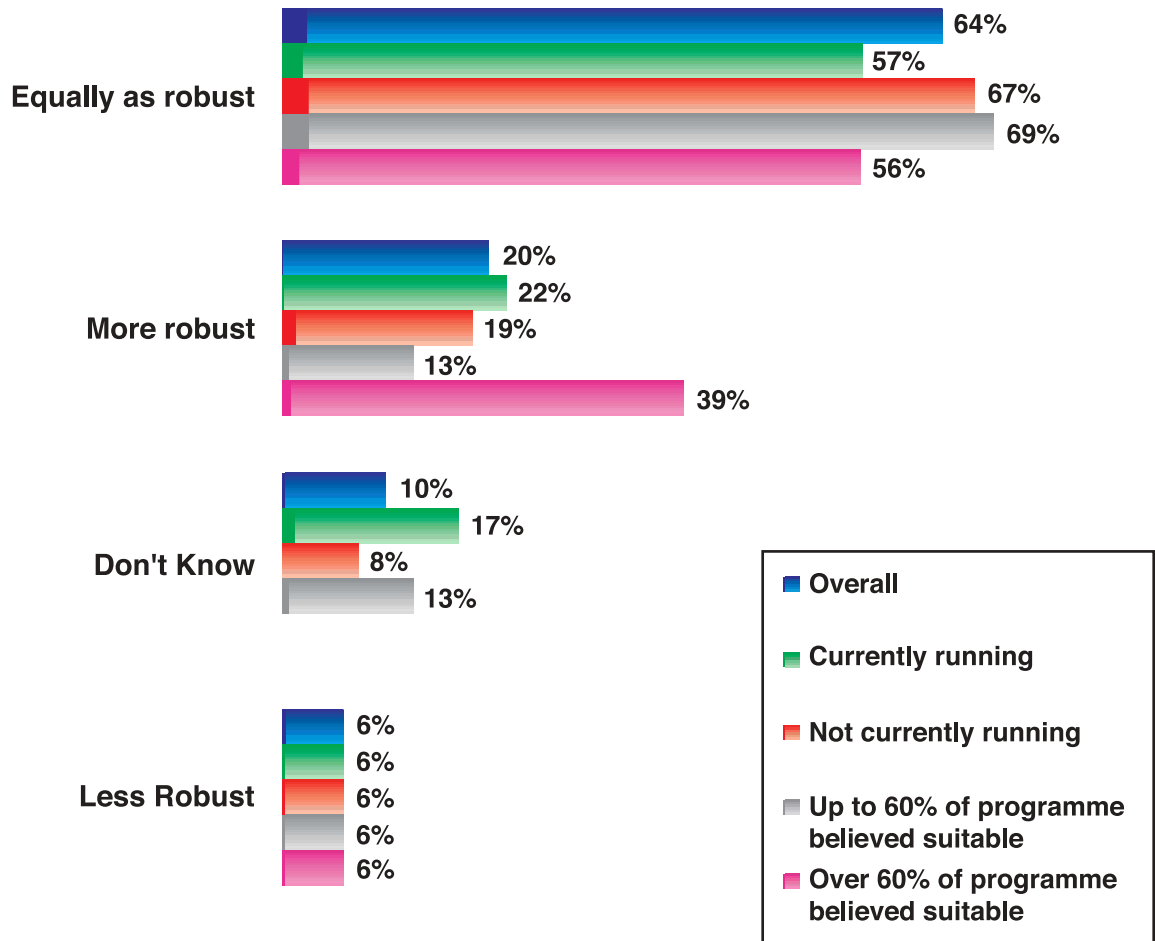
84% believe e-Assessment is more or equally robust as paper based assessment

Robustness

Q. Do you think that e-Assessment is a more robust, less robust or equally as robust method of assessment as paper-based assessment, on the whole? (Prompted)

The majority, 84%, believe e-Assessment to be equally or more robust than paper-based assessment. There are few significant differences in responses given by those currently delivering and those not delivering e-Assessment. Those who believe that over 60% of their programme is suitable for e-Assessment are more likely to see it as more robust than paper-based delivery.

It is possible to suggest that this shows a lack of confidence in existing delivery methods and a positive attitude towards e-Assessment as a secure and robust delivery method.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



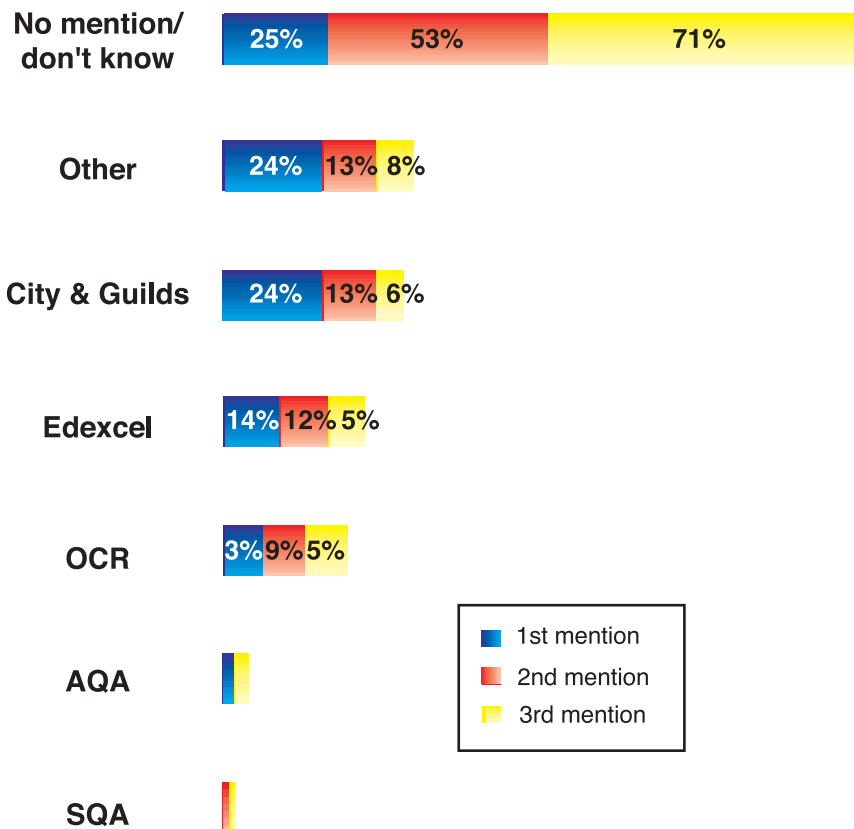
Almost three quarters of respondents are unable to associate three Awarding Bodies with e-Assessment leadership

Leading Awarding Bodies - Leadership

Q. Which Awarding Bodies do you associate with leadership in the field of e-Assessment? (Spontaneous)

Whilst the term 'Leadership' was not defined in order to elicit spontaneous responses, the majority of interviewees were unable to name three leading Awarding Bodies. City & Guilds and Edexcel received the most mentions from the respondents.

25% of interviewees were unable to think of one Awarding Body who they associated with 'leadership'. 71% could not think of three Awarding Bodies. The responses indicate that whilst some Awarding Bodies have high visibility in the marketplace, their 'leadership' attributes are not recalled by their peers.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Market Insight: e-Assessment examples

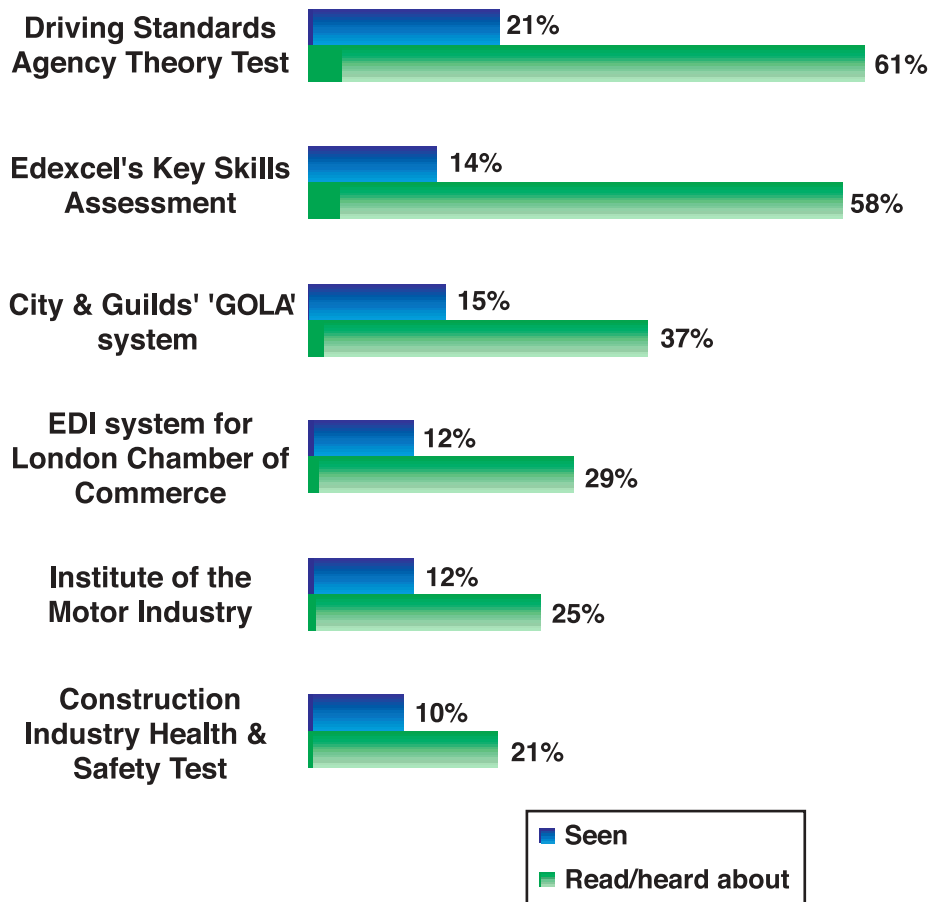


Q. Which of the following e-Assessment prototypes, trials and existing programmes have you either seen in action, read or heard about? (Prompted)

The majority of respondents who had seen the programmes listed, thought that the City & Guilds 'GOLA' system provided the best demonstration. Similarly, the Theory Test delivered by the Driving Standards Agency received highest recognition for having the most encouraging outcome.

