Learning Futures Case Study

Using text-to-speech software in the classroom

The innovative use of assistive technologies to engage and support learners by improving curriculum accessibility

Runshaw College

Summary

Technology is an essential element of our lives. It is important tool we can use to promote the independence and confidence of students who have literacy barriers to learning.

As part of our Learning Futures project, we have been working to promote the use of assistive technology in lessons and exams to help to address some of these barriers.

This case study provides information on how we introduced text-to-speech tools in to an English GCSE lesson. We have examined the resources required, as well as the role staff played and present feedback from students who participated in this part of the project.

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Outline

Technology is an essential element of all our lives, and it's an important tool we can use to promote the independence and confidence of students with dyslexia/literacy issues.

As part of our Learning Futures project, we have been working to promote the use of assistive technology in lessons. Students targeted by this project were provided with text-to-speech software that they could use to develop their literacy and confidence in lessons and as a tool to support them in exams.

This case study features a 17 year old female student who has been using text-to-speech tools and digital resources, embedded in teaching and learning in lessons.

The case study examines the equipment and resources required as well as the people involved in this process. All of the tools and resources presented in this case study are inexpensive or free; it is our hope this case study can be used as a road map by other providers who might wish to introduce similar tools into their working practice.

Equipment and resources

- Windows 7 laptop
- Headphones
- Orato Software
- JISC TechDis Voices
- Microsoft Word 2010
- Adobe Acrobat Reader
- WJEC textbook (PDF)
- WJEC past papers (PDF)
- Word Document (.docx)

Figure 1. Orato being used in an English GCSE lesson.

Resources in detail

The software featured in this case study is called Orato. Orato is a simple to use, free, open source text-to-speech tool that runs on Windows computers. More information about Orato including a video guide and download link can be found in this Learning Futures blog post

During the lessons discussed in this case study, the student used an electronic textbook provided by WJEC through the Load2learn service and a past exam paper downloaded from the WJEC website

The student also used Word documents in a .docx format that had been produced by the tutor as a resource for the lessons.

Method

The student was assessed as suitable as a text-to-speech user as part of her exam access arrangements assessment completed by Study Support Specialist Tutor, Dr Ann-Marie McNicholas.

Following this assessment the student was given an intro session on the use of text-to-speech software by Assistive Technologist, Richard Maclachlan. The student was then given time to practice using the Orato software at home, and in the Study Support work room.

Once the student had become confident using the software independently, lesson use was discussed with her English GCSE tutor, Carole Jones. Carole was given the opportunity to try the software and also was given information, advice and guidance from Study Support about how suitable resources could be prepared for lesson use.

Carole has planned her lessons from February 2015 onwards with Orato and digital resources in mind. Each week the resources for the lessons are sent to Study Support where they're loaded on to a Windows laptop that has Orato preloaded. Resources are typically drawn from WJEC textbooks downloaded from Load2Learn, past papers from the WJEC website or word documents prepared in advance by Carole.

Equipment including a laptop with the text-to-speech software, and preloaded resources for the lessons is taken to the lessons where it was initially set up and supported by Assistive Technologist, Richard. Once the preparation and use of the equipment became routine, the student started setup and used the software and laptop independently in lessons.

Lesson use in detail

Equipment is taken to the classroom in time for the start of the lesson. Ideally resources should be preloaded to avoid taking up time during the session. On the computer, the student would find a folder named by tutor, with the date. E.g. "CJones 13-05"

The student unlocks the laptop and opens the appropriate resources as the worksheets or textbooks are being handed out by the tutor. They get access to the same resources at the same time as their peers. Wherever possible the documents they're using would replicate the layout of the resources being used by other students in the lesson.

