Study of Mature Students with identified disabilities and the use of supportive technology

June 28, 2017

91 Mulberry Close
Paignton, Devon,
TQ3 3GB

07454 356613

cfranklin@fact-ifsa.co.uk
FACT - ifsa

Table of Contents

Abstract

With the advent of students required to stay on in education until the age of 18 within Sixth Form, College and Further Educational environments, the number of students consequently choosing to continue further with their studies has increased.   Therefore, an increase of students with specific learning difficulties is also in line with this increase. As a consequence, colleges, universities and vocation colleges are required to consider the differing types of support to accommodate the individualistic needs of the older student. This study has been fortunate in being in a position to align with a leading university to enable a trial of comparison into a variety of technology and is therefore reporting the findings of said trial; with a particular focus of the students utilising the C-Pen Reader.

Introduction

Today's mature student has a myriad of supportive technology at hand but may find it incredibly difficult to identify which technology will provide a best fit for their individualistic needs, after all one size does not fit all.

Liaising with a large city based university in the North of England, we were in a unique position to ask them to compare the C-Pen Reader with three other pieces of technology, Read and Write, Select & Speak and Claro Reader.

Hypothesis: The C-Pen reader would receive favorable comparison in relation to other supportive technology in trials undertaken by mature students with disabilities, due to its portability and variety of features.

Method

Participants

All participants attend a large city university in the north of England. The students were identified as having either one or a combination of disabilities including; visual, mental health, physical and specific learning difficulties for example dyslexia. Two students were aged between 18-25 years of age, one student was aged between 26-35 years of age, another was aged between 36-55 and the final student was aged 56+. There were 5 females in the study and 1 male. All students first language was English.

<u>Materials</u>

All students were supplied with their own C-Pen Reader Pen during the study trial (one term). The students were able to choose which further pieces of technology they would like to work with, the majority of participants chose to trial all four differing types of technology.

C-Pen Reader – a small hand held pen-shaped device which is used to 'highlight' text by line or word, which is then read back to the user via headphones. Students can highlight as much or as little text as they wish, there is a facility to save text to file, to transfer files to computer for use at a later date, a dictionary facility and an audio recorder. The pen reads English, French and Spanish.

Read and Write – a computer programme which can read out loud, helps students to understand unfamiliar words, and in particular for this cohort to support researching assignments and proof reading their written work.

Select and Speak – a browser extension for use with Chrome web browser, once installed the student highlights any text on a webpage and clicks the Select and Speak icon and listens to the text being read.

Claro Read – can be used on PC, Chrome, Mac, iPhone, iPad and Android, a software tool to support reading and writing. You can read any on-screen text out loud by highlighting the text, the software will also read paper documents when scanned, there is a facility to read in a variety of languages. The programme helps with writing, including word prediction as you type, reads back your writing to check as you go, spell checks your writing.

Results

One Student chose to use the pen daily, whilst all others used on a weekly basis. On average the pen was classed as 'good' in terms of usability, with one student stating it was 'excellent'. Reliability was given an 'excellent/good' rating. In regards to vocalisation and accuracy, the C-Pen Reader received the better rating of 'good' in comparison to Select and Speak. Overwhelmingly the voice on the C-Pen reader was deemed to be 'clearly understood'. Overall rating for the C-Pen was 'good'.

Table of comparison

Name of product	1 – highest score, 4 lowest
C-Pen Reader	1.8
Read and Write	1.75
Select and Speak	3
Claro Read	3.33

Read and Write and C-Pen Reader received similar scores. Further comments made by the students in relation to the C-Pen reader were as follows:

"It has been easy to use and accurate in its use. I have found it reliable each time I have used it and it has assisted me in completing my work as previously I have been unable to see some small print".

"The ability to scan a whole sentence or paragraph and then have it read back to you once you have finished scanning".

"It's easy to use, light to carry and does the job. Great for acuminating references or little bits I need to remember for essays and revision prep :)"

"It is useful when I haven't got any printer ink left, and I need quotes out of a hardback book."

A thematic analysis of audio interviews concluded the pen was 'easy' to use. The pen was seen to be 'helpful' and 'a useful tool'. One student particularly commented on how the other technology would require the information to be on the computer or on the internet and therefore picking up quotes from different books, 'not available on the internet' was particularly helpful to him. The ease of uploading text files to computers was a further positive comment.

The voice received positive comments including how it was 'very clear' and of a good 'volume'. Another student stated how it helped her understand when she had been 'misreading a word', the student inferred she would see the word and thought she knew what this word was, having the pen correct her, she felt this facility was 'actually very helpful'. The portability of the pen was a positive for when the student was out and about.