From the qualitative interviews, few e-Assessment systems have been witnessed or seen in the UK marketplace. All the demonstrated solutions that were mentioned, except the Driving Theory Test, are solely based around multiple-choice items. As these tests deliver over 2 million plus per year, these figures can be considered modest.

Few e-Assessment systems have been seen by Awarding Bodies



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



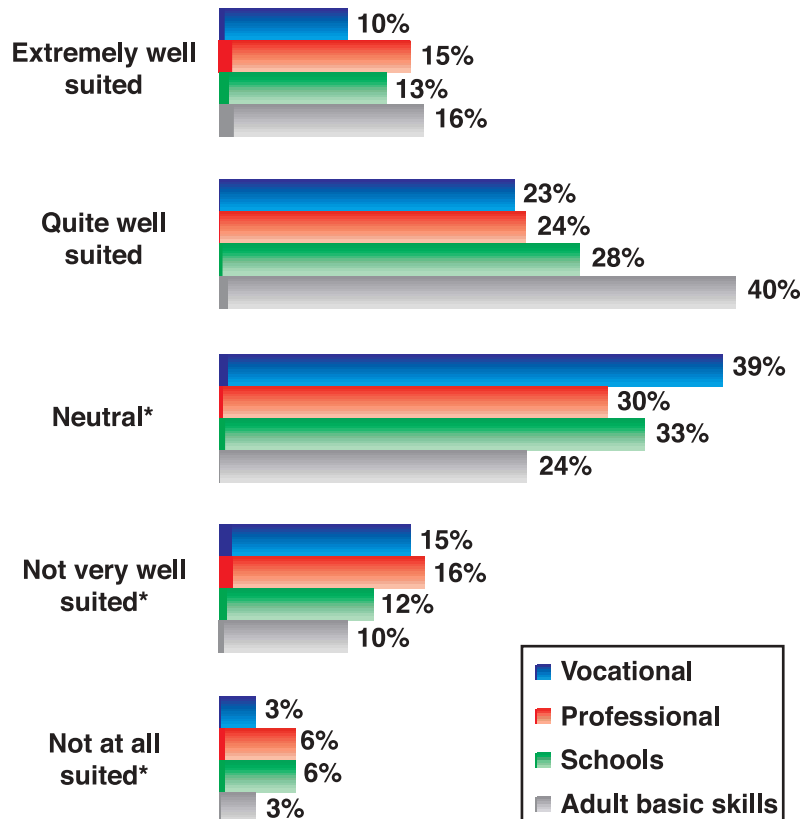
e-Assessment Suitability

Q. On a scale of 1-5 where 5 is extremely well suited and 1 is not at all suited, how well suited do you feel e-Assessment is to each of the following types of education? (Prompted)

Adult basic skills testing is perceived to be suited to e-Assessment by the largest proportion of respondents.

Generally, e-Assessment is seen as suitable for all education sectors though with a bias towards Adult Basic Skills, possibly due to the coverage this receives as a QCA promoted area. It is interesting to note that there a number of Awarding Bodies who have a 'Neutral' or undecided view of e-Assessment in relation to vocational education.

e-Assessment is generally suitable for all education sectors



* Definitions derived from a five point numeric scale

Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

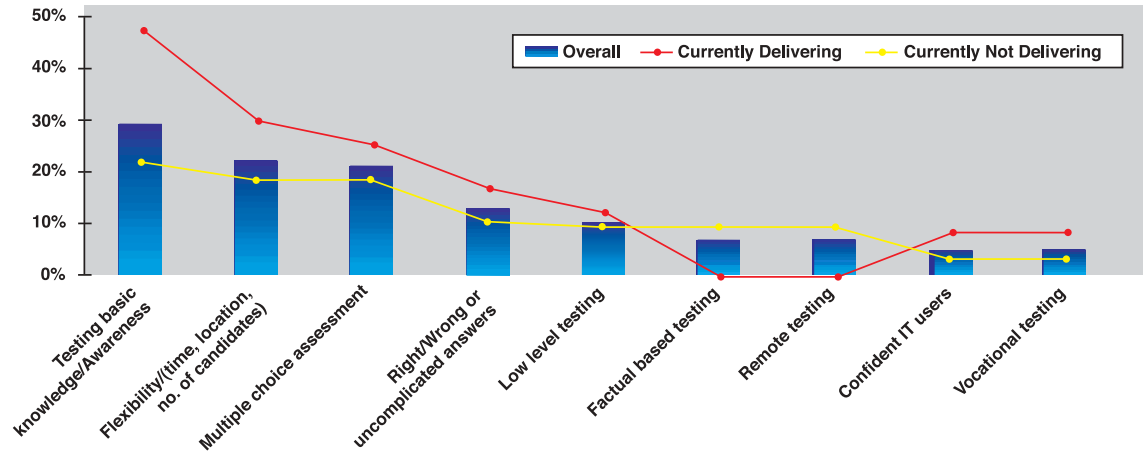


e-Assessment: Suitable Circumstances

Q. In your opinion, in what types of situations or circumstances does e-Assessment work particularly well? (Spontaneous)

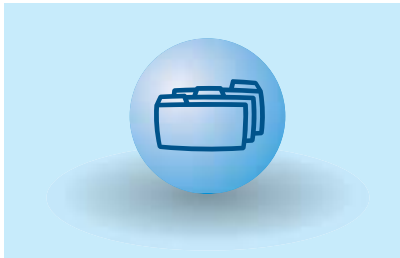
Of particular interest are the differences between those currently delivering e-Assessment and those who are not. Although respondents can spontaneously recall between three and five circumstances, it is perhaps surprising that almost three-quarters of all responses were derived from three specific circumstances: Testing basic knowledge, Flexibility and Multiple choice assessment. With reference to the question regarding existing programmes, these support these three factors rather than more innovative e-Assessment programmes which are available.

Testing of basic knowledge, flexibility and use of multiple choice question types account for almost 75% of responses



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

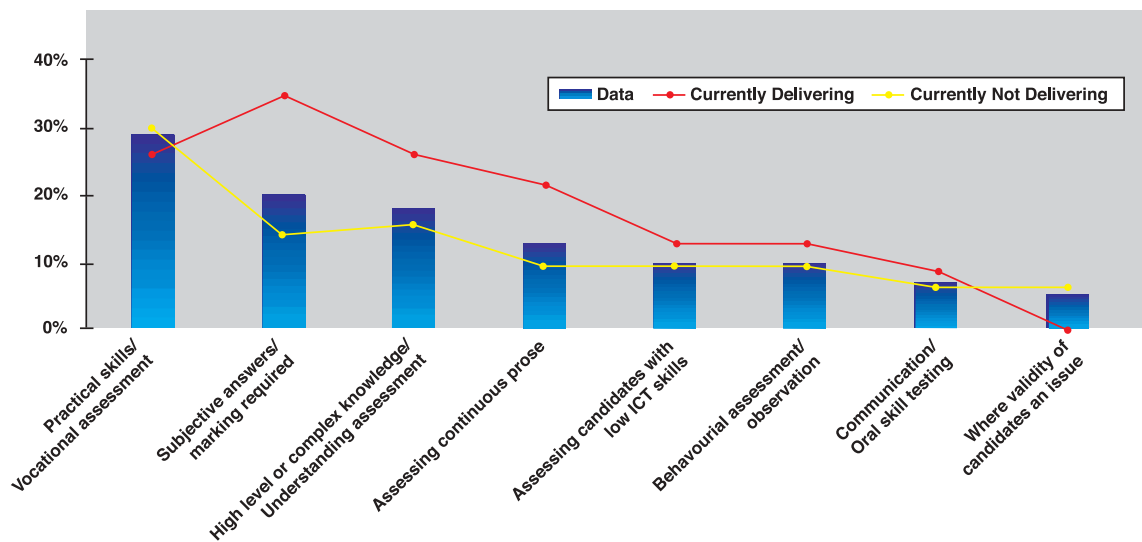
e-Assessment: Unsuitable Circumstances



Concerns regarding candidate validation are overcome with e-Assessment adoption

Q. In your opinion, what types of situations or circumstances is e-Assessment less well-suited to? (Spontaneous)

It is possible that these results specify where the greatest e-Assessment success has been achieved. For example, with regards to candidate validation (at the right hand side of the graph), any concerns regarding this are dispelled under an e-Assessment program. Equally, there is perhaps a tacit understanding that e-Assessment in its current known form(s) is not suited to practical skills assessment (left hand side of the graph). Although there are e-Assessment field trials for assessing practical skills, the message of using e-Assessment where it is fit-for-purpose is clearly called out by the Awarding Bodies.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Advantages



