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On being dyslexic: Student radiographers' perspectives

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ABSTRACT

The purpose of this paper was to provide an insight into life as a dyslexic student radiographer, identify barriers and risks in clinical training, and develop recommendations for the support of students with dyslexia. The paucity of research into dyslexia within the radiography profession is worrying, with attention focused only on the support provided by Higher Education Institutions (HEI) or inferences drawn from the experiences of other healthcare students. The impact and significance of dyslexia for student radiographers in clinical practice has never been investigated.

Results: On a self-reporting scale of clinical tasks there was little or no difference between dyslexic students and non-dyslexics. Some minor traits commonly associated with dyslexics were also reported by students with no learning disabilities and an inclusion support plan for all students was advocated. In-depth interviews of 10 student radiographers revealed six distinct themes of visualising the disability, self-protection, strengths and talents, time, the badge of disability and adjustments and support. Like other healthcare students, some radiography students reported significant difficulties and prejudices and very little structured support in the clinical environment. Despite the Special Educational Needs and Disability Act being in place for several years, the support in clinical departments fell significantly short of that provided in the universities. The dyslexic students took extra responsibility for their own learning and some had developed complex coping strategies to overcome any difficulties.

Conclusion: Several inclusive recommendations were developed as a result of this study that could be used to support all students on clinical placement.

Introduction

Research in other healthcare professions, especially nursing, has demonstrated some significant barriers and risks that dyslexic students have to overcome during their training. There is also evidence that identifies a lack of understanding and a 'stigma' that is associated with this learning difficulty.[1] The paucity of research into dyslexia within the radiography profession is worrying, with attention focused only on the support provided by Higher Education Institutions (HEI)[2] or inferences drawn from the experiences of other healthcare students.[3] The impact and significance of dyslexia for student radiographers in clinical practice has never been investigated.

Background

Dyslexia is often referred to as a specific learning disability (SpLD) and is categorised as usually developmental rather than acquired.[1] It is estimated to affect up to 10% of the UK general population, with about 4% of those being seriously affected.[4,5] When translated to HEI and Further Education colleges, Singleton (1999)[6] believes that the figures could be greatly underestimated since up to 43% of the dyslexic population are only diagnosed *after* admission to their respective programme. Dyslexia can cover a broad spectrum of difficulties, from mild to severe. This makes the support for what is a 'hidden disability' a big challenge for academic and clinical educators. One of the most significant problems is reported to be processing and sequencing of information leading to difficulty in reading, writing and spelling.[7] However, dyslexia may be manifested by other traits, including poor motor skills and spatial awareness.[3] Furthermore, many of the symptoms may be missed due to compensation or coping strategies that the adult dyslexic may use to conceal a difficulty.[8]

Perceptions about what dyslexia actually is can be tainted through lack of understanding and poor media portrayal[9]; this only serves to compound the problem still further. The medical model identifies people as recipients of a service and their disability as a problem. Whereas the social model identifies the person as disabled by society and the impairment itself is not the problem, but rather the environment that needs to be modified to support the person.[1]

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Like any other student entering into a career in Radiography, dyslexic students must meet the Standards of Proficiency in order to practice. However, clinical support to achieve this aim would appear to be lacking across most healthcare professions.[1,10] This is despite the Disability Discrimination Act (DDA) (1995)[11] and the Special Educational Needs and Disability Act (SENDA).[12] SENDA was incorporated into the DDA to become DDA part 4 and subsequently the DDA 1995 was updated and amended in 2005 with a further amendment in September 2006. This legislation makes it unlawful to discriminate against disabled students in education. The Department of Education and skills (DfES, 2002)[13] also state that clinical placements must develop policies and procedures to provide support to students with SpLDs.

Therefore, clinical radiography departments must overcome any barriers to learning by considering reasonable adjustments for dyslexic students.

Dyslexic profile

It should be pointed out that SpLDs are not associated with intelligence or indeed ability. Kolanko (2003)[14] found that intelligence functioning was average or above average in a study of dyslexic nursing students. Research also suggests that dyslexic students may manage to adapt to the clinical environment more easily than non-dyslexic students,[15] and since they tend to have a kinaesthetic learning style, rather than auditory or visual, the understanding of a practical procedure may be more intuitive to them.

