

Garner

Education

Services Ltd

The C Pen Exam Reader - A quantitative and qualitative Study

March 30, 2016

01803 226211
www.garnereducation.co.uk

christine@garnereducation.co.uk
GES Ltd

Table of Contents

Abstract.....	3
Introduction.....	3
Method.....	4
Results	6
Discussion	10
References.....	11
Appendices.....	12

Abstract

Definition of dyslexia: Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling.... It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed and the automatic development of skills that may not match up to an individual's other cognitive abilities. (British Dyslexia Association, 2016).

In other words, the average dyslexic student may have cognitive skills that would enable them to achieve good examination results and grades but for a specific difficulty accessing the questions. Undertaking GCSE examinations, amongst others, is fraught with not only the usual examination nerves and fears but compounded by the knowledge that you are about to undertake an examination with the difficulty of not being able to read the question yourself.

Knowing that as a professional you are sending the students, as one Head of Learning Support put it "to fail before they even start", appears to hit a cord of discontent to all, it appears to be undermining the emotional well-being of the student. However, solutions are available. Technology moves apace and educational establishments require the confidence to utilise tried and tested equipment to support their students. Not only will the outcomes bring significant and improved results, alongside independent learning skills for the student. The student will gain confidence and a renewed attitude to learning, which can only bring supportive and positive future skills as they enter further education and adulthood.

We were asked to research the effects of one available technology - The C Pen Exam Reader which converts printed text to speech. The method used to undertake this research does require further investigating and further research. However, the initial findings are positive and indicate the hypothesis has been achieved.

Introduction

For many years' educationists have questioned the emotional impact, alongside the comparative low grades of the dyslexic students when undertaking the GCSE English reading paper. A human reader is not allowed for this section of the paper. The lack of a supportive reader in this particular paper has an impact on the student's overall grade. Questions have been asked as to the emotional experiences this particular band of students must face when knowing they are entering an exam with reading

difficulties, therefore the overwhelming feeling will be that of failure before pen has even touched paper. If given the opportunity to have the English reading paper read to them would the student achieve a greater examination result? A reader is deployed in other examinations to support the achievement of a grade depicting the cognitive abilities of the dyslexic student. The dyslexic students may not lack understanding of their chosen subject; their problem is created by their inability to read the jumping, moving, incomprehensible formation of shapes that are commonly known as words. This is the crux of the problem.

This is the first research study undertaken to look at the impact of a supportive tool, namely the C Pen Exam Reader when utilized by dyslexic students during the GCSE English reading paper (mock). Supportive measures may be in use for other examinations, such as a human reader. However due to the nature of the English Reading Paper examination, a human reader is not allowed. Therefore, the dyslexic student has no supportive element in this paper. Due to no previous research, this initial study will concentrate on suggestions for future studies alongside the quantitative and qualitative aspects of this study.

Hypothesis: Use of the Exam Reader Pen by dyslexic students in the GCSE English Reading Paper will support students in achieving an improved grade and impact on their emotional well-being, namely confidence and attitude to learning.

Method

Participants

Eight Year 11 students with dyslexia/low literacy, reading skills of 83-88 in reading comprehension, were approached to undertake the study. Consent was obtained from parents/guardians and the students.

6 of the students were female, 2 students were male. The average age of the students was 15.8 years. The secondary school approached is in a small West Country Town with A*-C (English and Maths) results for 2015 at 50%, national average 64%. (Adams, The Guardian, 2015).

Materials

Examination 1: all participants were supplied with a past GCSE English Reading paper, Section A Reading & Comprehension. The examination was taken under exam conditions, an explanation of the paper, how to complete the paper, time to undertake the paper was given by a member of the research team who had experience of examination procedures. All participants were supplied, if required, with a black pen. The room was set out according to JCQ ICE regulations, with each student allocated to one work space each. The examination took place after first break and before lunch on a Thursday. No additional support was given; extra time was allocated in according with JCQ regulations.