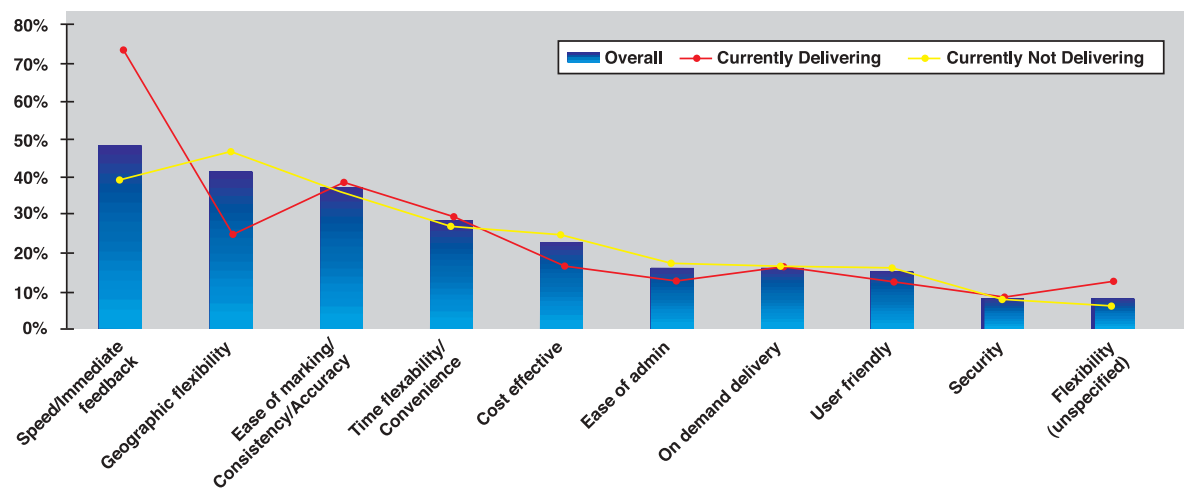
Speed/Immediate Feedback, Ease of Marking and Geographic Flexibility are the current three main advantages

Q. What are the three main advantages of using e-Assessment, in your opinion, overall? (Spontaneous)

The perceived benefits are very similar for those delivering and not delivering e-Assessment with immediacy and location flexibility as the biggest benefits. The on-demand testing element came out as a low priority,

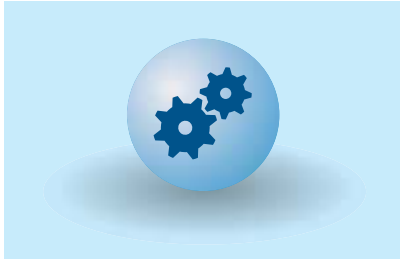
Surprisingly, those currently delivering programmes perceive geographic flexibility to be a lot lower than those not delivering. This maybe due to concerns regarding security and candidate validation outside of a high-stakes assessment environment.

The speed and immediacy of feedback are growing needs for Awarding Bodies, with the results of assessment very often fed into another time critical decision making process. Given the early adopter market level of UK e-Assessment, advantages such as 'User-Friendly' and 'Ease of Administration' figure only moderately in the responses. Upon market maturity, we would expect these benefits to rise in prominence, especially when other facets of e-Assessment such as data management and item bank creation become more important to Awarding Bodies as they seek to 'test when ready' outside of current examination cycles.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Disadvantages

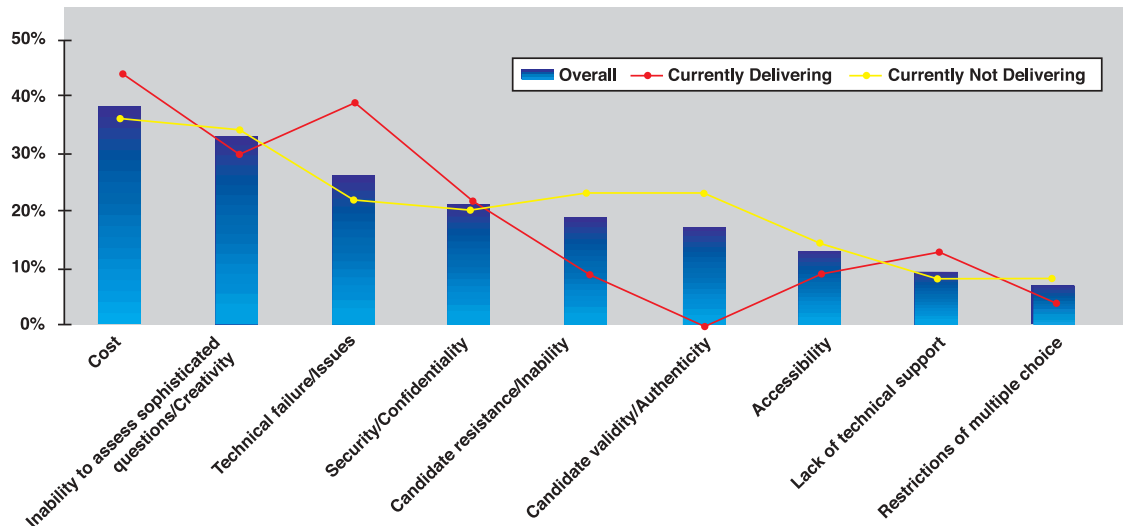


Q. What are the three main disadvantages of using e-Assessment, in your opinion, overall? (Spontaneous)

As mentioned briefly previously, candidate verification becomes a non-issue amongst current practitioners of e-Assessment. Given that candidate verification procedures within e-Assessment test centres often out-strip those of a normal paper-and pencil scenario, this is unsurprising. Also, Awarding Body concerns of candidate resistance appear to be unfounded. Of more concern are the issues of cost and technical failure. Clearly as an emerging industry in the UK, the full costs of e-Assessment development and implementation are not understood by the Awarding Bodies. It would appear that the full costs of their current incumbent systems are not fully known or documented. The costs of a change programme need to be determined as well as technology costs.

Issues regarding candidate resistance for e-Assessment are typically unfounded. Business continuity and service failure resolution are front-of-mind

The issue of technical failure needs to be examined more closely. This could relate to poor initial experiences, probably with smaller providers who do not have the necessary infrastructure or funding to fully resolve these issues. Business continuity and service failure resolution are clearly front-of-mind for the early adopters of e-Assessment.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

e-Assessment: Risks associated

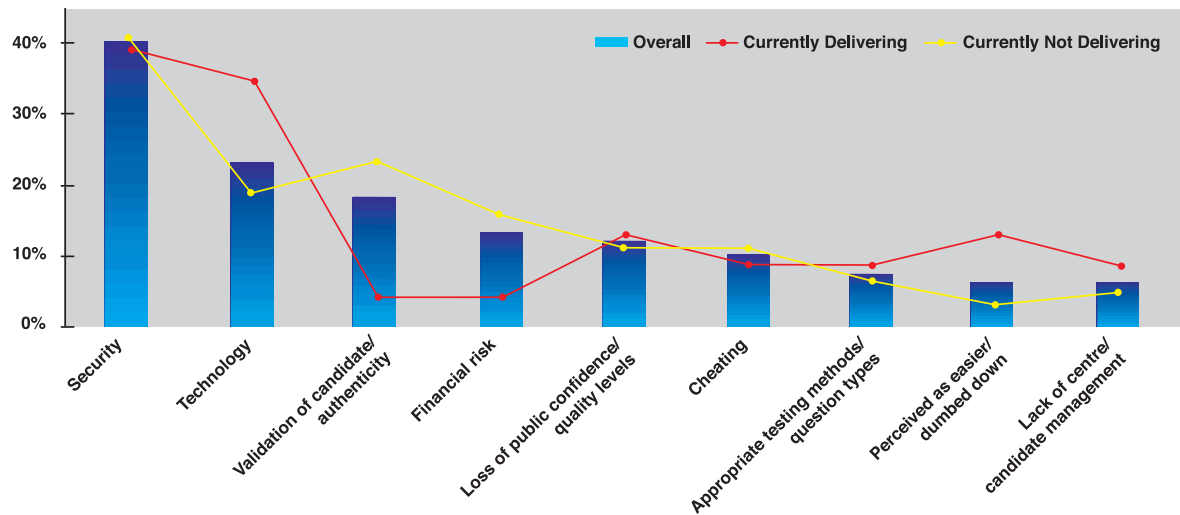


Q. What risks do you associate with the introduction of e-Assessment, if any? (Spontaneous)

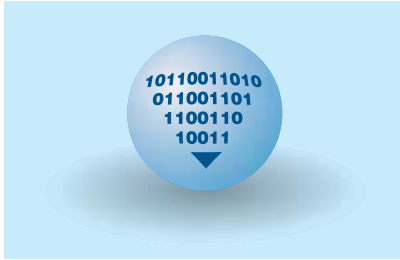
Financial risk is perceived as far less of a risk for those currently delivering e-Assessment. This is a message for assessment managers and financial controllers, when significant percentages of their Awarding Body revenue stream come from their assessment/exam program.

Security remains an understandable risk for both adopters and non-users. Greater awareness of innovative security systems, item banking technology and protection of candidate details will play a significant part in addressing this concern. As mentioned previously, most of the e-Assessment programmes are using technology that is up to five years old. The true risks and impact of e-Assessment were perhaps not fully understood at the time of implementation.

