Making the nursing curriculum more inclusive for students with specific learning difficulties (SpLD): embedding specialist study skills into a core module

Introduction

An estimated 8–10% of students attending Higher Education Institutions (HEIs) in the UK are disabled; the most commonly reported disability being specific learning difficulties (SpLD) (Hadjikakou and Hartas, 2008), including dyslexia, dyscalculia and dyspraxia (Cowen, 2010). The UK has seen a continual rise in numbers of students with SpLD entering HEIs over the past two decades (Jamieson and Morgan, 2008); a similar trend is reported globally (Harvey and McMurray, 1997; McLaughlin et al., 2008; Troxel, 2010), a likely consequence of legislation and policy promoting access and entitlements (United Nations, 2008). Estimates of disability in the nursing workforce vary, from 6% (according to the NMC, 2011) to 13.9% in an RCN survey (RCN, 2011). Prevalence of SpLD is thought to be around 10% in the UK workforce and across Europe and the US (Dyslexia Action, 2012).

People with SpLD are characterised as being focused, resilient, empathetic, compassionate and intuitive, with excellent interpersonal and problem-solving skills (Dale and Aiken, 2007; Dyslexia Solutions, 2010; Sanderson-Mann and McCandless, 2006). These attributes are highly valued in contemporary nursing practice (Corner, 2011) and as people with SpLD show significant patterns of occupational choice in favour of people-oriented occupations (Hartley, 2006; Taylor and Walter, 2003), nursing may have more students with SpLD than other disciplines (James, 2006).

No reliable data exist on prevalence of disability (including SpLD) in pre-registration nursing in the UK (Wray et al., 2011), as historically monitoring systems have been incomplete or incompatible. In addition, disclosure is not required by UK equality legislation and concerns over 'fitness to practise' (Stanley et al., 2007) or discrimination/stigma (Olney and Brockelman, 2003; Pollak, 2005) may have discouraged some. Some students may not consider themselves disabled (Macleod and Cebula, 2009; Tecosky-Feldman, 2004), may not consider a SpLD relevant in their declaration of good health (Nursing and Midwifery Council (NMC), 2008; Sin and Fong, 2008) or may be identified after course-commencement (Singleton, 1999; Wray et al., 2011) and thus not be captured by systems measuring disability at registration (Storr et al., 2011).

Challenges for nursing students with SpLD

Entering university is a stressful experience (Tinto, 2006); stress and academic tasks can exacerbate the existing difficulties of some students (British Dyslexia Association (BDA), 2011; Carroll and Iles, 2006), particularly those with non-standard entry requirements such as BTEC, Baccalaureate and Access programmes (Crozier et al., 2008). Although every student nurse with SpLD will have a unique 'dyslexic profile', there are some common issues (Cowen, 2010). IIn order to develop a

suitable knowledge base for professional practice (NMC, 2010a; 2010b), students are required to process significant amounts of material which presents difficulties for students with SpLD as they often experience problems with information,processing note-taking and essay writing (BDA, 2011) Lack of organisation is a particular trait (BDA, 2011) and can be a barrier to effective organisation and planning (NMC, 2010a). Some may feel uncomfortable reading/writing in front of others, and lack confidence in expressing their opinions (Cowen, 2010). Clinical practice and the roles within it are incredibly diverse, and coping strategies developed for academic study may not be transferrable to clinical practice.

Numeracy skills are key for safe and effective practice (Coben et al., 2008; NMC, 2010a), particularly in medicine administration and management (NMC, 2010c; 2010d). A lack of proficiency in numeracy amongst both students and registered nurses is of concern in the safety-critical environment of nursing (Cooke, 2009). Mistakes can be life-threatening for the patient, and career-threatening for the practitioner (Coben, 2010). However, difficulties with record keeping and drug calculation are not exclusive to students with SpLD (Taylor and Walter, 2003) although the debate often focuses on these students (Sanderson Mann and McCandless, 2005).

Students with SpLD may experience particular difficulties within the pre-registration nursing programme in relation to documentation, organising workloads, numeracy and liaison. They require reasonable adjustments to the curriculum (Jamieson and Morgan, 2008) and in practice to demonstrate the pre-registration competencies required by the profession (NMC, 2010a). Delayed identification means delayed reasonable adjustments, risking student disengagement, failure and attrition (Wray et al., 2008).