Figure 2. Orato being used in an English GCSE lesson on a WJEC past paper
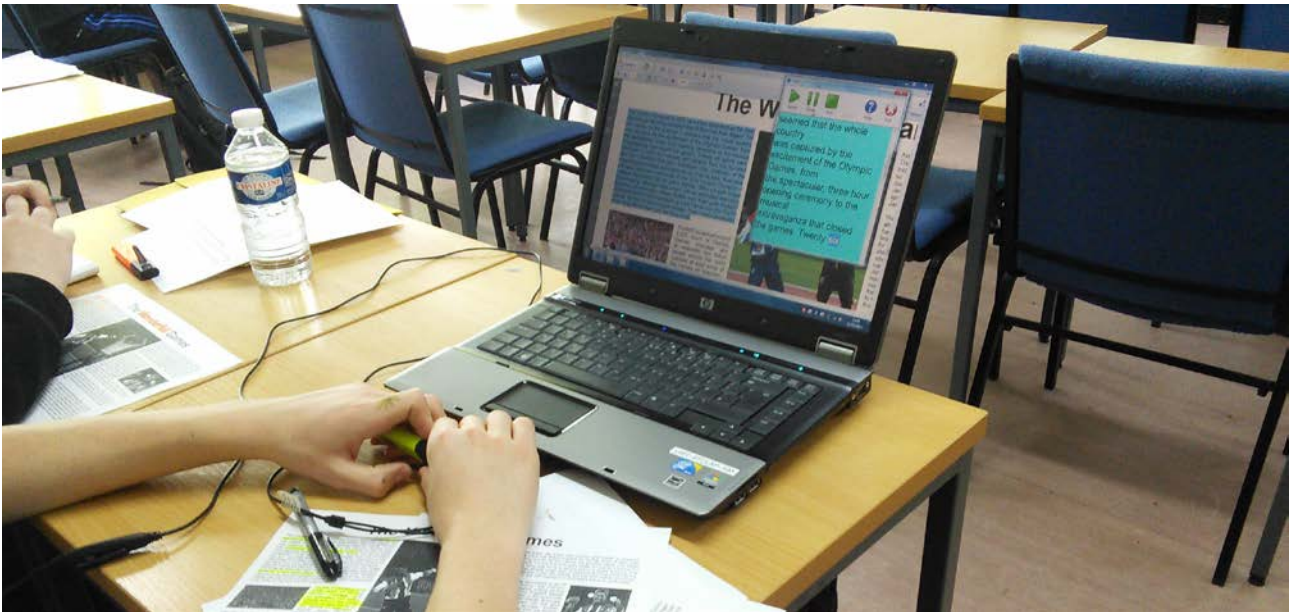
Why do this?

The layout of the paper document is replicated in the digital resources to ensure that when the tutor refers to a specific section in the text the student can locate it visually along with their peers. While this might not be good practice for a student with a visual impairment using screen reader software, for a sighted student using text-to-speech software this approach seems to work well.

As reading tasks are set within the lesson the student is able to refer to the electronic text for reading. Sometimes she might work between a electronic copy and paper copy of the resources. She is able to listen to the text-to-speech software as it reads the document, occasionally pausing the reader, and then annotating or highlighting a paper copy of the resource as required.

A hybrid way of working...

Working between a paper copy and an electronic copy of the resource was not something we anticipated, but this was emergent behaviour we observed in several students. This way of working was not something all the students participating in the project adopted, as annotating and highlighting within the electronic resources they were provided with was also possible.

Initially Assistive Technologist, Richard was on hand in the lesson to troubleshoot any issues that might arise. Over the course of only 2 lessons it became clear ongoing technical support for the student would be unnecessary and the student was left to work independently in the lessons under the supervision of classroom tutor, Carole. In total the student has used the software in 12 weeks of English lessons totalling 15 hours of successful use.

So you don't need support workers?

