



Nisbet, P., Aitken, S., and Wilson, A. (2011) *Speech Recognition Software in SQA Assessments CALL Scotland*, The University of Edinburgh and Scottish Qualifications Authority (Accessed August 2013)
<http://www.adapteddigitalexams.org.uk/Common-Assets/spaw2/uploads/files/Speech%20Recognition%20in%20SQA%20Assessments%20Final.pdf>

Abstract

Speech recognition potentially offers particular benefits for learners with additional support needs. For example, students with physical disabilities who cannot handwrite or type may be able to dictate text and control the computer, while writers with dyspraxia or dyslexia who have handwriting or spelling difficulties can use speech recognition to overcome the mechanics of the writing process. Thus the technology is potentially of interest to all computer users. However, this claim does not take into account time needed for planning, thinking, reviewing, correcting errors and editing text, and 'real' writing speeds may be considerably slower, depending on the user and the task.

Given that many pupils have writing difficulties and use scribes in examinations, the report considers whether speech recognition can offer an alternative support method.

The report consists of reviews of four speech recognition programs and considers how they might be used in Scottish Qualifications Authority (SQA) assessments. The packages reviewed are:

- Dragon NaturallySpeaking 11 Home and Premium;
- Windows 7 Speech Recognition;
- WordQ + SpeakQ.

The Windows versions of the programs were studied because the vast majority of computers in secondary schools in Scotland are Windows PCs. However, Dragon is also available for Apple Macs.

The report is not intended as a comprehensive comparison of each program, instead focusing on the aspects of the software that are particularly relevant for candidates with additional support needs sitting SQA examinations.

Main findings

The accuracy and reliability of speech recognition software has improved considerably in recent years and all the programs tested were functional and seemed effective when dictating into a word processor.

Windows Speech Recognition is not functional for dictating into SQA digital question papers and so we do not recommend it for use in examinations, unless the candidate is only intending to dictate into a word processor.

Dragon NaturallySpeaking is the most well known speech recognition program and can be used to dictate into both digital question papers and a word processor. It is probably the most accurate, is relatively easy to train and use and gives voice control over formatting and over the computer in general. Dragon has text-to-speech for reading back the dictated text and the Premium version can also play back a recording of the dictation to help with finding and correcting errors. For single-user copies, Dragon NaturallySpeaking Premium is available with an educational discount (£68) and the 100-user Professional school license at £895 would seem to be relatively good value for schools that wish to make the software available to a large number of pupils.



WordQ + SpeakQ is specifically designed for users who have difficulties with literacy. It uses the Windows Speech Recognition system, but is accessed using a different, simpler interface. It has text-to-speech to help get through the training process, it can read back each phrase as it is dictated, it has text-to-speech for proofreading and it provides word prediction. SpeakQ can be used to dictate into SQA digital papers and also to word processors. WordQ + SpeakQ is arguably simpler to use than Dragon and the integrated text-to-speech and word prediction does make it a more attractive option for writers with reading and writing difficulties. WordQ + SpeakQ requires use of the keyboard and so it is not suitable for users who wish to control the computer completely by voice. A single user license for WordQ + SpeakQ is £199 and a site licence is £1,995.

Technically, both Dragon NaturallySpeaking and SpeakQ can be used to access SQA digital question papers and assessments.

Speech recognition software may have considerable potential to enable some candidates to work independently and to rely less on scribes and we suggest that user trials should be undertaken to investigate which candidates might benefit from the software and to develop guidelines for good practice.

Web link for additional information

<http://www.adapteddigitalexams.org.uk/Common-Assets/spaw2/uploads/files/Speech%20Recognition%20in%20SQA%20Assessments%20Final.pdf>