There is increasing evidence that people with SpLDs are more likely to be involved in caring professions, rather than more administrative occupations.[1,16] Potentially this might suggest that the percentage of student radiographers with dyslexia is higher than that of the general population. The actual figures are unknown, but with the HEI conforming to the widening participation agenda over the last few years the numbers could well be increasing. The additional problem with this appropriately named 'hidden disability' is one of disclosure. Like all university applicants, Radiography students do not have to disclose a disability on application to the course, and even if diagnosed in the course of their study programme they have the right to keep that information confidential.

The decision not to disclose is multifaceted and may be out of ignorance of the impact their poor spelling and slower speed may have in the clinical situation, this particularly being the case with new students. However, more worryingly, Morris and Turnbull (2005)[4] noted that many nursing students did not disclose because they feared discrimination and ridicule and some students do not wish to be formally labelled as 'disabled' under the DDA or informally labelled as 'stupid' or 'lazy'.[17] One final complication is the number of undiagnosed students who struggle with tasks and have never been assessed. If a disclosure of dyslexia is made then reasonable adjustments can be put in place; however, if no disclosure is made then support may not be available, although there is still a requirement for reasonable adjustments to be anticipatory rather than reactive (DDA). This presents further challenges to clinical departments and requires an inclusive approach towards the support for SpLD. Just what adjustments would be deemed suitable in a radiology department can only be considered after the range of potential weaknesses and the associated strengths have been assessed.

Potential weaknesses and strengths

Illingworth (2005)[18] identified routine tasks such as taking telephone messages, remembering instructions and completion of forms to be difficulties in his sample of nursing students. It was also noted that working under pressure could aggravate the situation for this sample of students; furthermore Morris and Turnbull (2005)[4] added that poor manual skills including left to right orientation and hand-to-eye co-ordination are displayed when the dyslexic students are placed in a stressful environment. However, it could be argued that any student might experience such difficulties when under additional pressure. Other authors point to difficulties with communication skills, inconsistent performance, time management and multitasking.[17] However, there is a body of knowledge that describes many potential strengths of dyslexic students such as being intuitive, insightful creative thinkers.[19] Of particular interest to this study are the findings that dyslexia is associated with a particular visual–spatial talent, that is an enhanced ability to process visual–spatial information globally rather than part by part.[20] In this case it is suggested that dyslexics may be quicker, but not more accurate, than non-dyslexics at analysing images, therefore:

> *"visual–spatial processing may underlie important real world activities such as...interpreting X-rays or magnetic resonance images." Pp. 430.*

However, White (2007)[21] amongst others argues the opposite and identified visual orientation (left to right/up and down) as a weakness in dyslexic student nurses.

The existing body of literature fails to address dyslexic student radiographers and it is only by building a profile of these students that we can start to consider the adjustments and support required in the clinical environment.

The study

Aim

The aim of this study was to explore the clinical experiences of radiography students with dyslexia and the potential impact of this disability on their practice.

Objectives

Identify what specific tasks create difficulties and any associated coping strategies for overcoming them.

Discuss the personal experiences of dyslexic students.

Make recommendations for supporting these students on clinical practice.

Participants

The participants were a sample of student radiographers from any year cohort registered on Diagnostic Radiography programmes across the United Kingdom. Senior staff at each university were requested to ask for volunteers: three confirmed dyslexic students and three non-dyslexic students. It was felt important to seek the views of non-dyslexic students so that the answers for each group could be directly compared. Students completed a questionnaire and returned them directly to the researcher via a stamped addressed envelope (SAE). In addition to this students were asked if they wished to participate in the second part of the study which involved in-depth interviews. Since all responses were confidential this request was made with a separate slip enclosed in the SAE giving only the student's university email address. The questionnaires and slips were separated out so that the analysis of the questionnaires was completely anonymous.

Data collection

Between September 2008 and March 2010 a total of 120 questionnaires were distributed and 10 in-depth interviews followed. Following some demographic detail and some questions about the level of support (if any), the main questionnaire consisted of 11 questions to assess everyday clinical tasks. These were as follows:

1. Reading request cards; 2. reading reports; 3. setting exposure factors; 4. distinguishing left from right on a patient; 5. distinguishing left from right on an image; 6. giving verbal instructions to a patient; 7. listening to instructions; 8. using PACS system; 9. documenting a telephone message; 10. multitasking; 11. time management.

