



Adapted Question Papers in Digital Format

The practicalities of implementation in Kinross High School

**Fran Ranaldi, Education Additional Support Officer,
Perth and Kinross Council**

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Overview

Adapted question papers in digital format, or 'digital exams' for short, can provide schools with several opportunities for candidates and staff to develop positive learning and teaching experiences. These opportunities can lead to improved confidence and attainment levels for candidates, and to more effective use of resources within the school.

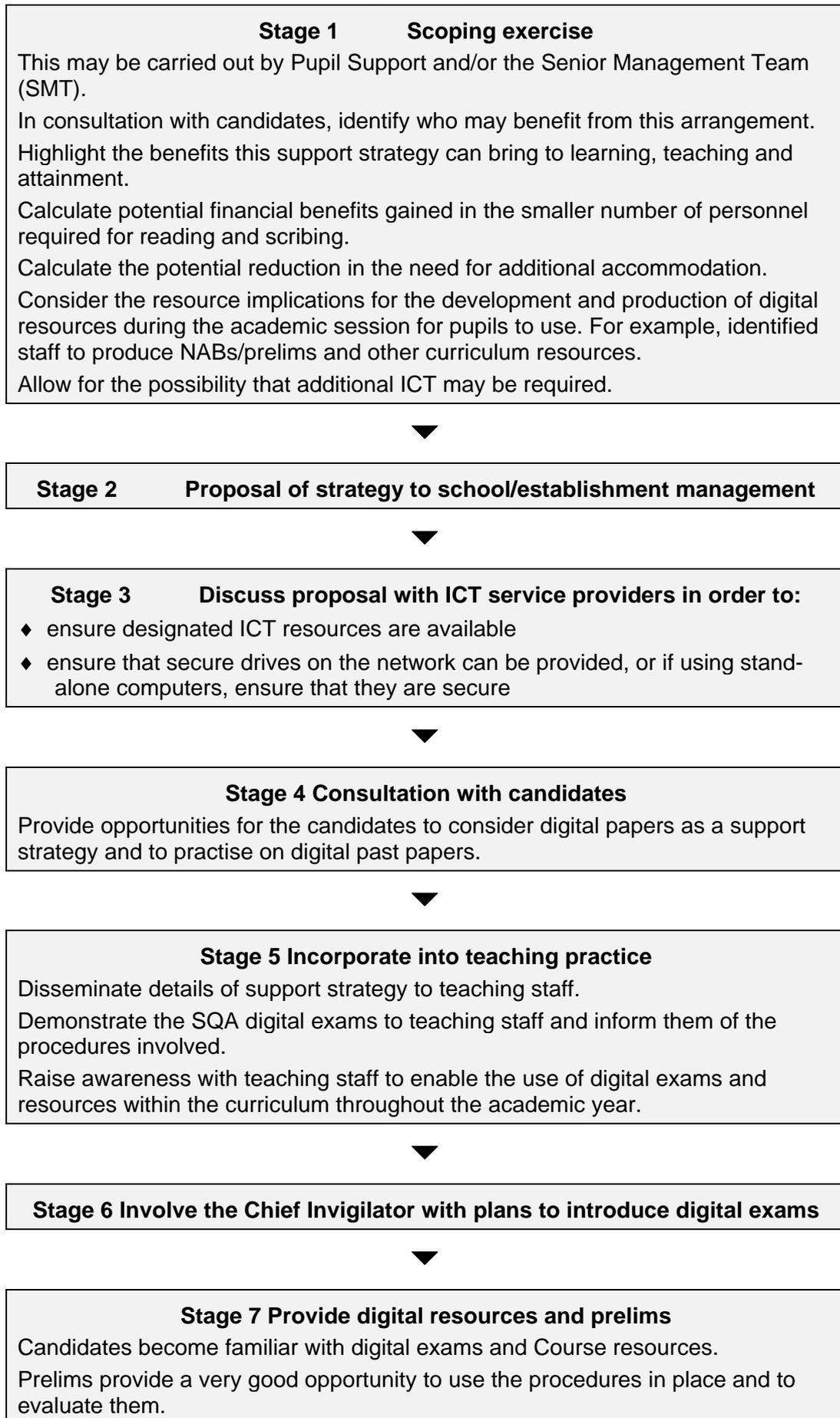
The use of digital exams is only available to candidates whose needs meet the criteria for assessment arrangements and who would, for example, be accessing support in the form of a reader, scribe, prompter, using a word processor, or using transcription. Digital exams enable a greater level of independence for candidates who are able to view and access the exam paper on a computer screen.

