Reflections on supporting a visually impaired student complete a biological psychology module

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Reflections on supporting a visually impaired student complete a biological psychology course

In 2003, the UK government set a target that approximately half of all 18- to 35-year-olds should be attending University by 2010 (Clarke, 2003). Whether this objective will be met remains to be seen; currently, participation falls well below this target for a number of groups (House of Commons Public Accounts Committee, 2009). However, this increase in participation has prompted researchers and practitioners to explore the factors that predict student success, positive student experience, and retention both in Psychology and in other disciplines (e.g., Betts, Elder, Hartley, & Blurton, 2008; Forbes & Thomson, 2006; Smith & Naylor 2001, 2005).

Although a number of antecedents of student success have been identified to inform practice with the aim of increasing participation, one related issue that has received comparatively little attention is how to widen participation of those students with a disability (Department for Innovation, Universities, and Skills, 2009). Specifically, following the 2005 Disability Discrimination Act for equal access, educational practitioners have reflected on their delivery styles, assessment, and integration of students (Disability Rights Commission, 2007). Further, with the drive to widen participation and provide equal access to all, it is inevitable that the student population will continue to diversify.

In 2006/07 eight percent of undergraduate students studying in the UK reported a disability and, of these, fewer than five percent reported having a visual impairment (Department for Innovation, Universities, and Skills, 2009). Whilst there are a number of technologies that have been used, with varying levels of success, to support visually impaired students (Abner & Lahm, 2002), the purpose of this short

note is to reflect upon our experiences of supporting a visually impaired student through a nine-month level two undergraduate biological psychology module.

We developed a number of strategies that could be easily replicated and transferred to supporting other students with a visual impairment, to students with other learning requirements, or to all students. Consistent with Haggis' (2003) recommendations, the underlying philosophy that we adopted was to regard all students as individuals with their own learning agenda who should be supported to reach their full potential. To this end we found that the first, and most crucial, aspect to underpin all our subsequent support was the importance of developing a good working relationship and rapport with the student. Although this is something that has been highlighted as good practice when working with all students (Nicholls, 2002), in this case we found that such a rapport was crucial to ensure that the student felt at ease to communicate her needs to fully engage in the course. Further, such an approach was essential to maintain an inclusive educational environment which Dimigen, Roy, Horn, and Swan (2001) identified as something that not all students with a visual impairment report experiencing.

Next, we reflected on how we could support and integrate the student in teaching sessions. For group sessions we adopted a student centred approach to ensure that all students were supported and learning was facilitated in an unassuming way. We also found the good practice guidelines produced by Child (2003) to be invaluable. Child (2003) suggests a series of practical modifications to teaching practice when working with visually impaired students such as thinking about: room layout, lighting conditions, giving explicit explanations of illustrations and figures contained within presentations, giving a verbal commentary to all aspects of non-verbal communication, and using names to introduce speakers.

One of the challenges that we faced supporting the student was to ensure that all pertinent information was relayed to the student from the numerous complex diagrams contained within the course material. Therefore, a major adaptation to both our teaching practices was to find innovative ways to communicate the intricacies of biological diagrams without the student being able to visualise them. We devised several approaches to facilitate this. For example, pin dot diagrams were constructed, so the student could feel (in much the same way as Braille) and identify outlines and structures as well as have an appreciation of spatial awareness. Additionally, we created 3D diagrams of brain structures such as neurons using 'play doh' and used 'blue tac' to create normal distribution curves. Following the success of these 3D models, we then used a range of media to build more complex representations of biological structures. For example, we used pasta, beans, coins, string, wooden sticks, cotton reels to represent cell bodies, neurons, and synapses, and smells to represent different structures such as cloves and peppercorns to represent cell nuclei. These models enabled the student to distinguish between the different structures through the range of textures. The models were complemented by accessible written descriptions and discussions so that the student could use the models independently.

As the student progressed through the course we found that central to all of the strategies that we used was the reflective dialogue between ourselves and the student. Maintaining such a dialogue allowed us to continue to reflect on, and change, our practices so that they were the most effective for the student. We also found that sending materials to the student in advance of teaching sessions allowed the student to familiarise herself with some of the concepts that we would cover. The student evaluation was very positive, both from the individual student and from

other members of the group. In particular, nearly all of the students commented that they found the use of models in the tutorials supported their learning.

In this short note we have described some of the approaches that we used to support a visually impaired student through a level two biological psychology module. Whilst we recognise that much of what we have suggested can be regarded as good practice for all students, and that the approaches benefited the group more generally, we would argue that such innovative and engaging teaching methods are crucial to widen participation. Further, we would suggest that in these circumstances of increasing student numbers it is crucial that appropriate tutor-student relationships can be facilitated to ensure effective support is provided.

References

Abner, G. H., & Lahm, E. A. (2002). Implementation of assistive technology with students who are visually impaired: Teachers' readiness. *Journal of Visual Impairment & Blindness, 96,* 98-105.

Betts, L. R., Elder, T. J., Hartley, J. & Blurton, A. (2008). Predicting university performance in Psychology: The role of previous performance and discipline specific knowledge. *Educational Studies, 34,* 543-556.

Child, D. (2003). *Eyes open.* Milton Keynes: The Open University.

Clarke, C. (2003, January). The future of higher education: White paper presented to parliament retrieved from by the secretary of state for education and skills by command of her majesty. Retrieved from: http://www.dcsf.gov.uk/hegateway/strategy/hestrategy/word/hewhitepaper.doc accessed 18th December 2009.

Department for Innovation, Universities, and Skills (June 2009). Disabled students and higher education: DIUS research report 09 06. Retrieved from: http://www.dius.gov.uk/~/media/publications/D/DIUS_RR_09_06 accessed 18th December 2009.

Dimigen, G., Roy, A. W. N., Horn, J., & Swan, M. (2001). Integration of visually impaired students in mainstream education: Two case studies. *Journal of Visual Impairment & Blindness, 95,* 161-164.

Disability Rights Commission (2007). Understanding the Disability Discrimination Act: A guide for colleges, universities and adult community learning providers in Great Britain. Retrieved from: http://www.skill.org.uk/uploads/Understanding%20the%20DDA.doc accessed 18th December 2009.

Forbes, D., & Thompson, K. (June, 2006). First level students' expectations versus subsequent perceptions of the reality and the extent to which these predict performance. Paper presented at the *Psychology Learning and Teaching Conference, York St. John University College, York, UK.*

Haggis, T. (2003). Constructing images of ourselves? A critical investigation into 'approaches to learning' research in higher education. *British Educational Research Journal, 29, 89-104.*

House of Commons Public Accounts Committee (February, 2009). Widening participation in higher education: Fourth report of session 2008-09. Retrieved from: http://www.publications.parliament.uk/pa/cm200809/cmselect/cmpubacc/226/9780215526557.pdf assessed 18th December 2009.

Nicholls, G. (2002). *Developing teaching and learning in higher education.* London: RoutledgeFalmer.

Smith, J. P., & Naylor, R. A. (2001). Dropping out of university: A statistical analysis of the probability of withdrawal for UK university students. *Journal of the Royal Statistical Society Series A, 164*, 389-405.

Smith, J. P., & Naylor, R. A. (2005). Schooling effects on subsequent university performance: Evidence for the UK university population. *Economics of Education Review, 24*, 549-562.