After completion of Examination 1, 6 randomly chosen participants, (5 females and 1 male) were instructed in the use of the Exam Reader Pen 1:1 and then instructed as a group. Each participant was encouraged to ask questions and to familiarize themselves with the pen. Instruction on how to fit the head-phones was given. The participants were instructed to proceed to an allocated place every morning to collect their charged C Pen Exam Reader which they used in their lessons that day. The participants would return the pen to the allocated place at the end of the school day. An allocated adult would take responsibility of the pens overnight, including charging of the pen. After instruction each participant signed to say they understood the instructions.

Examination 2: 3 weeks later all students returned to the same examination room and were supplied with a past GCSE English Reading paper, Section A Reading and Comprehension. The examination was taken under exam conditions, an explanation of the paper, how to complete the paper, time to undertake the paper was given by a member of the research team who had experience of examination procedures. All participants were supplied, if required, with a black pen. The six experimental condition participants checked their C Pen Exam Reader was fully charged and headphones were in place. The room was set out in accordance to JCQ regulations, with each participant allocated to one work space each. The two control condition participants undertook Examination 2 without the aid of an Exam Reader Pen, the experimental conditional participants had use of their allocated Exam Reader Pen. All participants were allocated Extra Time. The examination took place after first break and before lunch on a Thursday.

During Examination 2, the experimental participants filmed using the C Pen Exam Reader. The cameraman was introduced to the participants before the examination and an explanation of what would be recorded was given. The cameraman would focus on the use of the C Pen Exam Reader only. Particular attention would be given on the participants using the Exam Reader Pen to highlight the comprehension element of the paper and then answering the questions.

Papers were marked by an experienced English Teacher using Awarding Body marking criteria. The marker had no knowledge of the student identities or on which paper the C Pen Exam Reader was used.

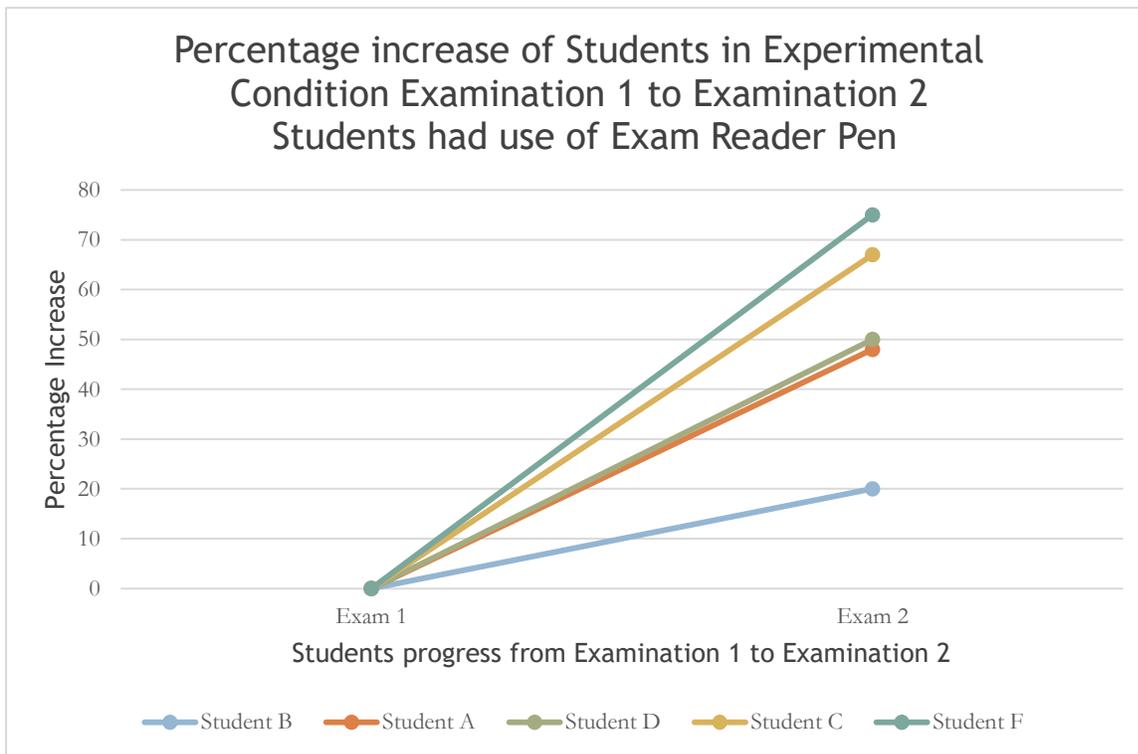
Results

The results will be given as two entities. Firstly, the quantitative element of the research is the statistical information of the examination grade results for both Examination 1 and Examination 2. Secondly the qualitative aspect of the study including analysis of the questionnaire undertaken by the experimental condition participants. A group participation interview of all participants led to a thematic analysis of the typed up interview transcripts.