The participants were asked to select whether they found the tasks very easy (indicated as number 5) or very difficult (indicated as number 1) across a Likert scale. If any task was deemed to be difficult (scored 1 or 2) the respondents were invited to explain further. A short open comments section was available at the end of the questionnaire for any additional comments. Each semi-structured interview lasted between 40 and 60 min and was audiotaped on a digital recorder. The opening interview question asked for the background detail as a student radiographer and then led to questions about their clinical experiences. All identifying data was removed on transcription.

Ethical considerations

Approval was obtained from the University Ethics committee and access to participations agreed with programme managers. Participants for the in-depth interviews are approached with the permission of the university, and participants signed consent forms.

Data analysis

The interview data was transcribed verbatim and analysis was supported by a qualitative data analysis tool (Max QDA). The data were analysed using a traditional thematic approach.[22] Following immersion in the data common themes were extracted and a hierarchy of themes was established due the frequency of occurrence and the emphasis placed on them by the participants. Further subthemes also emerged from the data.

Questionnaire results

A disappointing response rate of 31% was achieved, although this is often typical of a postal questionnaire.[23] The respondents were made up of 14 dyslexic students and 23 non-dyslexic students, 30 were female and 7 were male; this would be a typical representation of gender across a typical cohort of radiography students. The degree of difficulty for completing each task is displayed graphically below in Fig. 1 where the lower the score the harder the task was considered to be.

When averaged out there was no notable difference in performing the tasks between the two groups. However, it should be noted that this was a self-completed questionnaire and, therefore, a personal perception; it was not a measure of their actual abilities. Furthermore, no statistical tests were possible given the low numbers of data generated within a qualitative study. Nevertheless, the results did show very small differences within this sample in reading requests/reports, differentiation between left and right and time management skills. A slightly higher number of dyslexics to non-dyslexics reported it easier to set exposure factors and the poor standard of English was predictably much more notable in the dyslexic group responses.

Dyslexic students

All the dyslexic students had had their learning disability confirmed by an educational psychologist and all had made a disclosure about their disability to the university. Interestingly four students had not disclosed their disability to the clinical placements but it was not known if their clinical placements had been made aware of SpLD by the university. The educational support offered by the universities was very comprehensive, although it did vary a little between institutions. Only one student indicated that they received any additional support when on clinical placement, this was the use of a dictaphone, but just how this was utilised was not revealed. However, if additional physical

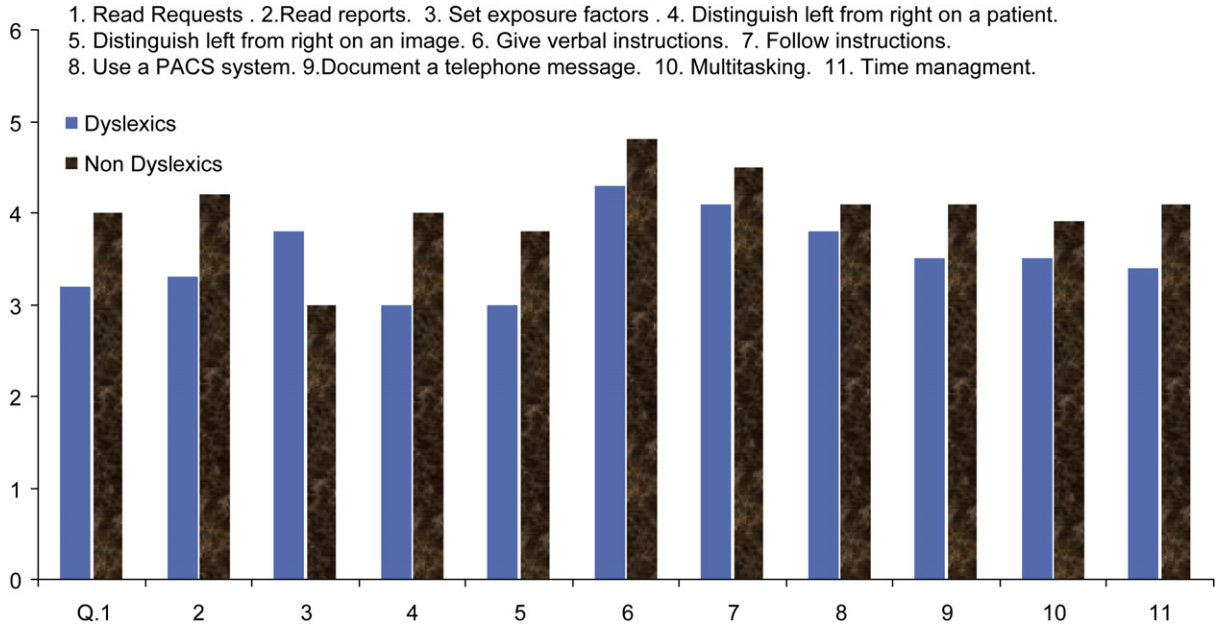

Figure 1. Results of the self-reported tasks.

support was identified as lacking there was a great deal of evidence of very supportive clinical staff.

