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LEARNING FUTURES PROGRAMME

FINAL REPORT

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

Runshaw College

Contents

Project title

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

Name of lead organisation

Runshaw College

Project summary

The aim of the project was to develop curriculum accessibility for students (especially those for whom the reading of standard print is a barrier to learning) by effecting a move away from teachers using traditional textbook and paper-based learning resources to using e-books and e-resources compatible with assistive technology software. The project focused on developing staff awareness, confidence and skills in utilising electronic resources and text-to-speech software in order to support students using e-resources in the classroom and in exams.

The project built upon a successful pilot study on the use of text-to-speech software in the GCSE English exams, conducted in the academic year 2013-2014, which revealed that students wish to use this software more extensively in preference to a human reader. Furthermore, students perceived the value in being able to use a computer reader in the reading paper of the GCSE English exam where a human reader was not permitted.

We aimed to develop a cost-effective and scalable solution that could be implemented by other providers who may have limited IT facilities and/or staff with limited IT skills.

Who should read this report and why?

This report will interest schools, colleges and universities that:

- Wish to address accessibility issues for students for whom reading standard print is a barrier to learning;
- Want to develop the technology skills of staff involved in exams, support and teaching;
- Are seeking a cost-effective solution to providing reasonable adjustments and meeting the support needs of students in lessons and exams;
- Want to provide students with tools they can use to support their reading independently in lessons and exams and take with them into higher education or the workplace;

- Want to develop the use of assistive technology and electronic accessible resources at their own institution.

CPD resources developed

During our project we developed a number of video and online resources that can be used by other education and training providers as a way to get an insight in to how computer reader software can be used in exams and lessons with students. Links to all the resources we have produces are available in the resources section of this document.

Web app

We have created a web app that aggregates the videos, documents and social media accounts used during our project in to a convenient package that should allow users to get a good overview of the stakeholders you will need to engage as well as the resources you will need to use to make a start using computer reader software. Two versions of this resource are available.

- Talking Technology web app link;
- Taking Technology AppShed mobile app link.

Videos

If you are looking for an insight in to the people who need to be engaged to replicate the effective practice we developed, in your own setting, then the stakeholder videos would be a good place to start. However if you want to take a broader look at the journey we went through during our project then the full project playlist should meet your needs. If you want to see how we used computer reader software in exams then the Orato in exams videos should give you the information you are looking for.

Documents, case studies and online interactive resources

Case studies have been produced that examine certain aspects of our project in detail. As part of each of these case studies you will find dozens of links to where you can find additional supporting resources that you may find useful. The videos and case studies we've produced have also been compiled in to interactive Blendspace lessons which you can find links to at the end of this document.

Social media

Finally if you or your staff want to get an ongoing insight in to how we are using assistive technology with our staff and students you can follow us on the Talking Technology Twitter account and YouTube Channel that were set and used during our Project.

- Runshaw College Talking Technology Twitter link;
- Runshaw College Talking Technology YouTube channel link.

Alternate ways to use the resources

If you would prefer to have access to the videos or case studies as individual resources then you can find these hosted on our Talking Technology YouTube channel, or download them from Google Drive by accessing them via the web app.

Project lead contact details

About Runshaw College

Runshaw College is a Further Education College based at three centres in Leyland and Chorley, Lancashire in the North West of England. Runshaw has been rated as outstanding in all areas by Ofsted for the past 20 years, holds IIP gold, and is currently the only college in the country to have won European Quality Award for Excellence.

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What the project set out to do and why

Following a successful pilot study of 17 students using reading software in exams, we wanted to extend the scope to more students. This meant that we would need to focus upon building staff awareness of the utility of technology and enhancing their confidence and skill in its use. In addition, we would need staff trained in the sourcing and production of electronic resources as alternative teaching and learning tools to ensure that students were using technology as part of their normal way of working.

It appeared that the use of reading software could potentially solve a number of problems:

- Helping to remove literacy barriers for students, particularly in the GCSE English reading paper;
- Addressing our legal obligations in providing appropriate reasonable adjustments;
- Reducing the impact upon rooming and timetabling that increasing numbers of students using human readers would create.

