

Case Study of a Dyslexic Person's Visual Perceptual Problems: A Fizz Effect

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Background

Nigel is 35 and was assessed as having dyslexia at 15. When looking at text he experiences an effect known as pattern glare; he reports that he sees what can only be described as lines of fizzing words. When reading text, the fizzing occurs under the line being followed. When scanning a page of text the lines in close proximity also fizz. When viewing a page the entire text fizzes. Although people who do not have dyslexia may also experience this fizzing effect, it is one of a number of visual perceptual problems that dyslexic people experience frequently.

For Nigel the fizzing effect is most prominent when black text is on a white background and is triggered especially with italic Times New Roman font of 12pt or less and with line spacing of 1.5 or less. The effect is often present when reading continuous text in books or magazines or on the computer screen. It is less obvious when words are individually used as labels to accompany diagrams or charts and, because these images rely less on textual detail, they are less likely to be misread or misunderstood.

Animations and simulations can also trigger the effect if they incorporate large amounts of textual information and the screen refresh rate is inappropriate. However, photographs and video are media that do not tend to trigger the effect because the large number of colours and shades reduce the contrast and brightness of the information.

Difficulties experienced before university

At school, Nigel was not aware that such pattern glare effects existed. Furthermore, the teachers were also unaware of Nigel's pattern glare effects and dyslexia. Not a day would go by without him being told he had copied down information incorrectly from the blackboard. As Nigel was unable to visualize in his mind what a word looked like, and he would not dare try to speak it aloud for fear of embarrassment, he would try to listen to what it sounded like in his mind. As a result, his spelling was poor especially with irregular and long words. Nigel experienced stress and anxiety being told how utterly useless he was. What confused the teachers further was that he had extremely good mathematical ability for his age. He was able to solve mathematical problems not only correctly but also more quickly than others in his class. Only in the final year of senior school was Nigel assessed for Dyslexia. No assessment was undertaken for pattern glare.

Difficulties experienced during university

Nigel's undergraduate studies were the most difficult as reading and retaining vast amounts of information formed a major part of all his courses in Computing, Accounting and Mathematics. As the pattern glare effect also causes difficulty when writing, such as copying notes, Nigel was affected not only during learning, but also during revision and assessment when he found writing essays and assignments particularly difficult.

The pattern glare effect not only affected Nigel's ability to read general textual information both in hard copy and electronically, but also has an effect on a numerous variety of other activities such as reading a lecturer's notes on a whiteboard and using search engines where their font and background were unable to change. Consequently, despite being able to retain and recall information of an imagery nature perfectly well text would be misread, difficult to retain and recall and content and context misunderstood. Reading was also very tiring and stressful as Nigel would often be required to re-read parts of the information, take short breaks every 10 minutes, and take medication for headaches. As a result he would spend many more hours than his fellow students undertaking learning tasks.

Difficulties experienced after University

At work, Nigel still experiences many difficulties from his visual perceptual problems and now has problems reading and retaining information such as in minutes from meetings, reports and

journal papers. He takes longer than many of his colleagues to write reports, proposals and learning materials. Whilst spellcheckers and grammar checkers help sometimes, they fail to pick up every mistake. The visual perceptual problems he experiences makes proofreading particularly difficult because Nigel often fails to spot any mistakes. He has, however, confided in a number of very good colleagues who are happy to proofread his work. Nigel tries to ensure he has plenty of time available to complete the work to provide his colleagues time to assist him.

Solutions

On becoming aware of the pattern glare effect, Nigel began to use a number of techniques to support his reading:

- coloured overlays help reduce the effect when reading paper-based information.
- change background colour on his word-processor and web browser from white to pale yellow.
- fonts such as Arial or Comic Sans reduce the effect
- format text to a single column layout.
- increasing font size to 14 and line spacing to 2.0.
- leave wide margins to pages which not only makes each line shorter and easier to read, but also provide lots of room for making notes.
- use of mind-maps when taking notes or producing a piece of writing solves the sequencing difficulties that dyslexic individuals experience.

Note from author: *The solutions are specific to me, but I do feel it is also good general advice for academics. That is not to say it will work for all dyslexic people or people with visual perceptual problems.*