> It depends on the class, and the student users. Some of the students in the project still had a support worker available in the lesson who might have been note taking for them, while also promoting their use of the software. Others used the text-to-speech software to help support their reading while working with a support worker who scribed for them. It's all about addressing the needs of each individual

Document use in lessons

The student seemed to find using the reading software easiest to use when working with Word documents. Orato is a clipboard reader. This means any text the student wishes to have read needs to be highlighted, copied to the clipboard using Ctrl+C or a right click followed by selecting "copy" from the menu. Highlighting text with the mouse in a PDF is a little more unwieldy than highlighting text within a word document so the preference for word documents is understandable. We were concerned that students would find the PDF's difficult to use with Orato. But feedback from the student in this case study, and others from our project, did not highlight this as a significant issue.

The student successfully completed reading tasks in a PDF text book, PDF past paper and word document prepared by the tutor all in one lesson, on more than one occasion.

The little things

> In her first lesson the student identified the headphones provided by staff as unsuitable. They were large, black 'over the ear' headphones and she said she would "feel silly wearing them" and commented that "I won't feel very cool in those". Instead she elected to use her own headphones; this made her user experience better. If she was happier to use her own headphones staff saw no reason to object to this request.

Student Feedback

General

Overall the student was happy with the introduction of the tools in her lessons - she said that as a result "instead of jumping lines when I read, I can understand what I'm reading and can do what I have to do [in the lesson]"

She did initially feel self-conscious, saying, "No one else really knows I can't read properly; I'm not bothered about them asking, but because it's the first time I've done it in lesson I felt a bit uncomfortable". However, over time this anxiety subsided.

Technology

The student commented that the "software worked fine; the coloured background was fine". She also said she would find it easier to work with a larger screen. The hardware used in lessons was altered to reflect this and she was given a larger laptop to make things easier. She said she preferred to use her own headphones as "People notice less when I use small ones, I feel less self-conscious in lessons using small ones, [but] if there was no one there, like, in a room by myself, then I don't mind".

Outcome

The overall outcome of this introduction to text-to-speech tools in class has been positive. The student now uses software in every English lesson and is comfortable using it in front of her peers; she has completed several mock exams and assessments using the text-to-speech software to support her and no longer has to rely on a person to read for her.

Unexpected results

A second student in the classroom has adopted this way of working despite being initially reluctant. Having seen the student featured in this case study work in lesson using the software, their reluctance was eroded and they now use the same hardware/ software and resources during the lesson.

Areas for improvement

Although the impact on the student has been positive, there are some areas where we feel there is room for improvement in the system we have set up. Ideally we would like to see digital resources provided to the students through a VLE like Moodle during the lesson.

Once this kind of support becomes more routine, we can explore using Moodle as a way of making the use of digital resources simpler and more ubiquitous. It would also allow for students to access this support strategy more easily via their own device. We anticipate that adopting this kind of approach would cut down on the preparation time required for Study Support staff.

In addition to the strategy outlined, we've been exploring the possibility of using tablet devices to provide similar support without the use of Orato software. It would be possible for resources to be loaded on to a Windows, IOS, or Android tablet and provide reading support using inbuilt tools like the IOS "Read Aloud" function. This way of working would be more discreet and inclusive, as the hardware required would be much smaller, which might make more reluctant assistive technology users more likely to adopt this way of working.

Would you like to know more?

[Video – Student Feedback](#)

Contact the project team

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Links to useful resources

Adobe Acrobat Reader Download: https://get.adobe.com/uk/reader/

CereProc Website: https://www.cereproc.com/

Dolphin Software Website: http://www.yourdolphin.com/

JCQ Website: http://www.jcq.org.uk/

Learning Futures Website: http://lfutures.co.uk/

Load2Learn: https://load2learn.org.uk/

Microsoft Office Support Website: https://support.office.com/

Microsoft Windows Support Website: http://windows.microsoft.com/

My Study Bar Download; EDU Apps: http://eduapps.org/?page_id=7

Orato Download; FX software: http://www.fx-software.co.uk/

Orato Download; Software Informer: http://orato.software.informer.com/