Security is perceived as the main addressable risk



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

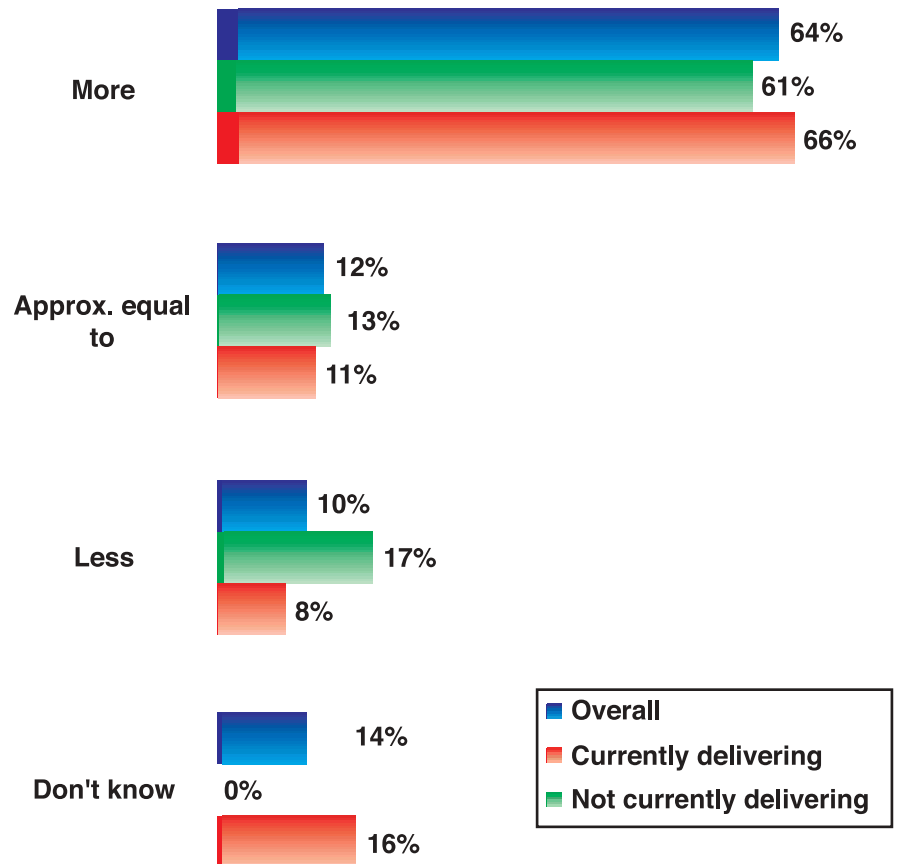


Almost two-thirds of Awarding Bodies believe e-Assessment will deliver cost benefits

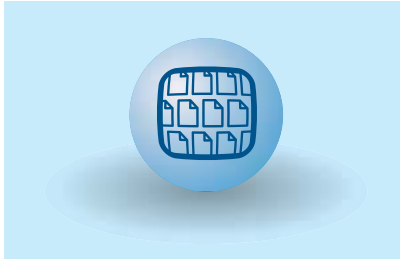
Costs

Q. Three years after implementation, will e-Assessment be more, less or equally cost-effective as paper and pencil tests?

64% of Awarding Bodies think that e-Assessment, once established, will be more cost effective than paper and pencil. Whilst the full costs of paper and pencil testing are often difficult to quantify, e-Assessment can be costed on a transparent basis. As usage grows, the effectiveness and efficiency as well as economic benefits, will become apparent.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

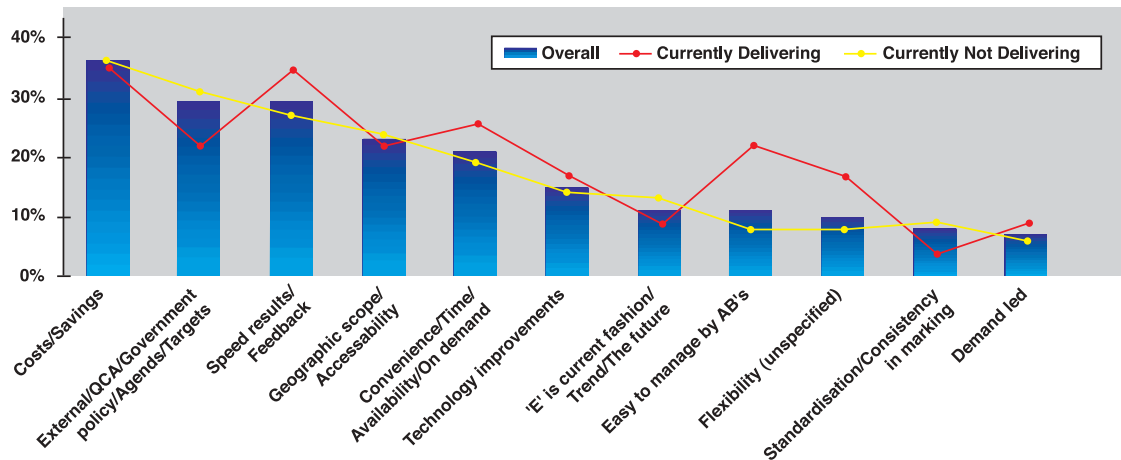


Cost Savings, Speed of Results and Ease of Management will help to drive uptake

Driving Uptake

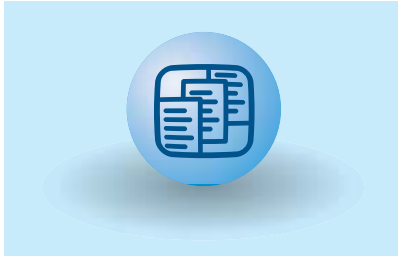
Q. Within the vocational/professional assessment arena, what do you believe to be the top three factors driving the uptake of e-Assessment? (Spontaneous)

There are similar trends in terms of costs, savings, government policy and immediate feedback, but ease of management gets more of a mention by those Awarding Bodies currently delivering e-Assessment. It is possible to state that this is an acknowledgement of the simplified business processes involved for Awarding Bodies with e-Assessment.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

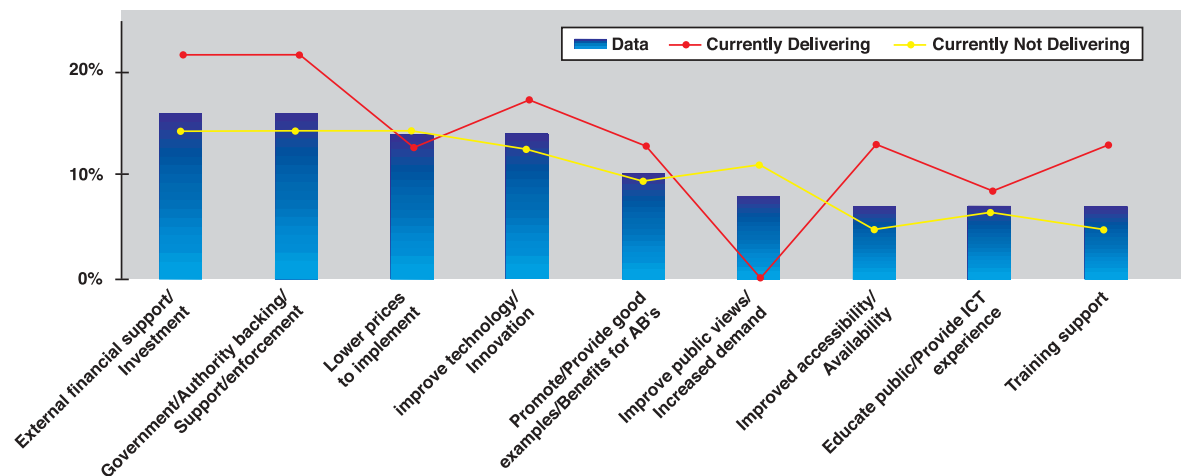
Further Driving Take-Up



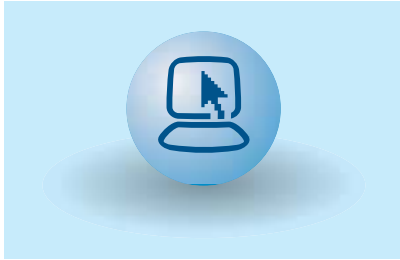
*e-Assessment enables an easing of the administrative burden
Awarding Bodies want examples of current e-Assessment practice*

Q. In your opinion, what additional factors could further drive take-up rates of e-Assessment? (Spontaneous)

External financial support, lower implementation prices and also good practice examples were cited by almost half of Awarding Bodies. Improving assessment access is also mentioned by a significant number of respondents. Unsurprisingly, financial incentives figure highly for all parties as well as external assistance from the government in one form or another. The factor of 'Ease of Administration' will become more prominent when other facets of e-Assessment receive visibility as the market matures. Finally, there is a latent demand for examples of current e-Assessment practice from the Awarding Bodies.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



Culture for e-Assessment

Q. On a scale of 1-10 where 10 is completely and 1 is not at all, how ready is the culture within your Awarding Body for e-Assessment?