Table 1 shows the percentage increase of 5 of the experimental condition students.

Student G and Student H, the control group participants did not have use of the Exam Reader Pen. Their results for both examinations were the same, no percentage increase between each examination.

Table 1.



Student E made no percentage increase in each examination but did have use of the Exam Reader Pen, their result has not been plotted. Students A and D attempted the whole examination in Examination 1. Both of these students chose to complete half the paper in Examination 2, an explanation as to why they chose to do this can be read below. A comparison was made between their achieved marks in Examination 1 and Examination 2 and statistically analysed to produce an overall grade of improvement based on the synopsis of achievement if Examination 2 had been wholly completed.

Student F achieved an increased mark by 75%. Student C achieved an increased mark by 67% and Student B achieved a 20% increase in their results.

A copy of the questionnaire can be found in Appendices.

The questionnaire was conducted after Examination 2. The questionnaire focused on the physicality and use of the Exam Reader Pen. The overall results of how quickly the pen is to use was unanimous; very quick. Question 2 focused on the usefulness of the pen in the English Reading paper and again a unanimous yes of the pen being useful. All felt comfortable using the pen in an examination environment (Question 3).

Question 4 required an individual perspective of the pen and the table below sets out the replies of the 6 participants.

Can you share with us what you liked about The C Pen Exam Reader.	Participant's response
Participant 1	That it reads for you.
Participant 2	Without having a teacher there. Because it makes me feel uncomfortable having a teacher but it was like having one there.
Participant 3	I like it because you can scan it over and over again. Helps you with words you might not know.
Participant 4	Yes it helped me with reading the question. You can scan it several times which is a good thing. It was useful.
Participant 5	You can see what you're highlighting.
Participant 6	You can see what you are doing. How fast you can highlight.

The final question focused on how difficult the pen is to use. The general consensus was at first it was difficult but the more you used the pen the easier it got.

Finally, all participants took part in a Group Interview. The first question was directed at the two students from the control group.

'Can you tell me what it is like entering a room to complete an exam where there is no support for your dyslexia?'

Student G: "It is hard, you want to do your best but you can't".

Student H: "I put my name on the paper, but what is the point of doing anything else, I can't read the question".

'Do you think something like the Exam Reader Pen, that your friends were trying, is a good idea, what did you think about it?'

Student H: “It wasn’t fair that we had to do the exam without the pen, I think they were lucky and maybe it would help them, there is no point doing this exam if you can’t read the question”.

Student G: “I want to have a go, I would like to have a go, it looks good and they let me look at it in class and I had a go and it was really good”.

The next questions in the group interview were based on the questionnaire to enable the students to explore further their written answers. Student H and G left the group.

A full transcript of the group interview can be found in the Appendices.

The general overview of the pen appeared to be ‘good’. An initial period of having to learn how to use the pen was soon overcome with confidence and growing trust in their abilities. They enjoyed the freedom of the pen and felt encouraged by others and teachers. There appeared to be no stigma attached to the use of the pen.

Two participants chose not to continue in Examination 2 and both were asked if they would answer some questions as to their decision. Both agreed.

Student A said he found it tricky to swap between the Exam Reader Pen and his hand writing pen. He also said “it’s not a real exam anyway Miss”. However, he said he found the pen of great value in his lessons and had enjoyed using it.

Student D said “it’s not a real exam Miss, if it had been I would have tried harder, but it wasn’t”. She indicated she had liked using the pen and had found it easy. She said it made her feel better.

The Head of Learning Support was asked for his comments.

Researcher: Has the school recognized any positives for the students using the Exam Reader Pen

“I spoke with the teachers in the majority of the classes with the students, particularly lessons which required some reading. The first comment I particularly took note of was from a member of staff who mentioned one of the student’s change in his attitude to learning. XXXXX can find reading incredibly challenging and some of his coping mechanisms can be to shut off or be comical. He had shown a remarkable change in behaviour. He can come across as confident, but this is usually

to avoid the difficulties reading brings to him, now we have seen a confidence in his abilities.”