Find out more about what our project set out to do and why in this project overview video.

The process

Overview

Our project started as a result of a pilot project we ran on using computer reader software in exams during the 2013-2014 academic year.

Our process was simple, we made sure we had software that staff and students were comfortable using. We provided ongoing training to make sure computer reader software was being used as often as possible by staff and students as part of Study Support sessions and classroom lessons to ensure it was part of a student's normal way of working.

Specialist teacher assessors working in Study Support made sure they offered students the use of computer reader software as part of the exam access arrangement assessment process.

Exams staff made sure the exams boards we work with were aware of how we were using computer reader software in exams and ensured that we could get appropriate non-interactive PDF papers for students to use with their computer reader software in mocks and exams. IT staff set up secure exams account for students to use during mock and final exams.

Crucially, all the students who chose to adopt this way of working were given ample opportunity to practice using computer reader software in Study Support, lessons and mock exams to make sure they were confident to use it during their final exams.

The computer reader roadmap we produced during the project should give you a good insight in to the process we followed during our project.

Choosing the software

There are several commercial text-to-speech products available. We decided to use Orato which is a free piece of open source text-to-speech software and does not require any adjustment. It has no built in dictionary, thesaurus, or any other feature that would need to be disabled for an exam.

Engaging stakeholders

Initially, a meeting was set up with the exams officer, learning support tutors and specialist assessors, to discuss the idea, demonstrate Orato, explain the potential benefits and agree the processes for making it happen. Processes included setting up training, organising an IT room for exams and liaising with the IT department to set up a secure exams area.

Engaging students

The students chosen to take part in this study were identified from a list of students who had been assessed as eligible for the use of a reader in exams.

Training on software

Every student participant was given training. The software was put on a pen drive for each student so that they could also practise at home. A short demonstration video was created and put on the college Moodle site and YouTube. Similar training was delivered to groups of classroom teachers and learning support staff.

Ensuring 'normal way of working'

A follow-up meeting was organised with each student to monitor their use of the software, assess their competence and confidence, garner feedback and address any issues. Students were using it in learning support tutorials. In addition, GCSE English tutors provided opportunities in the classroom for it to be used on laptops, with the tutor providing electronic resources. All students worked on mock exam papers with the software.

Implementation for exams

It was essential that we followed the processes and guidelines issued by the Joint Council for Qualifications, on the administration of exams. We had liaised with our awarding body for GCSE English on how to obtain the exam papers and on our proposed process for administering the exams.

We decided to order a non-interactive electronic question paper, which is pre-prepared by the exam board, in preference to scanning and converting the paper an hour before the exam. The paper is ordered using the same process as requesting a modified paper. This meant that the request had to be made by 31st January (the deadline for requesting modified papers).

The mock exam was set up in exactly the same way as would be required for the actual exam. A PDF of the question paper was downloaded onto our secure exams area an hour before the exam. IT Services had set up individual secure logins for every student. Once the exams officer had downloaded the PDF and the Orato software onto the exams area, IT Services transferred it into each individual student's secure area. This area has no internet access and is only accessible via an individual password for each student.

On the morning of the GCSE English exam, the PDF of the exam papers was available for download an hour prior to the exam, the exams officer having been provided with a password to enable download from the exam board website. As the exam consisted of two papers, only the reading paper was available initially. The same process as the mock exam was followed in terms of setting up the computers.

Results: challenges and solutions

- **Challenge:** introducing text-to-speech tools as a different way of working for students and staff. This was overcome by using Orato, which is a very simple piece of software that is easy to use. In addition, students were given training and support on the software until they were confident, targeted staff training and support was provided both in and out of the classroom and easily accessible training videos were produced.
- **Challenge:** ensuring we were adhering to awarding body regulations. This was overcome by liaison with relevant exam boards, developing 'normal way of working' practices in the classroom using electronic reading resources and ensuring familiarity with the JCQ regulations on eligibility and administration.
- **Challenge:** implementing Orato in exams. This was overcome by engaging and involving key stakeholders from across the organisation (such as the Exams Officer, IT Services, specialist assessors, classroom teachers and invigilators) and having a clearly defined process from first contact with the student to exam implementation.