Digital exams are exactly the same as the paper-based exams taken by all other candidates in Scotland. During the preparation of the exam paper by SQA, software is used to enable the printed text to be accessed by various text and speech-recognition programs which schools might already have in place, eg Adobe Read Out Loud. Paper copies of the exams are also provided with each digital exam.

Introducing digital resources and examinations as a support mechanism in the curriculum is an achievable aim, and is already working in schools across Scotland with very positive results. However, during the process of considering the introduction of this support strategy, schools have to consider and develop solutions for the issues which will arise in order to ensure that candidates do not have a negative experience and are subsequently disadvantaged. It is necessary for schools to ensure that SQA assessment arrangements procedures are followed and that the inclusion of this particular form of support has been well structured and planned for within the school. Guidance for this can be found [here](#).

Fig. 1 provides an overview of stages which need to be considered by schools or education authorities prior to introducing 'live' digital exams in the main exam diet. It is recommended that this planning takes place during the academic session before the presentation of digital exams in order for the staff and pupils involved to be familiar with the process.

Fig. 1 Stages which need to be considered by schools or education authorities prior to introducing 'live' digital exams in the main exam diet



Preparation and practice for pupils and staff

Staff

To understand the benefits involved it is important that teaching staff all have an opportunity to see how the digital exams actually work and to let them hear the quality of the voices in the text-recognition software. An ideal opportunity for this is an in-service day for all staff. A short interactive demonstration of the digital exams can be shown together with a brief explanation of the procedures involved. This will be invaluable, as there will be challenges to overcome in the implementation of these resources across subjects. These could include:

- ◆ teachers' reservations
- ◆ misunderstandings of what is involved — staff and parents
- ◆ apprehension of this use of technology
- ◆ encouraging teachers to embed this strategy into their teaching practice

Others will see the immediate potential and benefits to be gained for the pupils and themselves. Staff have commented on the ease of marking digital exams and of organising support for pupils who would have otherwise needed additional personal support and accommodation to complete the assessment/exam.

Training for school staff

Training gives staff the opportunity to practice on the digital papers and to gain a better understanding of the procedures involved. It also enables digital resources to be cascaded across the curriculum in all year groups.

Pupils

Two of the main criteria for pupils using digital papers are that they must be provided with opportunities to practice on past papers, and have their prelims or NABs provided in digital format. To maximise the use of time, pupils can be shown in groups how to use the software and papers to help them to become comfortable with the process and the range of subjects presented digitally. In practice, the majority of pupils need one or two 40-minute sessions.

The digital format is particularly suited to essay and comprehension style questions. However, it is also popular with the sciences and is very effective with multiple-choice questions. There are difficulties involved with text-recognition and word-processing software for mathematical formatting and symbols and therefore it is not always suited to, or chosen by, the majority of candidates for Maths.

The table below highlights the range of subjects which have been taken digitally at Kinross High School at Access 2, Access 3, Standard Grade (F/G/C), Intermediate 1, Intermediate 2, Higher, and Advanced Higher levels.

Subjects		
Administration	Craft and Design	Human Biology
Accounting and Finance	Drama	PE
Art and Design	English	Personal Development
Biology	French	Physics
Business Management	Geography	Product Design
Chemistry	German	Psychology
Computing	History	

Past papers can be downloaded from SQA's website for practice.