Researcher: In what form has these positives taken, you mention an attitude to learning what does that mean to the school?

“A positive attitude to learning will not only improve potential results but also impacts on the young person’s emotional well-being. A confident learner will achieve far more than a student who questions him or herself or may often give up. We have noticed the students are not giving up, they actually are using the Exam Reader Pen with a positive frame of mind, they are communicating with us, overall it is a remarkable change. We have enjoyed having this opportunity to support the students making their own choices”.

Discussion

Hypothesis: Use of the Exam Reader Pen by dyslexic students in the GCSE English Reading Paper will support students in achieving an improved grade and impact on their emotional well-being, namely confidence and attitude to learning.

The results have proven to support our initial hypothesis. It would be advisable to run the study again with a higher number of participants to appreciate for lack of interest or performance due to the examination not being ‘real’. A first proposal will be to seek permission for the actual grades of the participants who are using the Exam Reader Pen in the ‘real’ mock exams and subsequent GCSE’s to compare with their predicted grades.

In numeric terms 5 out of the 6 students, who undertook the second paper with the assistance of the C Pen Exam Reader, achieved a real increase in their results - 83%. The greatest increase was 75% showing significant improvement.

As to the question of the emotive well-being of the participants, we can confidently state this has been achieved. Not only supported by the comments from the students, but also by the teachers and Head of Learning Support. Confident learners do achieve greater results and therefore with continued use of the Exam Reader Pen the actual grades of the participants may surpass their predicted grades.

Further research should be conducted on dyslexic students with predicted grades of C/D who would be entitled to extra time but not a reader. These students may

cognitively be strong and therefore the predicated lower grades are usually to compensate for poor reading skills rather than cognitive ability.

References

Adams, R (2015) 'GCSE results 2015: pass rate rises but A* grades dip, *The Guardian* [Online] Available at: <http://www.theguardian.com/education/2015/aug/20/gcses-results-2015-english-pass-rate-rises-jump-a-c-grades> (Accessed: 15th March 2016).

Peer, L (2006) 'Definitions', *The British Dyslexia Association (2016)* [Online] Available at: <http://www.bdadyslexia.org.uk/dyslexic/definitions> (Accessed: 15th March 2016).

Appendices

Questionnaire:

Q1. Can you tell us how quick and easy the pen is to use?

Q2. Did you find the pen useful in the English Reading Exam?

Q3. Would you feel comfortable in the exam environment using the pen?

Q4. Can you share with us what you liked about the pen?

Q5. Can you share with us if you found the pen difficult to use?

March 2016

Transcript of Group Interview - Exam Reader Pen

Interviewer: Your first examination paper for us: Examination 1, without the pen, how did you find doing the paper without the pen

Participant: A bit tricky

Interviewer: A bit tricky

Participant: Um Huh (agreement noise)

Interviewer: What was tricky?

Participant: Well.... I don't know... I think I just shut off, like I really don't know I just don't know.

Interviewer: Is that because, like, you can't read the words and so you just...

Participant: yeah

Interviewer: close down?

Participant: yeah, yeah.

Interviewer: Okay, and then you started using the pen in the lessons

Participant: ummm yeah (agreement noise)

Interviewer: Did you find them useful in the lessons?

Participant: Yeah.

2nd Participant: Yeah, yeah.

Participant: But you got to get used to it. Cause it doesn't always say the right words.

Interviewer: And how long do you think it took you to get used to it?

Participant: A few days

2nd Participant: A week

(talking over each other)

Interviewer: A couple of days? A week? Yeah? And then you, and then you knew

Participant: yeah

Interviewer: what to do with it

Participant: yeah

Interviewer... and it was fine. Did you use the ear-phones with it?

Participant: yeah

Interviewer: So nobody could hear what you were doing?

Participant: No

Interviewer: So what sort of things did the other students ask you?

Participant: Erm...

Interviewer: Did they ask you anything about it?

Participant: No, no.

2nd Participant mumbles something.

Participant: Ah yeah, yeah...they did, they were like 'what's that'. And then they were just like....