Impact of project

Impact on students

Surprisingly, the majority of students did not feel comfortable using a human reader and really welcomed the opportunity to use the computer reader: One student commented:

> ***"Being offered a computer reader takes away the embarrassment, or the stigma, of requiring someone to sit with you in the exam to read the question." (MS)***

The questionnaire results further revealed that 85% of students either agreed or strongly agreed that they preferred using a computer reader in the exam to having a person read for them.

Students involved in the project reported a positive impact on their learning experience. Comments from students are presented in this video.

Staff also commented regularly on the positive impact they saw on students; for example:

> ***"J seems much more confident in using the technology now and this impacts on his sessions – he believes he can pass the assessment using this technology…" (VF)***

Another theme to emerge was the idea that the software was helping to prepare them for the future.

> ***"Becoming an adult, I feel it has helped me to become more independent, preparing me for getting a job and going out into the world." (CM)***

Their experience was helped by the fact that Orato was very simple to use and required minimal training. From the questionnaire, 100% of students either agreed or strongly agreed that the software was simple to use. Other comments included:

> *"I was impressed with how easy it was to use…it's quite straightforward and simple…" (MS)*

Impact on staff confidence and skills

At the start of the project, only 1 member of staff in the target group had been using Orato in teaching. At the end of the project, 100% of the 17 staff reported that they would feel confident incorporating Orato into their practice in the classroom. In addition, all of the support workers that participated in our project reported a significant increase in their confidence to support the use of computer reader software in lessons and exams.

> ***"I feel it has enabled me to contribute to my students' progress more effectively…" (SH)***

Several staff reported that they planned to develop their classroom practice as a result of taking part in the project, saying:

> ***"[I plan to] offer computer readers to students I think it may help, either in lessons or exams." (RJ)***

If you want to hear more from one of the teachers who participated in the project you can find out more in this video.

Impact on curriculum accessibility

As part of our project, we aimed to develop the use of accessible curriculum resources by encouraging staff to sign up and use the Load2Learn service.

Both support and teaching staff have signed up in significant numbers over the course of the project as a result of the ongoing training on, and promotion of, Load2Learn and its accessible resources.

Registered Load2Learn users at Runshaw College

2013-14	2014-15	Increase
7	36	414.2%

Load2Learn Downloads at Runshaw College

2013-14	2014-15	Increase
21	82	390.4%

It was not unusual for a single resource to be used in several lessons.

More evidence of the impact of our project on curriculum accessibility can be seen in the increased number of lessons where computer reader software was used, to almost 100 lessons during the course of the project.

Computer reader use in lessons

2013-14	2014-15	Increase
8 (approx.)	97	1112.5% (approx.)

Furthermore, students felt that the reading software was helping them with literacy in a number of ways, such as with comprehension and proofreading.

> ***"It's made it a lot easier to understand what I'm reading." (DM)***
>
> ***"I use it for proofreading. I can see where I've made an error." (DM)***

Impact on attainment

Many students commented that they felt the software was contributing to improving their GCSE English exam grade. For example, one student commented:

> ***"Using the software improved my mark. I got a grade C (in the mock exam) and I've never had a C on a paper before." (CM)***

The students' perceptions appear to be supported by the data on GCSE English results in June 2015, focusing upon the reading paper, rather than the overall grade achieved. The justification for this is that there would be too many additional variables to consider that will have contributed to the overall grade; for example, writing skills.

Results of GCSE English reading paper at Runshaw College: June 2015 exam

Numbers of students: GCSE English	
No. of students overall who sat GCSE English reading paper, with grades ranging from X (no grade) to grade D.	478
No. of students who did not have an assessed difficulty with reading.	434
No. of students who had been assessed (according to exam board criteria) as having difficulties with reading.	44
No. of students who used a computer reader.	29
No. of students who did not have reading help.	15
Percentage of students achieving a grade C	
Students who did not have an assessed difficulty with reading.	51%
Students who used a computer reader.	48%
Students who did not have reading help.	27%

The data suggests that the percentage of students achieving a grade C on the reading paper who used a computer reader was not significantly lower than those without an assessed reading difficulty: 48% of students compared with 51% of students.