Focussing on some of the open comments from the dyslexic group, three points were identified by several respondents:

> *When assessing left and right on a patient/image I have to stop and work out before placing the marker, and work out what way the image is presented.*
> *I find the PACS system hard to use as it varies in each location and I have to get used to how each hospital is set up.*
> *Time management, I try and work as fast as other students but I seem slower.*

The theme of being slow and the extra pressure of being rushed was a particularly dominant one throughout the questionnaires. This was also noted in some individual low scores for documenting a telephone message and time management, but this was not scored consistently low by all dyslexic students. Concerns were expressed at how quickly some radiographers reviewed images in an Accident and Emergency setting, often leaving the student confused. However, this would be the case for all students given the demands of a busy emergency department. Perhaps of more concern was the lack of understanding alluded to in the literature, although again this was not a universal finding and there was again evidence of a mixture of good and bad support, one student commented that:

> *People do not fully understand what dyslexia is. Therefore, some persons treat you differently like you are stupid and slow, while others are great and spend time explaining things I do not catch onto the first time.*

Non-dyslexic students

None of this group had been assessed for dyslexia and only three out of 23 reported difficulties on clinical placement that they considered could be associated with dyslexia. However, there were some interesting comments about transposing numbers, poor listening skills and mixing up right and left, all traits that could be associated with SpLDs. Irrespective of any learning disability students have to learn how to competently perform tasks and in doing so develop coping strategies. In commenting on her mechanism for dealing with left to right orientation a 3rd year student explained:

> *I have always had trouble with this, [left and right] but it has improved through the course of my training. When I first started the course I always had to think twice about which side was which. I have now worked out that in each room, if, for example, I am doing a lateral knee examination, the patient faces me for a right side, and faces away for the left.*

Interview results

Eight of the ten in-depth interviews were of dyslexic student radiographers. These provided detailed accounts of their clinical experiences. Six themes were generated from the data and are presented below, with pseudonyms to disguise participants' identities.

Visualising the disability

Trying to visualise the extent and range of difficulties from an external perspective is an extremely difficult, if not impossible task. So the participants gave an insider's or emic perspective of their 'real world' on being a dyslexic student. Almost all spoke of being slow at school and the uncertainty over their progress. Sadly, this led Emma to conclude that, '*people just didn't believe in me, apart from my parents*'. This formative, largely negative feedback, was then considered to be destructive in building their self-esteem and own identities. Self-awareness of their own difficulties was also a strong feature in conceptualising the extent of their disability, but the use of negative descriptors was most apparent; for example Kate described her early reading, comprehension and spelling as 'atrocious' but on reflection it was credit to her that she was now half way through an undergraduate degree. The more obvious problems with writing and spelling were compounded by difficulties in processing the audible words. Interestingly several students spoke of their large vocabularies and although they accepted that they were very poor at spelling, the large range of alternative words meant they might be able to choose an alternative they could spell correctly. This was regarded as a coping strategy for some areas of their work. However, this was of limited value with medical terminology on the Radiography degree and Mark explained that, *I try to rote learn the medical words because there is no other way but if I get it wrong in an exam I don't get any marks.*

In painting this picture of dyslexia the students described seeing the words on paper even though they were absent or a more typical representation of the condition with words flowing off the page and jumping between lines. Mark spoke of a 'grey fog' descending so that he could only see some of the letters and lost the order, *It took me 4–5 times to get IR(ME)R correct*, he said. Sarah, amongst others, mentioned verbal dyslexia whereby anything they constructed to verbalise came out as 'gobbledegook'. Finally there was vivid description of poor psychomotor skills being improved with physical activities and organisational skills, again the students were fully aware of their limitations and had often taken significant personal responsibility to improve them.