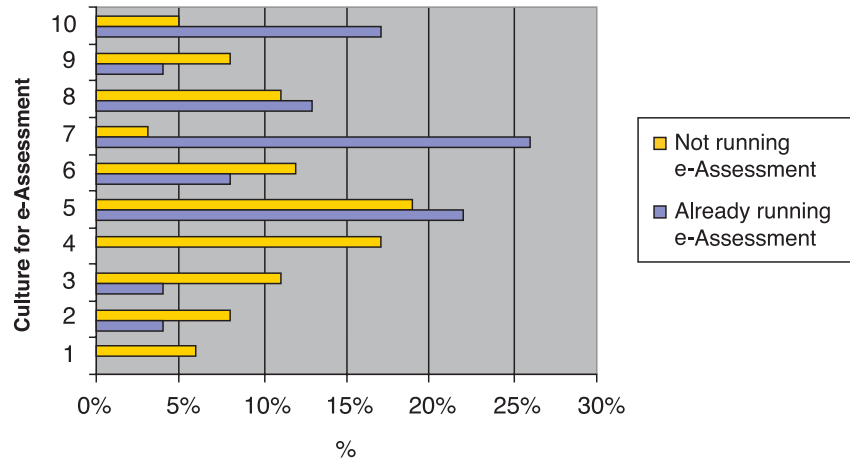
On average, respondents rate their organisation's readiness for accepting e-Assessment as 5.6 out of 10.

For those currently running e-Assessment this score becomes 6.8 out of 10. For those not currently running e-Assessment, the score lowers to 5.2 out of 10.

Almost a quarter of those not running e-Assessment scored between 1 and 3 out of 10. Needless to say, these Awarding Bodies skew the overall score downwards.

More Awarding Bodies that have implemented e-Assessment believe that there is a positive culture for e-Assessment adoption. This indicates that organisational culture is a key factor. According to these results, for successful adoption of e-Assessment, an Awarding Body needs to have a culture that embraces change and the processes which are integral to this.

Organisational culture is a key factor for successful e-Assessment adoption



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

E-Assessment: Importance factors

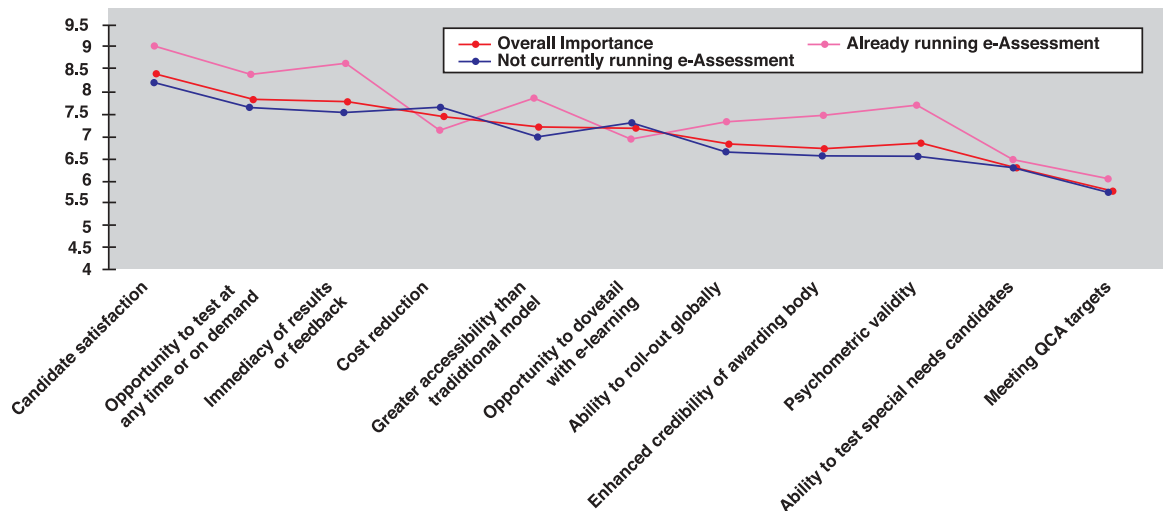


Q. On a scale of 1-10 where 10 is extremely important and 1 is not important at all, how important are each of the following factors to you in relation to e-Assessment? (Prompted)

This part of the research highlights what is important to the Awarding Bodies with regard to e-Assessment and the values that Awarding Bodies value highly. Candidate satisfaction, 'on-demand' testing and immediacy of results and feedback are the three highest values on this scale. However, the factor of meeting QCA targets comes out as the lowest prompted response and most surprisingly for those that are not delivering e-Assessment. This gives a clear indication of Awarding Bodies attitude towards the Blueprint, which is called out in a later question.

Interestingly, those currently running e-Assessment give high scores to areas such as global roll-out of their programmes and psychometric validity. This tallies with the analysis of previous responses, where it is proposed that these elements become more important to Awarding Bodies as the UK e-Assessment market matures.

Candidate satisfaction is most important to Awarding Bodies



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Location Preference

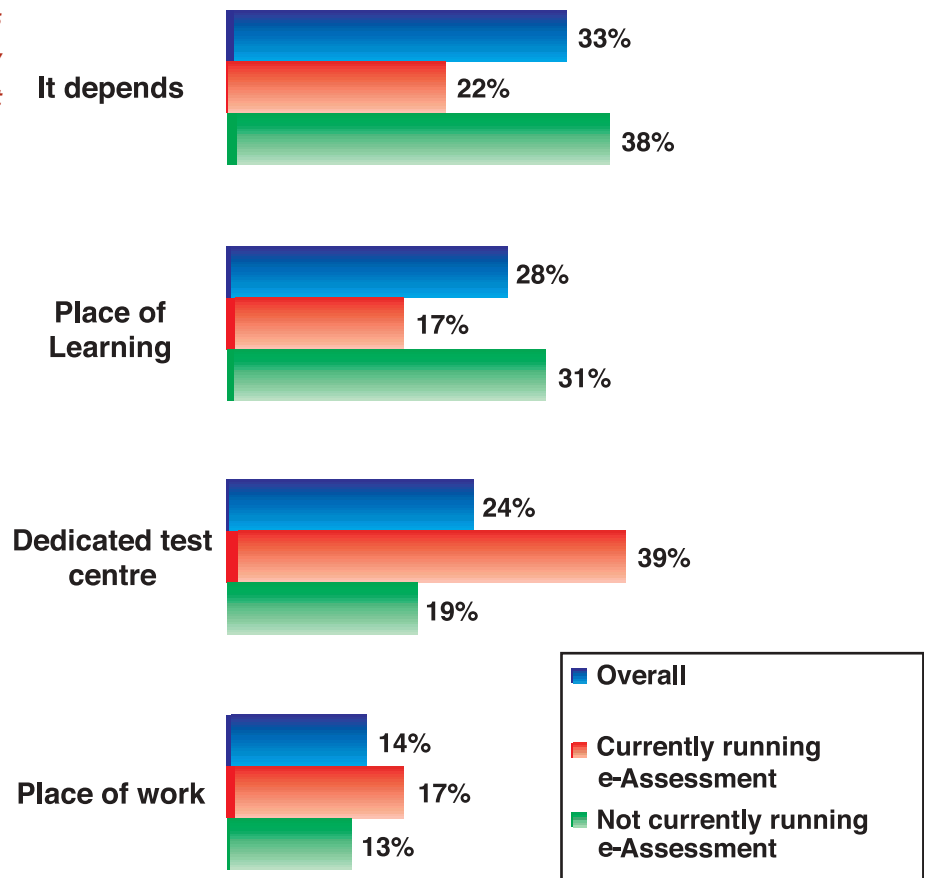


Q. Where does your organisation prefer to test? (Prompted)

For those Awarding Bodies already delivering e-Assessment, a dedicated test centre is the preferred delivery location. This indicates the need for a high level of security and reliable technology.

For the response of 'It depends', responses were captured verbatim. The two largest groupings for this response were: Suitability for assessment or candidate (17%) and Candidate preference (5%). Again, this reaffirms the view that the assessment must be fit-for-purpose and suitable for the candidate.

*Dedicated Test Centre facilities
are the preferred delivery
method for assessment*



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Technology Providers – Shared e-Assessment Test Locations

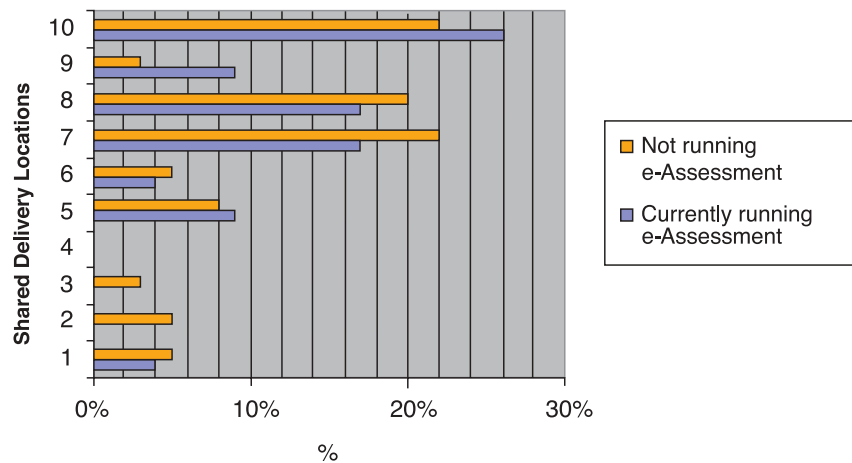


Q. On a scale of 1-10, how willing would you be to work collaboratively with third party technology solutions providers on shared e-Assessment locations? (Prompted)

The graph below shows the percentage of respondents who rated each score out of 10 for willingness, where 10 equates to very willing and 0 not at all. Respondents rated their willingness on average as 7.3 out of 10 to work collaboratively on shared e-Assessment locations.

