



Digital question papers (also known as digital exam papers)

The context for the use of ICT for Inclusion

Formal examinations run by the Scottish Qualifications Authority (SQA) pose particular challenges to students with ASN. As far as possible, the examining body wants to ensure all students are assessed fairly. Alternative assessment arrangements have been available for some time for students with various kinds of access difficulties (visual, physical, dyslexia or other) to be included in these exams. Digital question papers (DQPs) bring particular advantages as they offer: low-cost or free accessibility features, including navigation (for students with physical disabilities), text enhancement (for learners with visual impairment or dyslexia), inbuilt text-to-speech and other facilities. Key partners include the Scottish Government (an excellent example of policy going hand-in-hand with practice implementation), SQA, CereProc (which produced Scottish voices for public sector schools), local authorities, schools and individuals.

The policy context

The policy context is as above in the previous example, with emphasis on:

- Equality Act 2010, in particular Section 20 (6), Requirement to provide information in an accessible format and Guidance on reasonable adjustments, duty to provide auxiliary aids and services, and previous legislation
- Education (Additional Support for Learning) (Scotland) Act 2004/9
- Education (Disability Strategies and Pupils' Educational Records) (Scotland) Act 2002
- Representation made to the Copyright Licensing Agency (CLA) representing Publishers Licensing Society in order to secure an agreement to amend guidance, based on legislation to extend copyright exemption to print-disabled people (definition available on request).

The use of ICT

The starting point for DQPs is that printed exam papers originate as electronic or digital documents, in PDF format. Students therefore benefit from Adobe Reader's inbuilt accessibility features, including the facility to:

- change foreground and background colour – helpful to students with visual stress conditions;
- change size – helpful to many students with visual impairment;
- make page navigation easier – for example, students with physical disabilities can use switches to turn pages, and switch-and-scan software to select answer boxes and record answers;
- embed video so that questions can be presented in sign language;
- use basic text-to-speech functions, so that pupils who have a specific learning difficulty, such as dyslexia, can access text by listening to it.

To improve on Adobe Reader's own accessibility tools, [CALL Scotland](#) has:

- provided improved text-to-speech software, e.g. PDFAloud (with a special licence deal), IVONA MiniReader, ClaroRead, [NaturalReader](#) or equivalent;
- trained staff in the examining body to use Acrobat Pro to prepare the exam papers so that students can use interactive form fields to record answers on the digital version of most exam papers. Students using Adobe Reader can then type in



answers, choose from multiple-choice questions and record directly into the digital exam paper.

As part of its wider Books for All programme of work, CALL Scotland negotiated a special licence arrangement with CereProc, funded by the Scottish Government, to make high-quality Scottish voices available: first a female version (Heather) and now a male version (Stuart).

Key outcomes and benefits

DQPs help to meet the needs of pupils with dyslexia, physical disability, hearing impairment, dyspraxia, visual impairment and other causes of reading and writing difficulties. Advantages reported include:

Students who used digital papers preferred them to readers and/or scribes.

Teachers reported that students were more independent, confident and motivated.

DQPs require fewer staff and rooms than readers and/or scribes.

In 2008 SQA offered digital papers for any candidate requiring assessment arrangements; by 2010 the number of requests for digital papers had increased by 380%. By 2012, 1 in every 3 secondary schools in Scotland was using them. Adapted DQPs are seen as offering a more independent and cost-effective method of supporting pupils with additional support needs (special educational needs) in assessments.

Main challenges and obstacles

The work demonstrates how effective collaboration between policy-makers, researchers and practitioners can result in better and more efficient provision for pupils with ASN. There are clear advantages to policy framed with clear delivery pathways into practice, informed by research and evidence, with a phased approach that allows for formative evaluation and development. Formative evaluation that engages with agencies and users, and takes account of their views, is effective and stimulates excellent results.

Additional information

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Supporting web links: <http://www.adapteddigitalexams.org.uk/Home/>

Reports to the SQA, PowerPoint slides, etc. can be downloaded at:
<http://www.adapteddigitalexams.org.uk/Downloads/Reports/>

Article:

Nisbet, P., 2012. 'Accessible digital assessments for students with disabilities: specification, formats and implementation in schools' *Journal of Assistive Technologies*, 6 (2), 136–151 <http://dx.doi.org/10.1108/17549451211234984>

In isolation, the examples represent innovation in practice that started with identifying user problems before going on to address these for both the individual and at a more strategic level. Taken together, the examples demonstrate the benefits of taking a more integrated approach – encompassing advice (by phone, website, face-to-face support), options to try things out (such as equipment loans of specialist assistive technologies or augmentative and alternative communication systems), CPD/training and collaboration on policy and practice development at various levels of government, and user-focused research and development.