Common reasonable adjustments

Common adjustments for students with SpLD include note-takers, dictaphones, spellcheckers, and extra time or support for assessments and exams (Harrison, 2008). . Students should be encouraged to play to their strengths; they are often creative and have originality of thought (Tafti et al., 2009), so make good reflective practitioners - a requirement of UK nurse education standards (NMC, 2010a, (NMC, 2010b). Students with SpLD should be encouraged to keep a diary and use 'to do' lists, allowing more time to complete a task, reducing pressure and anxiety (Crouch, 2010). Once given such evidence of success and development, self-esteem and self-confidence rise; all of which help maintain a positive attitude to learning (Rogers, 2002).

A newer tool is assistive technology; Inspiration (Inspiration, 2012) uses mind maps to help students organise their written work effectively (dyslexic.com, 2011) and present ideas to colleagues. Text-to-speech software such as Texthelp improves users' reading, writing and research skills, allowing students to enjoy greater independence and confidence (Heiman, 2011; Texthelp Systems, 2011). Assistive technology not only helps those with SpLD, but also addresses the diverse learning needs

of students without SpLD (Cook and Gladhart, 2002) and meets the inclusive (or universal) design agenda (Kinash et al., 2004).

Discussions on suitability, type of placement, adjustments and disclosure should be held early on in the programme (Wray et al., 2007). Accessing specialist support is helpful (Jamieson and Morgan, 2008), but providing one-to-one or even group support is costly (Wray et al., 2011). Therefore, HEIs need to consider resource-effective and sustainable ways to proactively meet student needs as required by the legislation (Beauchamp-Pryor, 2011), whilst also meeting academic and professional standards for safe and capable practitioners (Ijiri and Kudzma, 2000; NMC, 2010b).

Wray et al. (2011) found that providing specialist 'add on' study skills sessions to students with SpLD increased the likelihood of progression and earlier identification. However, 48% (n=33) of students identified as 'at risk' of having a SpLD did not pursue further assessment/support. Therefore, this study sought to explore the impact of embedding
specialist study skills into the mainstream nursing curriculum (Introduction to Nursing and Midwifery, Module 1, Semester 1).

Method

Aim

The overall aim of the study was to describe and evaluate the impact of embedding nine study skills sessions into the mainstream curriculum. Three principle questions were posed: (i) what were students' views and perspectives on the embedded skills programme,(ii) were there differences in progression rates of students with SpLD in the embedded study skills programme when compared with three previous cohorts, and (iii) did length of time from registration to first contact with Disability Services increase or decrease compared with previous cohorts?

Table 1 shows a list of the embedded sessions, all of which were co-taught by a SpLD tutor and a nursing lecturer/disability tutor.

	Session title	Session content	Why?
1	Study skills – transition to HE	Life-long learning skills; learning styles; expectations of HE	Knowing and using a preferred learning style can help overcome difficulties and enhance the learning experience (Robertson et al. 2011; Singh et al. 2009).
2	Learning techniques	Effective reading and note-taking; organisation skills	Addresses common areas of difficulty that students with SpLD experience (BDA 2011; Hock and Mellard 2011).
3	Reflection	Importance of reflection; journal-keeping	Students with SpLD are often creative thinkers so reflection could be a strength and help overcome learning difficulties (Tafti et al. 2009; Moon 2006).
4	PPDP	Organisation of learning experiences; career planning	SpLD has been shown to impact on working practice/setting/career progression (Moon 2006; Morris and Turnbull 2007). Visual representations of an education journal and concrete examples are useful for students with SpLD (Trott 2011).
5	Essay writing	Essay title, planning, organising, writing.	Skills required for essays are often areas of difficulty: structure, planning, sentence construction (BDA 2011; Kinder and Elander 2011).
6	Referencing/plagiarism	Principles of referencing and plagiarism.	Students with SpLD may be more prone to 'copying' text owing to issues of organisation, sentence construction; consistency in referencing can also be difficult (BDA 2011; Kinder and Elander 2011).
7	Numeracy skills	Importance of numeracy in nursing; numerical calculations.	Students with SpLD may find calculations challenging, or lack confidence in this area, owing to working memory difficulties (Coben 2010; Taylor and Walter 2003).
8	IT/assistive technology	Inspiration; Read Write Gold (texthelp)	Assistive technology can aid organisation, reading, writing, and increase independence and are always available in DSA packages (Cook and Gladhart 2002; Heiman 2011).
9	Revision	Effective revision techniques; using personal strengths	SpLDs can be exacerbated during times of stress; students need to take responsibility for their own learning (BDA 2011; Carroll and Iles 2006).