2nd participant mumbles something.

Participant: They were like 'ah that's cool'

2nd Participant: And the teacher thought... (trails off)

Interviewer: What did the teacher say when you told her....

Participant: 'Ah that's cool'

2nd Participant: and they were like 'ah aren't they good how it reads for ya'.

Interviewer: Did you find that you needed less help from the teacher with the pen?

Participant: Yeah

2nd Participant: Yeah

Interviewer: Yeah? So it made learning easier for you?

Participant: U huh (agreement noise).

Interviewer: Excellent. And so then you came to use the pen in the second examination, what was it like when you came to do it?

Participant: Easier... cause if you could say if you like you didn't understand it the second time, you could just go over it again

2nd Participant: Completely

Participant: Yeah

Interviewer: Whereas normally....

Participant: You would just

Interviewer: Not do it?

Participant: Yeah, yeah.

Interviewer: That's really good news. So, urm, was there anything difficult about using the pen, that you didn't like, about using the pen?

Participant: No... urm... only you've got to get used to it.

2nd Participant: I'm the same probably.

Interviewer: So are you allowed to use the pen now?

Participants: Yeah, yeah, yes.... In our exams.

Interviewer: In your exams?

Participants: yeah, yeah.

Interviewer: Have you had your mock exams with them?

Participants: yeah, yes, yeah.

Participant: We haven't had them all yet but we've had some.

Interviewer: And how do you find the mock exams with the pen?

Participant: Good

2nd Participant: Yeah, good.

Interviewer: I've asked the questions so now would you like to tell me about the pens?

Participant: I like the colour.

Interviewer: You like the orange colour?

Participant: Cept it would be better if it were pink.

Interviewer: Obviously. That goes without saying.

Lots of laughter.

Interviewer: Are they something when you leave school you would like to use at....

Participant: yeah

Interviewer:... college

Lots of agreements.

Participant: They are very useful.

Interviewer: When you out at work?

Participant: Yeah, yeah.

Interviewer: You will have to tell your new college about them.

Participant: Yeah, yeah.

Interviewer: So how much difference did it make to you using the pen?

Participant: A lot

2nd Participant: A lot

3rd Participant: A lot

Participant: It made such a difference, it is much easier, your not like struggling with the words, like, as when your like...

2nd Participant: ... say if your like you didn't know what the word it will tell you what it is

3rd Participant: Good

Interviewer:... and then when you heard the word...you knew what the word...

Participant: Yeah

Interviewer (directed to specific participant): How did it make a difference to you using the pen?

Participant was very shy and quiet

Interviewer (repeating the participant): It was better? (participant nodded), Excellent.

Interviewer: Did you feel happy to use the pen in the exam?

Participant: Yeah

Interviewer: You weren't worried about using it at all...?

Participant: Yeah

Interviewer:... cause it looks quite cool doesn't it?

Participant: Yeah

Interviewer (directed to specific participant): What did you like about the pen? You said you like the colour... (laughter)... but you want it in pink (more laughter)

Participant (laughing): Yeah, yeah.

Interviewer: What else did you like about the pen?

Participant: It reads for you. You don't have to, like, read it yourself, or if you can't do it yourself. And you can repeat it over again, how many times that you want.

Interviewer: It lights up?

Participant: Ohhh yeah.

Interviewer: So you can see what you scanning?

Participant: Yeah.

Interviewer: And it's got ear phones...

Participant: Uh hum.

Interviewer: So nobody else can hear how many times that your listening too....

Participant: No that's true.

Interviewer: So can we say that the pen was a big hit for you?

Participants: Yeah (numerous voices)

Participant: Number 1.

Interviewer: Number 1?

Participant: Yeah... (laughs)

Videographer: Can I ask a question? (Agreed noises) Did you scan every single line or did you just....

Participant: I did a bit, but if it is the whole paragraph I would like...

2nd Participant: ... keep going

Participant: yeah.. keep going

2nd Participant: keep going

Participant: and then I would go back so it could read it all

Interviewer: So you worked out how to do it all in one go?

Participant: yeah, yeah, so it could read it all

Interviewer: Excellent, thank you, thank you

Videographer: Thank you

Participant: No thank you