Self-protection

The very strong sense of self-awareness ran throughout the transcripts. Grace noted that she checks the request card and her positioning several times. Referring to her disability she said, *It does make you very aware of the problems but I have learnt from experience.* Reading the request cards and previous report slowly, checking the orientation of the patient and the image several times were recognised as tasks that needed to repeated by several students.

> *Checking and double-checking is what I do. One of the things I do is to look on the request form, does it state left or right, check with the patient, left or right, whilst looking at the limb I am X-raying, left or right. I check as I am doing it and I check at the end, I am hyper vigilant because I have to be so.* (Emma)

Being self-aware meant that the students either double checked as outlined above or if they can't deal with it they may opt to try and avoid the situation. Whilst avoidance tactics may not be obvious to others, participants described their self-consciousness when performing tasks such as answering the telephone or reading out a patient's name in a busy waiting room. They deliberately looked busy in these situations or acted helpless in the full knowledge that radiographers would soon come to their aid. Kate gave an example of this by outlining how she would never read a report aloud in case she was unable to pronounce the terminology, *I just push it under their noses and they [radiographers] normally read it for me*. This self-protection to get help without admitting failure is known as a 'response cry'[24] and was noted by Murphy (2009)[25] in previous radiological studies.

Strengths and talents

Four students spoke of their unique strengths or talents, this was interesting to note when dyslexia is so often only associated with low self-esteem and poor self-confidence. Sarah felt that she

could understand the equipment much quicker than most of the students in her group; *the rest are asking me what buttons to press for each bit, I can do it, it's there (pointing to her head).* Organisational skills were recognised as a major strength, taking responsibility and developing coping methods to overcome any difficulties. Interestingly, Kate spoke at length about her 'above average' spatial awareness and how she finds it easy to identify things because she is a visual learner.

Time

Without question the most common theme to emerge from the data was the need for more time. Repeatedly respondents requested that more time be given to them for clinical radiography. Although recognised in support plans from the dyslexia units at the respective universities, students reported that this was largely ignored on placement. Examples were given of how radiography tasks took these participants longer than normal. Mark spoke quite passionately about this point:

> *It's like if you just left me to do it myself I would be fine, but I can't be rushed...There is so much to remember as well as speaking to the patient and remembering the positioning, I need that time to position myself to the image [receptor] before the patient arrives*.

The relationship between the time spent working and dyslexia isn't well documented in the healthcare literature but it was mentioned with great frequency by the students. Sarah noted:

> *[Once tired], I can do the minimal talking and it takes me even longer to post-process the images. I really have to think about what numbers I am putting in because quite often I will be putting in 2s instead of 5s and 8s instead of 3s; a chest X-ray doesn't look right if I put in 33*.

This is quite an alarming statement but tiredness was recognised as being a contributory factor by a few students. They reported a poorer performance in the afternoon than in the morning, whilst the feeling of tiredness was not unique to the dyslexic group; the awareness of potential mistakes was; so once again the notion of self-protection, as described above, was dominant.

The badge of disability

If extra time or indeed any other additional support was put in place, the students thought this should be inclusive for all of them, irrespective of any disability. The attention of being 'singled-out' for special treatment was something that all the students wanted to avoid. Although all the dyslexic students had disclosed their SpLD to the universities, few wanted to be 'labelled' in any way, as Emma commented; *you need to be seen as a whole person not just a person with a disability.* Mark felt that he had to apologise for his slowness in order for radiographers to help him. These two students felt that this was because there was a huge misunderstanding about the condition and radiographers needed more education about how to best support dyslexic students. Inappropriate comments such as *how are you going to do Radiography because it is all about left and right?* or *what exactly is it because I think I have it*, demonstrated the level of ignorance and were naturally very upsetting for students. Interestingly it was not just qualified staff that showed a lack of understanding but occasionally fellow students considered extra time to be a privilege and one questioned; *How come you did [the assessment] better than me when you are dyslexic?*

It should be noted that the students also reported some excellent examples of support from staff and other students and these should not be over looked, but one bad experience seemed to outweigh many good ones, this was especially the case when confidence and skills were still in a formative phase early in training.

Adjustments and support

All the interviewees struggled to identify reasonable adjustments; perhaps this was because they didn't have any in place as examples, or more likely they were unaware of what a reasonable adjustment consisted of. This was noted by Mark who commented: *There is no support in clinical, no one to say that these are the sorts of things that you might encounter.* When prompted with examples from nursing they were more readily able to recognise some of the benefits. The need for inclusive adjustments was quite clear and the non-dyslexics concurred with this point.