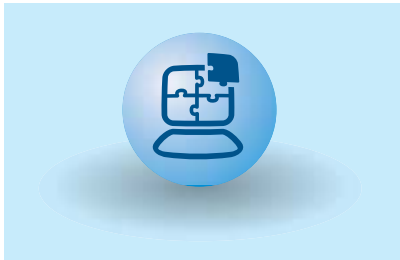
There is a high willingness to collaborate on assessment locations

Given the high fixed costs of running test centres, the traditional UK Awarding Body model has been to share test center resources with local colleges/other providers. Those currently running e-Assessment appreciate this even more than those who are not. Nevertheless, by understanding the true costs of the current exam program, it is possible to accurately determine the cost/benefit of shared location and other factors such as security, candidate verification etc.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

Technology Providers – Test Development

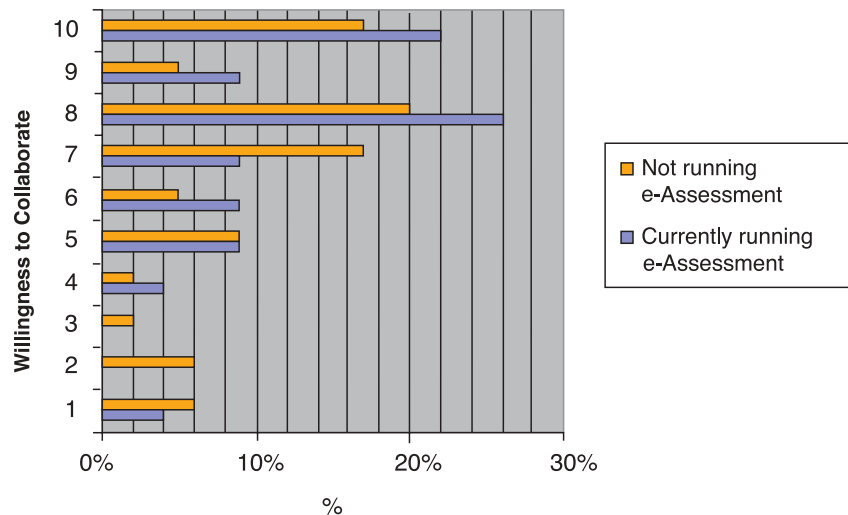


Collaboration on Test Development will take advantage of the benefits of e-Assessment coupled with industry experience

Q. On a scale of 1-10 where 10 is completely and 1 is not at all, how willing would you be to work collaboratively with third party technology solutions providers on test design and question development? (Prompted)

The graph below shows the percentage of respondents who rated each score out of 10 for willingness to collaborate. On average, this was rated as 7.0 out of 10.

As e-Assessment is adopted further and the market matures, Awarding Bodies will be seeking to develop their item banks to take advantage of the additional features and benefits of e-Assessment. The science of test design and question development, typically involving psychometric analysis, is clearly one of many issues that need to be broached by Awarding Bodies in the short-term.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



Data Integration

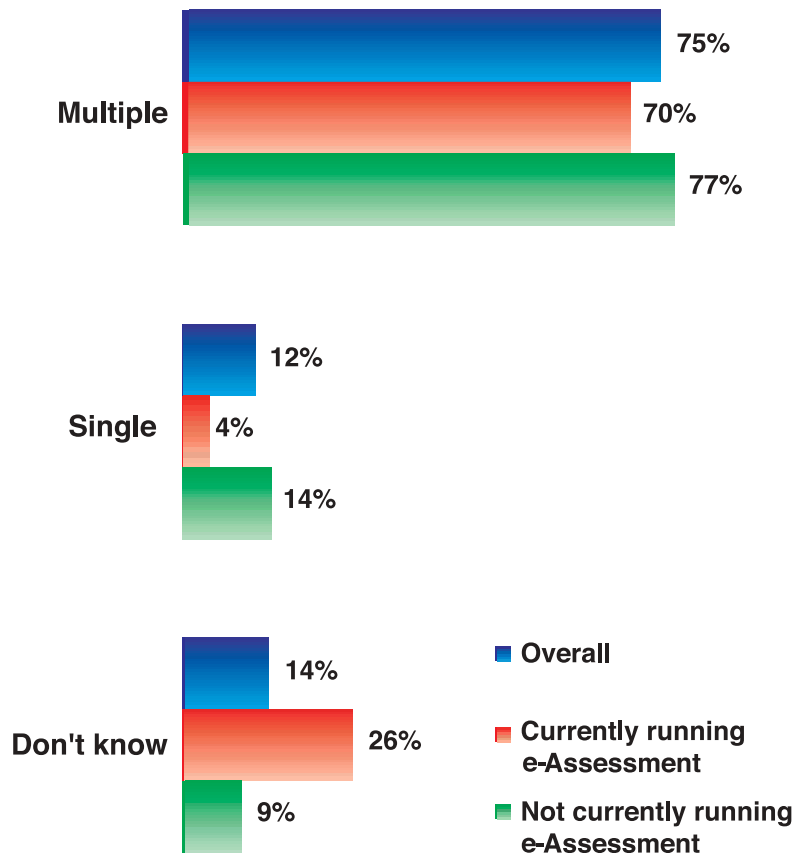
Recognised and agreed standards, such as BS7988, are preferred by Awarding Bodies

Technologies

Q. Is a single assessment technology preferable in the vocational/professional market, or multiple versions conforming to agreed standards? (Prompted)

The responses from this question call-out the need for Awarding Bodies to have recognizable and established standards covering multiple e-Assessment technologies. This represents a tacit recognition that there is a competitive market for e-Assessment. Standards and codes of practice such as British Standard 7988 can be viewed as instrumental for determining e-Assessment standards and recognisable service/operational benchmarks.

The results suggest there appears to be little desire to have a mono-technology system for all e-Assessment provision.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



The QCA Blueprint for e-Assessment is perceived as not being achievable in its current format. The Awarding Bodies want the FAB to take a significant and active role in e-Assessment

Stakeholders

Q. Do you believe that the QCA's vision of full e-Assessment adoption by 2009 is achievable in the vocational/professional market?

| | | |
|-----|-----|--|
| Yes | 22% | (Currently delivering: 39%, Not currently delivering: 16%) |
| No | 76% | (Currently delivering: 57%, Not currently delivering: 83%) |

Q: Do you perceive QCA to have the competencies to assess the technical capabilities and securities of e-Assessment used by Awarding Bodies?

| | | |
|------------|-----|--|
| Yes | 36% | (Currently delivering: 35%, Not currently delivering: 36%) |
| No | 39% | (Currently delivering: 26%, Not currently delivering: 44%) |
| Don't know | 25% | (Currently delivering: 39%, Not currently delivering: 20%) |

Q. Do you believe that the FAB should adopt a significant and active role in driving e-Assessment knowledge?

| | | |
|------------|-----|--|
| Yes | 77% | (Currently delivering: 78%, Not currently delivering: 77%) |
| No | 8% | (Currently delivering: 0%, Not currently delivering: 11%) |
| Don't know | 15% | (Currently delivering: 22%, Not currently delivering: 13%) |

The Awarding Bodies have strongly specified that they do not see QCA's Blueprint, in this format, as being achievable. As would be expected, those that are currently delivering e-Assessment think that the Blueprint is more achievable. Nevertheless only 39% of those currently delivering e-Assessment agree with the first question.

It is encouraging to note that the Awarding Bodies are requesting deeper involvement from the Federation of Awarding Bodies (FAB) regarding e-Assessment. Having a 'voice of industry' helps to express concerns to both the regulator and third party delivery companies regarding e-Assessment needs, concerns and future developments.

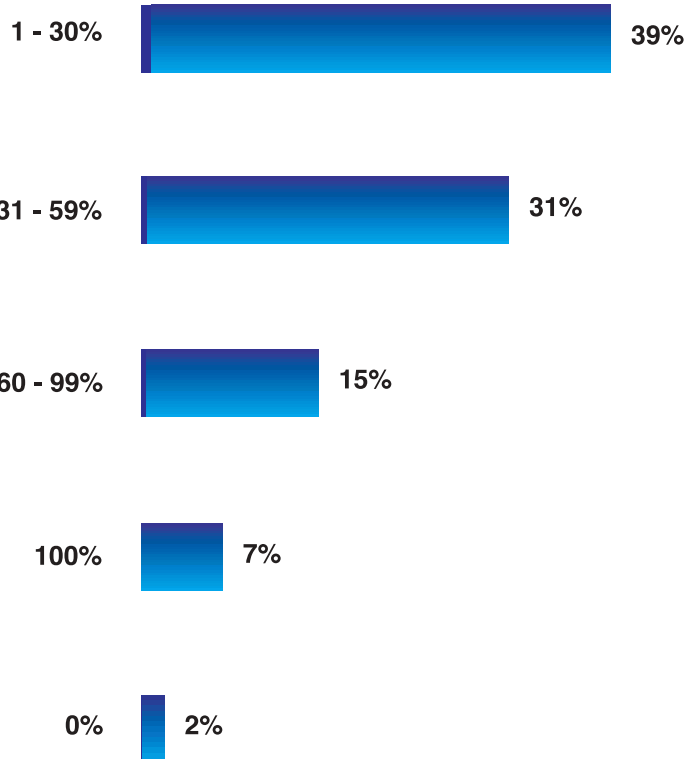


e-Assessment programmes above and beyond 'Foundation Level' are more familiar outside of the UK, where 'early adopter' risks have been remedied