Over the past five years, Kinross High School has developed a wide range of accessible digital resources, and digital exams play an important part of this strategy.

In 2010, all of the S1 year group will be shown how to use the networked software during their enhanced IT lessons. The software has a range of features, such as text recognition, that are applicable for all learners but which also enable accessibility.

Example of ICT planning

Kinross High School introduced digital exams in 2006 when taking part in the SQA pilot programme. Schools in this education authority access ICT support services from a central resource centre and have a technician allocated to each secondary school and feeder primaries. A major factor in the successes which have been achieved using digital exams is due to the early and joint planning with key staff and the ICT support team.

Network system

The model developed uses a networked system to host the digital exams. The major benefit of a network is the time saved when loading papers and printing them. On the exam day, checking to ensure the exam on the CD is working and loading onto multiple computers can be achieved very quickly using one computer on a networked system. It would take considerably longer to load the CD onto each individual computer if a stand-alone system was used, and would use up the majority of the time allowance available prior to the start of examination. It is also necessary for the exams to be printed in view of the invigilators and this can be done immediately and independently by the pupils when using a network. The housekeeping of the exam drives throughout the academic session is also more manageable when accessing the drives through the network as opposed to stand-alone computers. The exam drives can very quickly become full of files and become difficult to manage effectively.

The original model (in 2006) used at Kinross High School was dependent on the use of a designated classroom with networked resources — 6 desktop computers, 4 laptops and 2 printers (1 colour). Due to the increased use of this support strategy throughout each academic session, the current model has increased to 15 desktops, 5 laptops and 3 printers. It is very easy to support several different exams in the same room.

Perth and Kinross IT service developed a simple, yet very secure, directory for the pupils to use when working on the exam papers. The model developed is shown in Fig. 2.

Fig. 2 Perth and Kinross directory model

Twenty secure directories — which are referred to as exam drives — are created on the school network. Each has a separate log-in and password which is not shared with the pupils. Pupils cannot access this area of the network using their own log-in and passwords. Once on an exam drive, the pupils do not have access to any other part of the network, ie their own files, USB ports, school network, internet or e-mail.



Pupils sit their exam and print it from a networked printer in the same room. They check it, and hand it to the teacher or invigilator.



The exam drives are automatically cleared at midnight during the SQA main diet.

Roll-out of programme across the authority

Learning from the experiences in Kinross High school, a framework with protocols has been developed for the management and roll-out of the programme across the remaining secondary schools in Perth and Kinross.