In contrast, only 27% of students achieved a grade C with no reading help on the reading paper.

Although it is a relatively small sample size and the results should be viewed with some caution, analysis indicates that using the software did have a positive impact upon student attainment, particularly when considered alongside the compelling qualitative feedback from students.

Key learning points

Overall

Ultimately, our project was about using existing tools and resources in an innovative way. Developing the use of assistive technology at your own provider doesn't mean you need to spend large amounts of money on new resources. Consider the goals you want to achieve, as well as the overall learning aims of your students, and let those guide your own practice.

Where possible we used free and open source software like Orato. This approach, however, might not be suitable for your setting. The effective practice we developed around the use of computer reader software in exams need not only apply to Orato. Commercial tools may be more suitable because your staff may feel more comfortable relying on tools that can be purchased from commercial software companies.

Collaboration

To successfully implement a project of this kind, stakeholders from across the college need to be engaged. If a project similar to this one is seen as a technical exercise purely involving purchasing software and computers, it will not be successful. Staff members at all levels have made valuable contributions to this project.

Although Study Support was the driving force behind the project, buy-in from our IT and exams team has been crucial in terms of implementing the use of computer reader software in exams. Only with their agreement and active support has the use of computer reader software in exams been successful. It is important to approach these teams early and ensure they are comfortable with what will be required from them.

Selecting appropriate resources

An assistive technology project of this kind need not rely on expensive resources. All the tools we used during our project were inexpensive, free or already available at the college.

You can find out more about the tools we used in this case study. In addition using the universal principles of assistive technology to guide your resource selection should be useful.

Providing readily accessible resources

A key factor to ensure the success of a project such as this is in making training resources readily available. We made resources available across multiple different formats, including Moodle, YouTube and simple paper-based prompt sheets, so that staff and students participating in the project could easily use them as required.

Regular organisation-wide awareness raising

Our project was featured regularly at internal events and as part of ongoing staff training, culminating in a session for all teaching staff that was delivered at the end of the 2014-2015 academic year. It has been vital to develop this kind of organisational buy-in so that we can further develop the use of assistive technology with more staff and students.

Moving Forward

Improving access to the software

We have taken an additional step towards increasing the use of assistive technology at Runshaw College by giving all students access to Orato on their student logins starting in September 2015. The decision to do this was made in the hope that we could decrease the stigma some students attached to using computer reader software by ensuring it was not something they needed Study Support to set up for them.

Similar changes were made to our Macs at college early in 2015 where, at the request of project staff, access to OSX text-to-speech tools was enabled by default for all staff and students. This meant that all students who want to use computer reader software to develop their reading skills will have the tools they need.

Improving accessibility to e-resources

Support staff are creating a library of accessible resources for use by teaching and support staff so that we will be able to more easily offer accessible resources to students who have a print impairment. Furthermore, all specialist assessors now routinely offer reading software as a first choice for a student eligible for a reader in exams.

Contributing to improving accessibility of exams

We have been involved in discussions with an exam board on ways of developing accessibility to online exams; for example, some BTEC exams. We plan to continue this liaison.

Wider dissemination to encourage other education providers

As part of the project, we set up the Runshaw College Talking Technology YouTube channel where we plan to continue to share our work around the use of assistive and learning technology with the wider education and training sector.

Video resources promoted during the project on the use of computer reader software were accessed over 900 times from countries including United Kingdom, United States, Colombia, Germany, South Korea, Italy, Canada, Brazil, Indonesia, and France. We expect this number to increase rapidly once the resources are disseminated more widely, and more publicly, following the completion of the project.

Following a presentation that was made possible by the work done as part of our Learning Futures project, attendees at the spring Access North West Forum event cited Orato as the tool they were mostly likely to incorporate into their practice, with 80% of attendees saying they felt they would be able to implement the use Orato in their workplace.