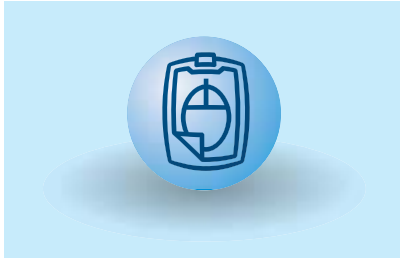
Future of e-Assessment

Q. Approximately what percentage of your assessment programme do you realistically expect to be e-Assessment by 2009? (Spontaneous)

The research finding from this question affirms what is currently happening in the UK market place. When Awarding Bodies introduce e-Assessment, it is usually on a trial basis for 'foundation' knowledge tests, rather than a systematic conversion of large tracts of their programme. Increasing awareness of current programmes that have been implemented in mature markets, will help Awarding Bodies reconsider their views and understand that many 'early adopter' risks have been taken and remedied in these markets.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

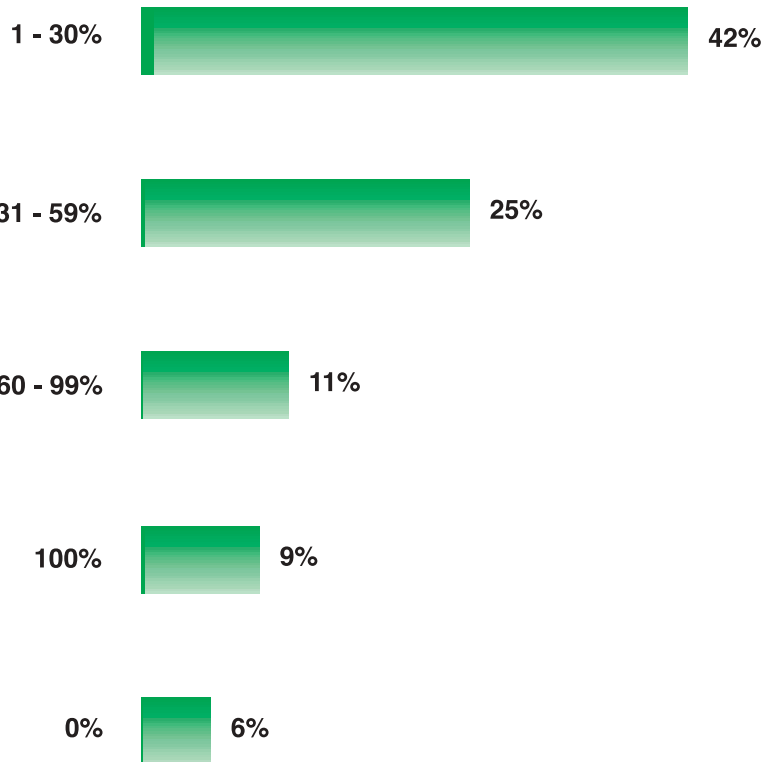


42% of Awarding Bodies believe that between 1-30% of their programmes could be assessed by Multiple-Choice questions

Future of e-Assessment

Q. What percentage of your programme do you believe could potentially be assessed by sophisticated multiple choice questions? (Spontaneous)

The question above directly relates to the 'here-and-now' of current capabilities with regard to multiple choice as an item type. The Awarding Bodies and the e-Assessment industry have had high awareness of multiple choice as a question item type for many years. However, the idea of using discrete response against (for example) an essay response is still a concept that has not been fully discussed by the Awarding Bodies. Greater awareness of the increasing capabilities of scenario-based multiple choice items is a challenge that the industry needs to address, as well as raising the awareness of other e-Assessment item types and capabilities.



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)

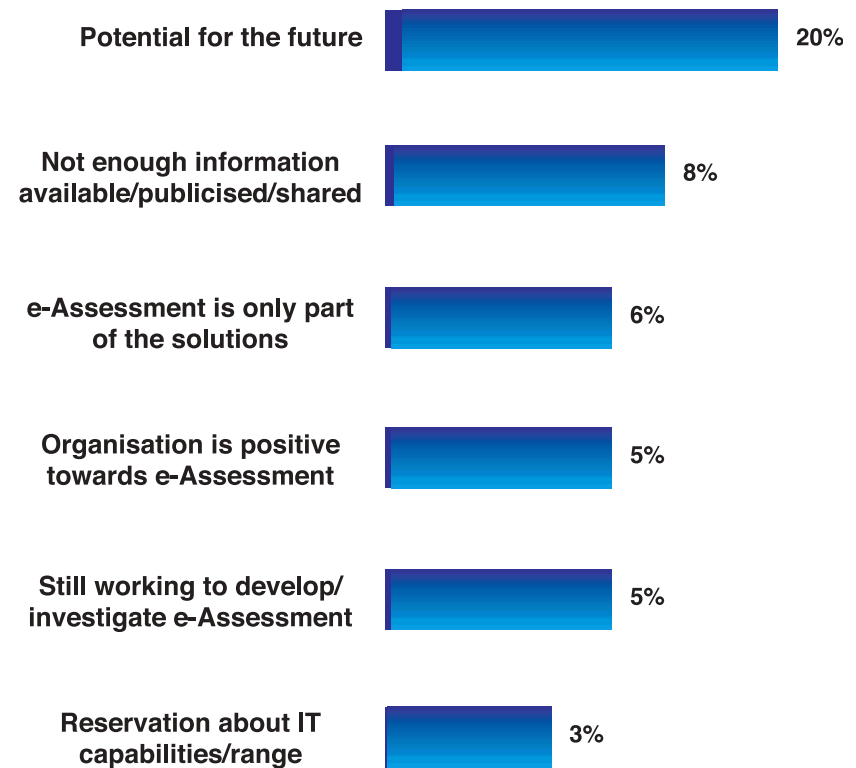


Further Feedback

Q. Do you have any further feedback on e-Assessment to make at this stage? (Spontaneous)

The graph below groups together the spontaneous Awarding Body responses into six general categories. Example verbatim responses are given below:

- "More knowledge is required on the subject"
- "There is a need for a clear definition of e-Assessment. People tend to think it is very simplistic which is clearly not the case"
- "It would be useful to receive information on what is going on with the developments and providers of e-Assessment"
- "e-Assessment is not a solution for everything but it is a very good solution for some things"
- "We are very willing to have discussions as to what an outside body could recommend for e-Assessment"
- "I have a worry that Government cuts in funding for qualifications will cause a conflict between cost and benefit"
- "The QCA do not have a high enough profile to add to this campaign"



Base: 87 Respondents (23 running e-Assessment, 64 not running e-Assessment)



Pioneering and innovative e-Assessment usage is not permeating into many areas of education and assessment

Overview

The difference in responses between those delivering e-Assessment, compared to those that are not, would indicate that there is a generally weak understanding of the issues and challenges of e-Assessment. This, coupled with no clear leadership within the Awarding Body community, would be indicative of an early adopter market.

26% of Awarding Bodies surveyed currently use e-Assessment to deliver an average of 29% of their assessment program. Many Awarding Bodies are delivering on a comparatively small scale with 61% delivering less than 30% of their assessment via an e-Assessment delivery method. Based on this, it would be reasonable to assume that the market is still only in an early adoption phase, albeit in the later stages. Of the 74% of Awarding Bodies surveyed who are not delivering e-Assessment, it is most likely the 46% of these that are looking at e-Assessment will be first to implement e-Assessment programmes.

84% of Awarding Bodies believe that e-Assessment is equally or more robust than current methods. There is no significant difference for those that are or are not delivering e-Assessment. Those Awarding Bodies which believe that more than 60% of their programme is suitable for e-Assessment believe that it is more robust than existing methods.

Generally, e-Assessment is seen as suitable for all education sectors though with a slight bias towards Adult Basic Skills assessment such as that championed by the QCA. It appears that the initial focus on Basic Skills and the pioneering use by the UK Driving Standards Agency has created reference points for e-Assessment capabilities. This is supported by responses to further questions on areas where e-Assessment works well with basic knowledge and multiple choice items. These are demonstrated as scoring highly. Complex, subjective and practical assessment scoring are seen as the greatest disadvantage.

Awarding Bodies have a primitive understanding of advanced item type capabilities that are currently being delivered within e-Assessment in other markets and territories. It is unclear whether this is due to a lack of technical capability or the perceived cost of implementation. Whilst advanced item types have been demonstrated and used in other markets, the investment and success is not permeating rapidly into other areas of assessment e.g. the professional licensure sector.

The perceived benefits are very similar for those currently delivering and not delivering e-Assessment. Immediacy of results and location flexibility are seen to be the biggest benefits.

The majority of Awarding Body respondents believe the perceived risks regarding security and technology are the same whether an e-Assessment program has been implemented or not. However, for those that are delivering e-Assessment, the perceived dumbing-down or lowering of qualification standards when moving e-Assessment into other areas of their program is still a notable point. This could be based on feedback from training partners and candidates, or simply an extension of opinions on the suitability of e-Assessment for areas such as basic skills and multiple-choice questions.

Overall, 64% of Awarding Bodies surveyed think that e-Assessment, once established, will deliver cost benefits. Whilst this maybe true in terms of operational efficiencies, true cost modelling, in relation to the Awarding Bodies current business operation (using paper based assessment), may need to be performed.

When e-Assessment is used, enhanced efficiency and stronger business processes are the result

Examples of best practice for more innovative item types and more education on the capabilities of e-Assessment are required by Awarding Bodies. Simple item types are often viewed as a 'destination', rather than a staging point in the process of moving towards the adoption of e-Assessment.