Table 1: Embedded specialist study skills

Sample

The sample comprised the September 2009 (n=257) and February 2010 (n=127) cohorts of pre-registration nursing students in one HEI in the north of England. Students were recruited via timetabled 'evaluations sessions' to maximise response rates – only those volunteering to take part were included in the study.

Outcome/evaluation measures

The study design was principally descriptive and evaluative with some comparative analysis using retrospective data. This evaluation approach(Watson et al. 2008) was used to measure the impact of embedding study skills into a core module. Outcome evaluation study can be used to inform decisions, e.g. whether the intervention should be repeated, continued or applied elsewhere (Clarke, 2001; Watson et al., 2008). The following measures were used to ascertain impact:

(i)   Student feedback questionnaire on study skills sessions

A feedback questionnaire was developed by the research team to evaluate the embedded session. It comprised closed questions with yes/no responses in relation to SpLD status, and staff members consulted for support, with some opportunities for brief textual comments (Wood and Ross-Kerr, 2010). Students were asked to give comments on: (a) memorable aspects of each of the topics delivered, (b) whether or not they had used the information taught, and (c) suggestions for improvements. .

(ii)   Length of time from registration to first contact with Disability Services

Disability Services data were used to compare the average length of time from registration to first contact with services for the two study cohorts compared to three previous cohorts. The 2006 and 2008 cohorts had received no specialist study skills sessions, whilst the 2007 cohort had received these nine sessions, but as an 'add-on' to the curriculum (see Wray et al., 2011).

(iii)   Progression data

Data on student progression from end of year one into year two were accessed via the institution's academic information system (AIS) and collected for the study cohorts receiving the embedded sessions and compared to three previous cohorts. The three cohorts were 2006 (control), 2007 (add-on sessions) and 2008 (no specialist provision).

Ethical approval

The Faculty Research Ethics Committee approved the research.   Students were given information about the study by the disability tutor who co-facilitated the study skills sessions and invited to

complete and return the questionnaire. If students did not want their data to be used in the study they could chose not to by contacting the project administrator (who was independent of the teaching staff).

Data analysis

The data collected were analysed using NVivo [v8] and SpSS [v16] for Windows. NVivo was used to organise the data from the free text comments; for each session, comments were sorted into negative and positive comments, memorable aspects of the session and suggestions for improving the session. SPSS was used to organise and analyse data on identification status, support sources accessed and progression data

Results

(i)   Student feedback questionnaire – study skills sessions

Three hundred students completed a student feedback questionnaire (201 from September 2009, 99 from February 2010 (response rates of 87% and 80%)). Table 2 shows SpLD status; only 4.3% (n=13) had previously been identified; a further 6.3% (n=19) sought assessment following the sessions. Regarding support sources accessed (Table 3), 85% of students had seen their mentor, 63% their academic supervisor, 27% their personal supervisor and the Study Advice Service; only 3% had contacted Disability Services direct. Table 4 details feedback numbers, and percentages of positive and negative comments.

Identification status	No.	% of respondents
Previously identified as having a SpLD	13	4.3%
Currently seeking assessment	19	6.3%
Not identified as having a SpLD	227	75.6%
Data missing	22	4.2%

Table 2: Identification status

Support source	No.	% of respondents
Mentor	248	85%
Academic supervisor	184	63%
Personal supervisor	80	27%
Study Advice Service	80	27%
Disability Services	8	3%
'Other'	65	22%

Table 3: Support sources accessed

Session	Response (n)	Response %	% positive	% negative	% used info
1	197	66	77	23	96
2	165	55	85	15	99
3	136	45	88.5	11.5	97
4	109	36	83.5	16.5	98
5	227	76	89	11	100
6	225	75	68	32	100
7	199	66	77	23	99
8	208	69	48	52	78
9	144	48	79	21	100
All	83	27.5	31	69	-

Table 4: Responses to student feedback questionnaire

(1) Study Skills - Transition to Higher Education

Over half of the positive comments related to learning styles: "[it] assisted me in what learning materials would benefit me," (*student164*). A further 34 responses related to achieving a good work-study-life balance: "[I learnt] how to divide my time between family, friends, studies," (*student137*). Students would have liked a shorter more interactive session, ideally optional. 96% of respondents had used the information: "I take very few lecture notes and print out handouts and LISTEN," (*student212*).