Overview of access to digital papers on the network using a secure drive

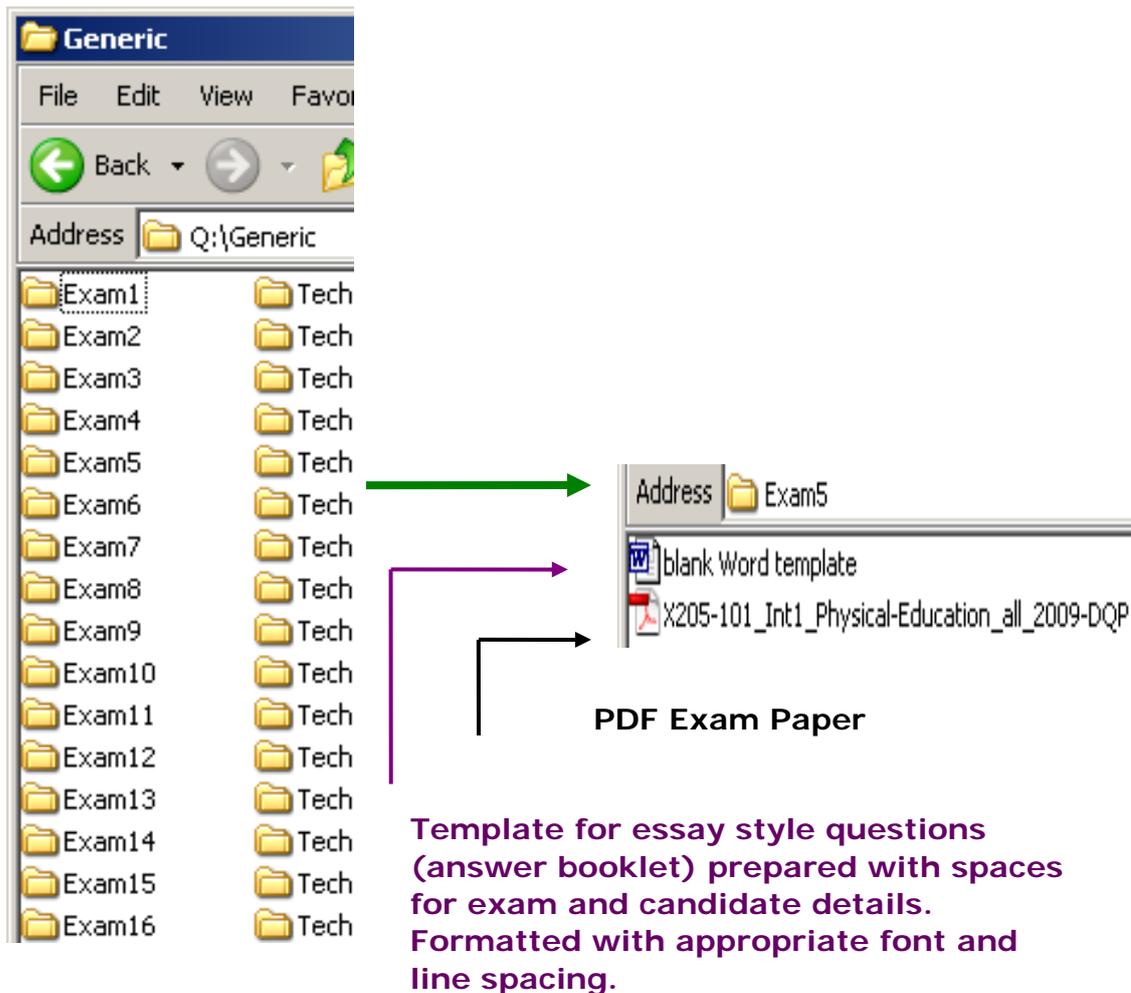
An area on the network, which staff can access, but pupils cannot, was set up for the exam drives. In Kinross High School, this drive is called 'Generic' and requires separate log-ins and passwords to the personal ones that staff and pupils have.

The exam drives are all secure and when pupils are 'logged-on', they cannot access their own directory, external sources (eg internet, e-mail, CD drives or USB ports), or any other drives/areas on the network.

Within each drive there is a blank template which replaces the answer booklets provided in SQA exams and on which pupils write their candidate numbers, dates of birth and exam paper.

An example of how to access an exam paper in the exam drives is shown in Fig. 3.

Fig. 3



Helpful suggestions

- 1 Prior to the exam, ensure that enough paper is available for the printers and that there is a stapler in the room. It is helpful when setting-up the rooms and allocating computers to use small cards or pieces of paper with the names of pupils, their exam and level.
- 2 During the main exam diet, and particularly at the start, an ICT technician who is familiar with the network procedures for digital exams should be in the school and contactable by the staff in charge.
- 3 At least three members of staff within the school need to be aware of the framework and protocols. They will need to be able to log-on to at least three separate computers at one time (multiple logins). They may also need to have enhanced network rights when managing the drives and housekeeping, eg to delete folders within the staff drive.
- 4 There should be a named person in the school or central ICT resource centre who is contactable in case of an emergency with the network. They should be familiar with the operating system and protocols during the exam diet.
- 5 During the SQA diet, the exam drives should be cleared automatically at midnight.