A mature student indicated some issues in getting to grips with the functionality of the pen and therefore would have gained more from her trial if she had been able to work out how to quickly utilise some of the functions, she noted that she had not realised what she was missing out upon, until much later in the trial.

Discussion

With the advent of education extending to all those up to 18 years of age, there has been a subsequent increase in those staying on to undertake degrees and vocational qualifications post 18. As such, young people who may have ended their educational journey at 15/16, due to specific learning difficulties or disabilities will now be expected to continue in education and therefore require specific support to enable them to achieve this with confidence. Supporting and aiding the student with such difficulties will require Colleges, Universities and Vocational Colleges to re-evaluate the technology they have available and to become aware of the changing market in today's techno knowledgeable youth.

In 2014-15 an increase in those returning to education after a break of more than the 'gap year' was reported; two-thirds of returning students had taken at least one year out, 40% of these returners were aged 26 to 40 years of age[1].   Furthermore, they return with the confidence to deal with and acknowledge the learning difficulties they may have hidden in their youth. Many organisations will now focus on a person centered plan to ensure each learner receives the provisions they need. These strategies are supported by the Learning and Skills Act 2000[2] and the Disability Discrimination Act Part 4[3].

JCQ have approved the use of reader pens for use in examinations as a normal way of working, other examination boards throughout England will often utilise the JCQ regulations as a guide to how they approach access arrangements. As such, assistive technology will become a standard norm in post 16 education in the future and therefore those providing courses and training will need to ensure they are consistently knowledgeable about what is available to support their students. The days of a human reader or human assistant are numbered, technology will be the way forward to encourage independent learning, confident learners and skills to take into the work place. With this in mind studies to review real student's thoughts and experiences of technology in the learning environment will provide vital evidential support and advice.

References

1. Turton, K. and Thompson, A. (21st July 2016) 'On the up – more people are returning to postgraduate research' [Online] Available at: http://blog.hefce.ac.uk/2016/07/21/on-the-up-more-people-are-returning-to-postgraduate-research/ (Accessed 28th June 2017).

2. Learning and Skills Council for England (31st July 2000) 'Learning and Skills Act 2000' [Online] Available at: http://www.educationengland.org.uk/documents/acts/2000-learning-skills-act.pdf (Accessed 28th June 2017).

3. Disability rights Commission (September 2002) 'Disability Discrimination Act 1995 Part 4: Code of Practice for providers of Post 16 education and related services' [Online] Available at: http://www.hcct.org.uk/wordpress/wp-content/plugins/downlodad.../download.php?id=22 (Accessed 28th June 2017)

Appendices

Questionnaire for participants

<u>Scanner Pens Survey</u>

The purpose of this survey is to collect **anonymous student data** from students at Manchester Metropolitan University relating to the use of Scanner Pens when compared with other vocalisation software.

<u>Age Range</u>

18 – 25	25 – 35	35 – 45	45 – 55	55+

<u>Gender</u>

Male	Female

<u>Disability</u> (If applicable)

Visual	Auditory	Physical	Mental Health	SpLD	Other

<u>First Language</u>

English	French	German	Spanish	Italian	Greek	Polish
Portuguese	Punjabi	Urdu	Bengali	Gujarati	Arabic	Chinese
Other						

<u>How frequently do you use the Scanner Pen?</u>

Daily	Weekly	Monthly	Rarely	Never

How often do you remember to bring your Scanner Pen to lectures/classes?

Always	Occasionally	Rarely	Never

How would you rate the Scanner Pen in terms of usability?

Excellent	Good	Average	Below Average	Poor

How would you rate the Scanner Pen in terms of reliability?

Excellent	Good	Average	Below Average	Poor

How would you rate the Scanner Pen in terms of accuracy of vocalisation of text?

Excellent	Good	Average	Below Average	Poor

How would you rate the Scanner Pen's vocalisation & accuracy when compared with Read & Write?

Excellent	Good	Average	Below Average	Poor

How would you rate the Scanner Pen's vocalisation & accuracy when compared with Select & Speak?

Excellent	Good	Average	Below Average	Poor

How would you rate the Scanner Pen's vocalisation & accuracy when compared with Claro Read?

Excellent	Good	Average	Below Average	Poor

Do you find the 'voice' available on the scanner pen easy to listen to?

Yes	No	Unsure

Where would you rank the Scanner Pen when compared with the other vocalisation software you have used? (1 highest score, 4 lowest score)

Scanner Pen	
R&W	
Select & Speak	
Claro Read	

What factors have helped you to determine the score given to the Scanner Pen?

Can you think of any improvements you would like to see concerning the Scanner Pen?

How would you rate the scanner pen overall?

Excellent	Good	Average	Below Average	Poor