Technological support was considered to be most helpful with the use of Ipods, spell checkers and on-line resources being mentioned. What was particularly interesting was the emphasis placed on the use of an audible and visual prompts from an Ipod. Many students struggled with pronouncing radiological terms and the additional audio confirmation would be very reassuring.

Standard format for all notices and a clinical learning contract that specifically addressed their needs were also common suggestions. The dyslexic students spoke in detail about the use of mentors in the clinical workplace, *I think you should have a mentor that you can go to and discuss any problems that you have got or someone within the department that deals with special needs. They need to be trained to know the issues so that they can provide the right level of support.* (Jessica)

A further development of this would be a support forum for all dyslexic students where experiences and solutions could be freely shared. Although many thought this would be an excellent idea, there was a reluctance to join in. Many stated that they would read it with interest but probably wouldn't contribute. An audio platform or blog was preferred because there would be no requirement to type.

There was a mixed reaction to the idea of having a SpLD activity before admission to a course, but if the test was for all students and measured specific clinical tasks rather than academic ones then it was deemed more acceptable.

Finally, all the students felt that the profession should promote successful dyslexic role models, whilst at the same time being honest and open to the fact that very severe learning disabilities would have to be considered against fitness to practice.

Discussion and recommendations

The results of the questionnaire were inconclusive and given the sample size within a qualitative study there is no attempt to generalise. The data showed no demonstrable difference between these groups of students, apart from the standard of English. However, what they do show is that some traits often only associated with dyslexic students can also exist in the non-dyslexic population, this means that support for all student radiographers should be considered inclusively. This would also satisfy the requirements of SENDA to have anticipatory adjustments in clinical departments.

The profile of the dyslexic students in this study is similar to that found by Sanderson-Mann and Mc Candless (2006)[15] in nursing, although most radiographers declared a visual or auditory learning style and not a kinaesthetic style as reported in some student nurses. Many of the strengths of being intuitive, creative thinkers[19] were noted together with a strong desire to take responsibility for their own learning. This may have been enhanced by a lack of any formal or structured support highlighted throughout the interviews. Interestingly all the students had disclosed their disability to the university and there was no attempt to keep their disability from others.

Weaknesses were well recognised by the students themselves and trouble documenting telephone messages, plus avoidance tactics, and poor manual dexterity would often be compounded in a stressful situation.[18] It was, however, noted that the performance of

all students placed in a stressful situation may well fluctuate. Like other healthcare students,[15] Radiography students had had to deal with discrimination and a lack of understanding[21] about this 'hidden disability' from clinical staff and other students. As a result of this many felt alone and found it necessary to apologise for their slowness.

There was no suggestion that the dyslexic interviewees had poorer[4] or indeed enhanced[20] visual spatial skills. Further more specific research in this area would be required to investigate this in detail. However, when problems did occur, and there were many reported, support and guidance was often lacking. Early poor experiences seemed to damage fragile confidence.

Each student had developed their own, often very complex, coping strategies to overcome some problems but these were never shared with others and, therefore, remained personal to that student. Without a mechanism for sharing, new students would have to develop coping strategies from scratch and experience all the feelings of inadequacy and reduced confidence in doing so. This also introduces an element of risk while alternative approaches are being developed by the student.[3,4]

Without exception the interviewees spoke of the need for more time and often the frustration of the radiographers in having to slow down to accommodate them. It was appreciated by Jessica and Mark that it was not always possible to slow down, especially in a trauma environment, but they did need more time in general rooms to prepare effectively. Whilst the University support plan built in extra time for assimilating information, the clinical sites took little or no account of this. Some may argue that the pressures on clinical departments cannot always allow for extra time but it must be remembered that these students are still developing coping strategies and as learners they will become more proficient over time.