Example of a typical SQA exam day on a networked system

- 1 At 8 am — depending on arrangements made with the Chief Invigilator — collect discs from the school safe or collect discs from the invigilator.
- 2 Using one computer, check the papers on the discs for the exams being used that morning. Subsequent exams for that day can be loaded later.
- 3 Transfer the required files to the appropriate number of exam drives.
- 4 Prepare the candidates' computers. Log-on to directories and open the PDF exam paper and a Word answer template, if the exam requires it.
- 5 For the candidates who require it, ensure that the software is working for both file formats, eg text/speech recognition, spell-check.
- 6 Settle pupils with the invigilator.
- 7 Be available on call. Make sure the invigilator knows who to contact and how to access support in case of a problem.
- 8 Check in at the end of exam to ensure all is well.
- 9 Close the files and prepare for the next exam.
- 10 Clear the directories at the end of the day. This can be set automatically.

It is the centre's responsibility to consider and plan for alternative arrangements in the event that a candidate cannot take part in the digital exam or if there is an irresolvable issue with the ICT or network. See SQA's guidelines.

Evaluation of digital resources

Pupils generally respond very positively to digital examinations. However, there are pupils who do not use this strategy because it does not meet their needs. For example, the text-to-speech recognition software is not as effective for pupils who have a hearing impairment or who have grommets fitted. Also, some pupils feel more comfortable when working with a person who acts as a reader or scribe because they are not at ease with computers.

Quotes from pupils who have used digital exams

- ◆ 'It's really quite easy to do'. S2
- ◆ 'It helps you concentrate better and plan your answers better. I usually get muddled up.' S3
- ◆ 'It is less stressful.' S4
- ◆ 'Practising on past digital papers really helped with my revision.' S4
- ◆ 'I feel more independent. I prefer it to working with a reader and scribe.' S4
- ◆ 'I use the software to read back my answers to me. I often miss words out and it's really helpful.' S5
- ◆ 'Last year I failed my prelim when I did not use digital exams and I achieved a B in my Higher using digital exams.' S6

Quotes from subject teachers

- ◆ 'It was a bit daunting at first but it is a simple system to use.'
- ◆ 'The kids pick it up really quickly.'
- ◆ 'Internal assessments and class work which is prepared for digital exams is much easier to mark and saves time.'
- ◆ 'It is an extremely effective support strategy to use if required in a very short timescale.'
- ◆ 'Internal assessments can be marked on screen without printing them.'
- ◆ 'The pupils can really demonstrate what they know with this resource. I have observed an increase in the pupils' marks which reflects their ability.'

Quotes from school SMT

- ◆ 'It is a cost-effective resource to implement.'
- ◆ 'It has saved over £2000.00 in one year on staffing costs for readers and scribes.'
- ◆ 'It meets the needs of our pupils effectively and appropriately.'

Impact on pupils from the digital examinations at Kinross High School

Pupils who used the digital papers preferred this method to using reader/scribes because they felt:

- ◆ independent
- ◆ more confident within themselves — they did not have to rely on another person
- ◆ confident about sitting the exams — they felt more in control
- ◆ less anxiety and stress
- ◆ calmer and more focused with the presentation of the exam on the computer screen

Impact and benefits for a school

Digital exams and resources can be developed into an inclusive approach for the whole school.

Digital exams:

- ◆ meet the individual needs of pupils with additional support needs (ASN)
- ◆ produce more confident and independent pupils
- ◆ raise attainment
- ◆ meet the legislative duties for the Disability Discrimination Act, accessibility and ASN
- ◆ reduce staffing requirements for readers/scribes/transcription/prompts
- ◆ reduce the amount of accommodation required for pupils sitting examinations — all pupils can be in one room with one invigilator

In the long-term, digital exams help subject teachers and departments to meet their duties within their classrooms and to provide accessible curriculum resources.

In addition, pupils who wish to go on to FE and HE are already familiar with the ICT and software that will be provided as a support resource.