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What is visual impairment?

Report

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Dr Simon Hayhoe is involved with social psychological and philosophical research in the field of visual culture and blindness, and the definition and study of disability. He has provided us with an overview of visual impairment and his recent research into the issues that affect visually impaired student participation in education.

What is visual impairment?

In 2006, the National Health Service in England renewed its definition of visual impairment (VI) as follows: "There has been a change in the terminology of the registers, blind and partial sight should now be expressed as severely sight impaired (blind) and sight impaired (partially sighted). This change was lobbied for by service users/patients as it more accurately describes their situation as people who may be technically blind or partially sighted could have useful residual vision" (NHS 2006: P. iii). As a consequence of this problem, producing an all-encompassing classification of what a VI is in the classroom or who a VI student is, provides three key problems:

1. **The individual development of VI students' personalities.** When attempting to design a standard curriculum or integrate VI students, there are so many different forms and degrees, not to mention cultural, social and psychological experiences of people with VI, that a single definition becomes unworkable and unfeasible.
2. **The myths that scientific and cultural institutions have constructed around the notion of blindness and VI in institutional education.** As Hayhoe (2008b), Jay (1994) and Paulson (1987) argue in relation to Europe and North America, the classification and educational policies related to VI differ historically between nations, and are based on issues such as religion, politics and academic accounts. In addition, most academic studies concerns themselves with an understanding of congenital total blindness (Hayhoe 2008a, 2008b), which only represents a tiny minority of people with VI - in the UK in the year to March 31st 2006 less than 1.5 % of people registered blind by the National Health Service were between the ages of 0-4 (NHS 2006), and thus the 98.5% would most likely have a visual memory and could understand visual concepts.
3. **The understanding that VI in education, particularly in its most extreme form of blindness, is not a medical condition or an illness, as many think it to be.** VI is merely the result of an illness, accident, aging or other form of physiological or psychological damage. Thus we must take account of the practical context of the impairment in education. For example, are we defining VI in a laboratory context – which affects the equipment and reading material sourced for the student, the ability to get around the laboratory and the health & safety implications to the student when using certain equipment – or a broader educational context – which include mainly mobility and communication issues?

Research by Hayhoe (2000, 2008a, 2008b, 2011a, 2011b) suggests that the student experience and attitudes towards students with VIs varies markedly not only in terms of their impairment but also in the experience of education and the social experiences their impairments cause. In particular, he suggests that a simple model of understanding blindness needs to include an understanding of the student's personal history, the attitudes that have been shown to students by teachers and others in their personal lives, and also whether they have visual memories or not. Thus he presents the following simplified model for taking into account the student

experience (Hayhoe 2008a, 2011a, 2011b, forthcoming), adapted from on an earlier model by Berthold Lowenfeld (1981):

.CLASSIFICATIONS OF BLINDNESS: 1) Total Blindness - No light perception. 2) Minimal Light Perception - Some light perception, but little enough to be usable – the student is registered blind. 3) Distorted Vision - Light perception, highly distorted e.g. achromatism, photophobia, tunnel vision or no central vision.

.CLASSIFICATIONS OF MEMORY: 1) No Visual Memory – Totally blind from birth or very early blind, 0-4 years. 2) Assimilated Blindness - Blind from mid to late childhood, 4-18 years, educated in older schools for the blind, primarily non-visual. 3) Visual Memory - Blind in adulthood, 18+ years.

These classifications do not address the causes of the student's VI, as these are rarely important to teaching and learning. Conversely, the symptoms or the outcomes of the illness or damage that causes VI are imperative to the strategies employed with students. All of these forms of impairment can be caused by a number of overlapping physiological conditions, and can be present in different combinations – such as common distortions of vision with floaters – in the same student. The most prominent three examples of these symptoms include:

1. **Obstructive impairments.** This will usually result in slow reading and a need to look at material at very close quarters. Material on the board will usually be unreadable, but colours and mobility can be adapted from normal teaching methods, facilities and equipment. The most prominent terms for these impairments are:
 - **Tunnel vision**, in which a student will only be able to see a small area in the central area of their vision, with no peripheral perception.
 - **Peripheral vision**, in which a student will only be able to see the outer areas of a document or an environment, with the inner area either distorted or missing.
 - **Floaters**, in which the sight is impaired by parts of vision being taken over by small spots of distorted colour and depth.
 - **Warped vision**, in which the depth, colour and outline of forms are deformed.
2. **Adverse psychological reactions to light.** This will also often result in slow reading and a need to look at material at very close quarters. Material on the board again are usually difficult to read depending on the combination of impairments and of course colours will not be legible. In terms of mobility, again this can be adapted with normal teaching methods, facilities and equipment. Examples of this impairment include:
 - **Photophobia**, where the student is adverse to any form of light perception and, in extreme cases, has an adverse neurological reaction to light perception. These students will also normally have to wear dark glasses that filter out all but minimal light.
 - **Achromatism**, in which the student may have no colour perception. Although this condition means that the student may have impaired vision under normal lighting conditions, they may have better vision in dimmed light than a sighted person (Hayhoe 2008a, Sacks 1997)
3. **Total blindness**, in which the student has no perception of light at all. This will result in a different mindset in teaching. For example, in these circumstances the student will certainly require training in Braille, the understanding of tactile graphics and equipment and audio devices for recording lessons and playing literature. Although these tactics are essential for students who are totally blind, they may also be useful to aid students with the first two categories of impairment.

Finally, although in this chapter I have outlined VI in relation to assisting education at a particular

point in time, it is also important to remember that many VI students will have a degenerative impairment, one which may become more serious and extreme later in life. Thus when adapting education for students with such impairments, it should also be considered that education has a central role in teaching and training the student for the conditions they may face in later life.

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