When Awarding Bodies are asked about drivers for the UK e-Assessment market, there are similar trends between current deliverers and non-deliverers of e-Assessment. The top three drivers were cost savings, government policy and immediate feedback. Ease of management receives a higher response by those delivering e-Assessment. This indicates that there are stronger business processes and enhanced efficiency when e-Assessment is used: all compelling for an Awarding Body.

External financial support and government backing are the top factors for both adopters and non-adopters. Those implementing, as would be expected, provide more detail and mention improvements in technology and innovation but also other areas relating to education, increasing access and training/support.

Those delivering e-Assessment realise that it is a robust and sophisticated solution with a range of factors to be taken into consideration for further and future developments of their assessment programme.

In terms of e-Assessment leadership amongst Awarding Bodies, 25% of respondents could not think of any leaders. This does not necessarily indicate a lack of leadership, but rather there is a lack of knowledge of what is currently being done by UK Awarding Bodies. A number of UK e-Assessment solutions have been viewed. However, many of these systems are (in global e-Assessment terms) very old.

Recognised codes of practice, such as BS7988, can help with e-Assessment choices

There needs to be more information about e-Assessment best practice coupled with examples from mature markets and existing users. Recognised UK standards and codes of practice such as British Standard 7988 will reassure the Awarding Bodies regarding their assessment decisions and choices.

Those Awarding Bodies that have implemented e-Assessment believe that they have a positive culture for e-Assessment, which would indicate that organisational culture is an important factor to encourage uptake.

For successful adoption the organisation perhaps needs to have a culture that embraces change and deliver change management.

There appears to be a minimal belief in the achievability of QCA's e-Assessment targets as specified in their 2004 Blueprint. 83% of those not delivering e-Assessment believe the Blueprint is not achievable. It is anticipated that QCA will tailor their e-modernisation strategy to take into account these Awarding Body responses and viewpoints without hampering significant impetus to adoption.

Conclusions

There are positive feelings towards e-Assessment as a way of enhancing the learner's experience as well as benefits for the Awarding Body. The thirst for e-Assessment knowledge and desire for engagement with innovative examples suggests that the current programmes (both in the UK and globally), require greater visibility and rational critique.

The impression is of many Awarding Bodies looking to see firm accredited evidence of a fully functioning e-Assessment program for a QCA recognized UK qualification. Whilst there is a recognition and occasional uptake of e-Assessment programmes, areas of recent innovation which can further reduce barriers to adoption are not always realized. Additionally, further comfort factors for the Awarding Body would be evidence of cost savings, and increased relevance to the test candidate and the curriculum.

There is also an acknowledgement of the changing landscape and the roles played by the QCA and the FAB. A significant number of Awarding Bodies look to the QCA to provide the 'rules of engagement' and also to engage with them to ease the uptake of e-Assessment. There is a significant call to understand the wide varieties of assessment and how a one-size or one-system approach will not be favourably received by Awarding Bodies.

Whilst those in charge of assessment programmes at Awarding Bodies can be traditionally viewed as 'educationalists', there is an encroaching environment of market forces and competition for candidates. e-Assessment is viewed as a potential differentiator for Awarding Bodies, particularly when organizations such as QCA see the future with fewer, more focused awards, delivered more efficiently. Nevertheless, it is felt that this increasing commercial environment should not be at the expense of understanding education specific issues, as well as candidate needs, that are close to the hearts of many Awarding Bodies.

Appendix

Ken Boston's QCA e-Assessment Blueprint speech: April 20 2004

e-Learning and e-Assessment represents seriously challenging territory for everyone in this room, not least for me and for the QCA itself.

Last month, at our vocational e-Learning conference, we spent the day exploring how a new generation of young people might expect to learn, given their natural acceptance of a world where digital communication is almost like a sixth sense.

This new generation has been dubbed the 'digital natives', and it is these digital natives whom we have to engage in our education system. And despite my occasional personal struggles with technology, I know for certain that the QCA has to embrace a technological future for learning and for assessment.

On-screen assessment will shortly touch the life of every learner in this country. Advances in technology have given us the opportunity to access and record aspects of human achievement that have been difficult to capture in the past. There is a massive potential to increase participation, learning and performance, making this country more competitive on the world stage.

I want to make it clear that the QCA as regulator imposes no restrictions or constraints on your ambitions and aspirations in the area. Indeed quite the opposite: we see ourselves as vigorously driving forward towards early achievement of this vision of electronic assessment.

In doing so, we seek to prepare for the Secretary of State a comprehensive and deliverable proposal for implementation of e-Assessment, which has been built up in full consultation with all the interested parties, brings together their aspirations and initiatives as a considered whole, and takes account of the issues Charles Clarke has raised today: stakeholder confidence, broadening the range of assessment, equity of access and security.

So let's think about some clear goals and performance indicators. Why don't we, as the QCA, the Awarding Bodies and the learning providers set ourselves some objectives such as the following?

Within five years, say:

- all new qualifications, whether for schools or for adults in the work-place, will include an option for on-screen assessment

- all Awarding Bodies should be set up to accept and assess e-portfolios
- most GCSEs, AS and A2 examinations should be available optionally on-screen
- National Curriculum Tests should be available on-screen to those schools that want to use them
- on-demand assessments will begin to be a feature of GCSE
- ten new qualifications, specifically designed for electronic delivery and assessment, should be developed, accredited and live.

How might this be phased in over the five year period?

Some possibilities are:

- e-Assessment field trials in a least two subjects for each Awarding Body during 2005
- 75% of key and basic skills tests delivered on screen by 2005
- a code of practice, together with audit and other regulatory criteria, finalised by the end of 2006, including agreed standards for quality, reliability and access.
- by 2006 we might look to the unitary Awarding Bodies to be offering live GCSE examinations in at least two subjects each. And we should be field trialling at least one custom-designed electronic qualification by that time.
- by 2007, 10% of GCSE entries should be being assessed on-screen.

(Note that 2007 is also the likely date for re-accreditation of A levels. We would expect this to involve not just the introduction of the unitisation and credit framework that will be required should the Government agree to a diploma structure, but also a strong element of e-Assessment.)

- in 2008, the first on-demand testing for at least two subjects in GCSE should be ready for introduction.
- by 2009, e-Assessment should certainly be normal, if not the norm, for thousands of students each year.

Can we achieve this? I think we can, provided we also address the issues the Secretary of State has raised. As a nation, can we afford not to? Obviously, the maintenance of standards and the e-security of candidates' work remain absolutely crucial if the credibility of electronic learning and assessment is to be preserved. That is the role of the QCA as e-regulator.

For that reason, I invite you to join us in setting up an e-Regulation Advisory Group including the three unitary Awarding Bodies in England, and representation from the Federation of Awarding Bodies, learning providers and stakeholders.

The areas which we jointly need to sort out are:

- The ways in which e-learning and e-Assessment might fundamentally change the pedagogic process, the marking and awarding process, and the supply and demand characteristics of the education and training sector
- What form e-regulation and quality assurance should take, including the recognition of Awarding Bodies rather than accreditation of every product
- How learning delivered and/or assessed electronically can be recognised and accredited
- Put simply – how can we advance the interests of the learner in the light of such change.
- Whether, and how, we could introduce on-demand assessment to schools, which suggests that calibrated item banks and pre-set pass marks would have to replace grading by cohort.

This is not an area in which QCA itself can just hunker down to undertake the project. We have to ensure that we are hard-wired into a network of experts and experienced practitioners – informed and radical thinkers who will help us challenge the status quo and stare into the future.

The QCA will not be content with simply responding to developments in e-learning and e-Assessment – if we do we will be too late. We need to be on the front foot all the way. The DfES e-learning strategy gets it right when it talks about making assessment a driver of change, not a barrier.

We need help to think through the consequences of on-demand assessment, which seems a very natural development in the vocational learning area as we have heard from Geraldine (Kenney-Wallace – City & Guilds). Its introduction into the schools arena, however, has very significant ramifications which need to be thought through.

The Thomson Corporation and Thomson Prometric

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Thomson Prometric is the recognized global leader in technology-enabled assessment services, providing paper-and-pencil, Internet and computer-based testing solutions. It offers a fully integrated testing system that includes test development, test delivery and data management capabilities. On behalf of 600 current clients in the academic, professional, government, corporate and information technology markets, Thomson Prometric develops and/or delivers assessments through a global network of testing centres in 132 countries as well as direct to candidates via the Internet.

Qualifications and Curriculum Authority (QCA)

QCA builds the education and training framework designed by government. We regulate the curriculum, examinations and assessments, from the foundation stage in schools through to work-related qualifications in colleges and at work.

QCA work with bodies that award qualifications, to ensure that they comply with our regulatory criteria and codes of practice. We accredit and monitor qualifications taken in schools, colleges and at work to ensure quality and the spread of best practice in every sector and for every type of qualification.

Working with government and other agencies, we play a key part in the drive to reform education and training programmes so that they equip learners, teaching professionals and employers for the changing demands of the twenty-first century.

Federation of Awarding Bodies (FAB)

FAB was formed in 2000 by the four largest vocational Awarding Bodies and now has over 60 vocational Awarding Body members including City & Guilds, OCR and Edexcel. Its vision is to be the trade association of vocational Awarding Bodies by acting as the first point of contact for its members, the regulators and all stakeholder organisations. FAB's activities focus on achieving a vocational qualifications system that meets the differing needs of candidates, employers, education and training providers and Awarding Bodies, as well as offering good value to funding and taxpayers.

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