Following the training presentation, 2 staff attending the event from other FE colleges returned feedback stating that they planned to run a pilot using computer reader software in exams in the following year.

In addition, we have been liaising with staff from 4 additional North West FE and sixth form colleges (Holy Cross, Cardinal Newman, Blackburn College and KGV College) who, following the work we have done to disseminate the effective practice we have developed, have been piloting the use of computer reader software in lessons and exams with their students.

We will continue to liaise with other providers to develop this kind of assistive technology work through our participation in the North West Dyslexia Forum, Access North West Forum, Northwest ALS Network and the National Specialist Colleges Technology Advisory Group.

Resources

Get started

A good place to start would be project overview video and the tools we used case study. These resources should help your staff understand the motivation for and rationale behind using text-to-speech software with students and provide a valuable insight in to the tools and resources we used during our project.

The project app divides the resources we've made available in to different sections, giving an overview of the project, a look at who was involved in implementing it as well and the resources needed to do so. Finally you will find links to resources and services you will need to use to get started developing your own effective practice.

Video Resources

Talking technology Runshaw College YouTube channel

Playlists

Learning Futures project playlist
This playlist consists of 18 videos that were produced as part of our Learning Futures project. The playlist Includes interviews with stakeholders and software demos as well as a project overview case study.

Text-to-speech what's available?
This playlist consists of 8 videos that were produced as part of our Learning Futures project. The playlist includes software demos of several text-to-speech tools that can be used by staff with students as an aid to support reading.

Orato in exams
This playlist consists of 7 videos that were produced as part of our Learning Futures project. The playlist includes a demo of Orato being set up for use on a computer as if it were to be used in an exam. In addition, several other videos offer tips for using Orato as a tool to support reading.

Stakeholders
This playlist consists of 6 videos that were produced as part of our Learning Futures project. The playlist includes interviews with several of the stakeholders who were involved in our project.

Transcripts

Links to transcripts of these videos are available in the descriptions of each video on YouTube.

Paper documents

The tools and resources we used
This case study takes a detailed look at all of the resources that were used by Runshaw College staff during our Learning Futures Project, including information on Orato, accessible exam papers Jisc TechDis Voices, Load2Learn, Dolphin Easy Converter and other hardware and software.

Using text-to-speech software in the classroom
This case study describes the use of text-to-speech software in lessons with GCSE English students and discusses its impact on the staff and students involved in the process.

The role of support staff in promoting the use of computer reader software with students
This case study describes the use of text-to-speech software in learning support sessions with a BTEC level 3 student, and discusses the impact on the staff and students involved in the process.

Computer reader road map
A large poster that outlines all of the steps and all of the stakeholders involved in preparing to use computer reader software in exams.

Online interactive resources

Talking Technology web app
This web app aggregates all of the videos, case studies and resources we have produced and used during our project into one simple to access package. This web app works best when viewed on an Android device. It can, however, be accessed through a web browser on any mobile, laptop or desktop device.

Talking Technology on AppShed

Talking Technology on AppShed link
You can download the and save this app to your mobile device using a QR code reader. Alternately you can download the AppShed app on Android and download this app through the AppShed store to install it as a native app on your mobile device.

Blendspace lessons

Why Use Computer Reader Software?

Get Started With Computer Readers

Using Computer Reader Software

These Blendspace lessons use multimedia resources combined with links to useful documents and information. Staff preparing to use computer reader software in exams and lessons can use these resources to develop their awareness of what is available, identify who should be involved in the process, and assess what steps they will need to take to replicate a similar project.

Social Media

Twitter – Talking Technology Runshaw College
In support of our project, a Twitter account was set up so we could share our work with other providers. If you want to keep up to date with how we have progressed since the project concluded, then you can follow us on twitter by searching for @TTRunshaw.

YouTube – Talking Technology Runshaw College
During our Learning Futures project, we set up a YouTube channel to host all the video resources we produced. You can subscribe to the channel and stay up-to-date with how our practice develops following on from the conclusion of our project.