The themes derived from the data[22] provided a 'thick-description' of the experiences of these students. Each one is now discussed:

Visualising the disability gave some very honest detail about life as a dyslexic student radiographer and the problems experienced, often balanced on a fragile level of self-confidence and self-esteem.[26] The 'grey fog' descending and the words running over the page being classic traits for dyslexics.[7] Further mention of 'gobbledegook' was also described as verbal dyslexia and this was often compounded still further by poor psychomotor skills. Despite these difficulties the students were hyper vigilant, a point noted in other professional groups by Murphy (2008).[3] The need to *self-protect* was perhaps the most interesting theme to emerge and demonstrated not just an awareness but mechanisms to alter behaviour for an ulterior motive.[24] This type of behaviour was also noted in a nursing study but never expanded upon.[4] *Strengths and talents* tended to fit the profile described for other dyslexic students.[15] Developed organisational skills, creative minds and good spatial awareness were all described. It was interesting to note the confidence of some students in outlining their strengths, despite all the difficulties outlined above many were very proud of tasks they could perform well and they clearly saw this element of their dyslexia to be a major asset. Allowing extra *Time* is discussed within the profile above but tiredness as a result of time spent working was an interesting concept. This is not well documented in the healthcare research on dyslexia and would seem to be one reasonable adjustment that could be easily implemented with regular breaks and enhanced lifestyle choices. Having to wear *The badge of disability* labelled students as being different and this was something they were all keen to avoid. Riddick (2003)[27] found that the label dominated others' perceptions to the exclusion of the person behind that label and there was evidence in this study that such stereotypical views are present in radiology departments. The final theme to emerge was that of *adjustments and support* and these together with other elements of the study led to several recommendations being derived. It was quite clear that support put in place should be, wherever possible, for all students.

- Standard format for documentation and notices: the consistent use of a larger font size and coloured paper would help all students reading clinical notices. All documentation to be available electronically.
- Clinical learning contracts: the contract should include extra time for areas of work and regular breaks to reduce fatigue. The number of hours worked and the learning outcomes associated with clinical radiography should all be clearly documented. In addition there should be a named one-to-one support for specific clinical tasks and a comprehensive list of resources. A departmental strategy on dealing with SpLDs would also form part of this contract with expectations of students and staff clearly outlined.
- Universal use of IPods: a successful project run at the University of Derby[28] demonstrated how effectively this type of technology can be used with undergraduate radiography students. They can provide an audible and visual prompt, store images, and be a very valuable resource.
- Disability support mentors: these trained individuals would be responsible for supporting students with disabilities; this might include coping strategies or even lifestyle advice. This would not have to be exclusive to radiology since the mentor would be able to identify and assess risks over several clinical departments and gain experience in dealing with these students. It is further suggested that a Practice Education Facilitator, or similar within a trust, might take or oversee such a role. This would also fulfil the vital role of educating staff groups about SpLDs.
- Support groups: radiography students, especially those with SpLDs should share experiences with each other. This could be done within institutions across cohorts and even wider by having support networks across healthcare disciplines. This informal group could facilitate workshops and deal with any issues associated with dyslexia and clinical learning.
- National forum: a national forum set up (possibly hosted by the SCoR) to provide support and guidance for dyslexic radiography students, but available to all student members. The difference being that this site would consist of audio blogs and other technological learning aids.
- Selection process: a simple checklist of everyday clinical tasks performed prior to admission.[29] This would enable support, if required, to be in place before the course commences and avoid unexpected difficulties post-admission.[6] This study has shown that early positive intervention is vital. In all cases a full educational psychologist's report would be undertaken where any students experienced difficulties. A full assessment could then be made for students that may need support beyond what is considered reasonable and may in severe cases question the suitability for training.
- Promoting the profession: it was felt that a lot more needs to be done to promote the radiography profession to potential students by including successful role models with a range of disabilities in the promotional material. This would encourage an inclusive approach supported by a fair selection process (above).

Limitations of the study

There were several limitations to this study. The tasks were self-reported and not an actual measure of ability, therefore, a further

study with a larger sample would need to be undertaken to consider that in detail. The findings are the experiences of these students at this point in time, they cannot, therefore, be generalised to the wider population. Dyslexia is a sensitive issue and the potential for participants to only tell what they wish to tell may have influenced the findings.

Conclusion

This study has considered the emic perspective of student radiographers and it is, therefore, appropriate that they have the last words in this article. Students spoke proudly about what they had achieved, often against the odds or the stigma associated with being dyslexic. Grace summed up her thoughts and confirmed that the transition from the medical model to social model is still evolving:

> *I am immensely proud of what I have achieved, despite all the problems at school and the extra time I have to put in, I am now almost there [qualified]. It never occurred to me that dyslexia would be a barrier to doing Radiography, it is only when it is emphasised by others who have a little knowledge of it that becomes a problem.*

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