(2) Learning Techniques

Positive comments related to new learning techniques, time management, note taking, effective reading, organisation techniques and glossaries. Students would have liked more examples of learning techniques in practice. *Student55* suggested: "consulting students on what works for them as it may help others." 99% of respondents said they had used the information; *student160* had "started a glossary for all the common medications used on...placement".

(3) Reflection

Student88 reflected that the session had "made me look at my role as a student nurse". However, students wanted more information on 'how to' write a reflective journal, or to see examples: it "would have been useful to hear other people's journals," (*student128*). Ninety seven percent of respondents had used the information, and 45 specifically mentioned using it whilst on placement. *Student24* said "[it] helped me to improve the care I was giving [on placement]." *Student83* spoke of "encountering poor practice on placement – I reflected and reported."

(4) Personal and professional development planning

It was apparent that students did not remember this session well; it received the fewest comments. Positive comments included: "[it was] relevant to future career as nurses need to show evidence of development to stay on the NMC register," (*student156*). *Student152* added: "everytime something in practice linked to theory, it was like a little switch was flicked and they suddenly went hand-in-hand." Students wanted more time and "more information - what it is, why do it?" (*student235*). Ninety eight percent of students had used the information; s*tudent60* said it had "helped me...achieve my learning goals."

(5) Essay Writing

This session received the most feedback. *Student123* said the session was "fantastic – really broke down the essay into manageable chunks;" "[the session] had a massive impact on my assignment; without this I would have been screaming at my laptop for weeks," (*student181*). Students appreciated instruction on how to structure/plan an essay, analyse the title, and work with timelines, but would have liked more time on this topic.

(6) Referencing and plagiarism

Student231 felt the session was "comprehensive and valuable to all future University work." However, negative comments included: "a very important but at the same time difficult session – too much information" (*student41*); "very confusing, had to go to extra study sessions," (*student239*). Students wanted "extra sessions... and more examples," (*student100*). All students said they had used the information: "helped reference assignment and CAP," (*student47*).

(7) Numeracy Skills

Many positive comments related to drug calculations: "this was very good as it taught us how to do drug calculations and was quite different from the usual maths" (*student20*). Eight students said the session had helped them to realise that they needed further help, and where and how to access this. *Student13* used it "when calculating drug dosages under supervision" and *student210* found it "very helpful in preparing for maths exam."

(8) IT/technology

This was the least well received of all the sessions. *Student262* felt it was not "appropriate for most of the cohort;" 38 students agreed. A further 39 were disappointed the software was not free: s*tudent122* said: "should have stated cost at the beginning so I didn't get so excited!" Ten students felt the software did not suit their particular learning style. However, 92 students gave positive feedback, and 37 referred specifically to how Inspiration had aided their learning. Many students felt the session should be optional; as a corollary to this, a number of students would have liked more

sessions dedicated to the topic.

(9) Revision

Positive comments (n=24) were made about new revision techniques ("cards and mnemonics" *student225*; "colour-coding" *student265*; "mind maps" *student193*; "quizzes" *student158*). The use of past papers was also viewed as helpful (n=8). Students wanted more time looking at past papers, and the session "would have been better delivered when we had an exam," commented *student223*. All students had used the information; s*tudent116* used the session to "enhance my learning and revision...I feel more confident."

Comments covering all sessions

The teaching style, enthusiasm and expertise of the staff delivering the sessions were mentioned frequently. "Both really approachable and enthusiastic which has made me sit up, listen and enjoy," (*student166*); "the two styles of lecture – with PowerPoint and brainstorming – was a great way of showing the different techniques available," (*student181*).

The most common negative comment was that the sessions should have been targeted; these students had generally previously been in HE or attended courses with similar content. *Student111* commented: "for me the sessions were not useful...I have already done a University degree;" "after doing a 10-week study skills course, a lot of these sessions were unnecessary," (*student221*).

Length of time from registration to first contact with Disability Services

	(weeks)			
	Sept 06 **(control)**	**Sept 07** **(screening)**	**Sept 08** **(no action)**	**Sept 09** **(embedded)**
Average time from registration to 1st contact	12.6	8.5	12.2	6.95

Table 5: Average time from registration to first contact with Disability Services

The average time for first contact with Disability Services had fallen since September 2006, from 12.6 weeks to 8.5 weeks in the screened cohort, climbing again in 2008 where no additional support was given, and falling ever further to 6.95 weeks for the cohort receiving embedded sessions.
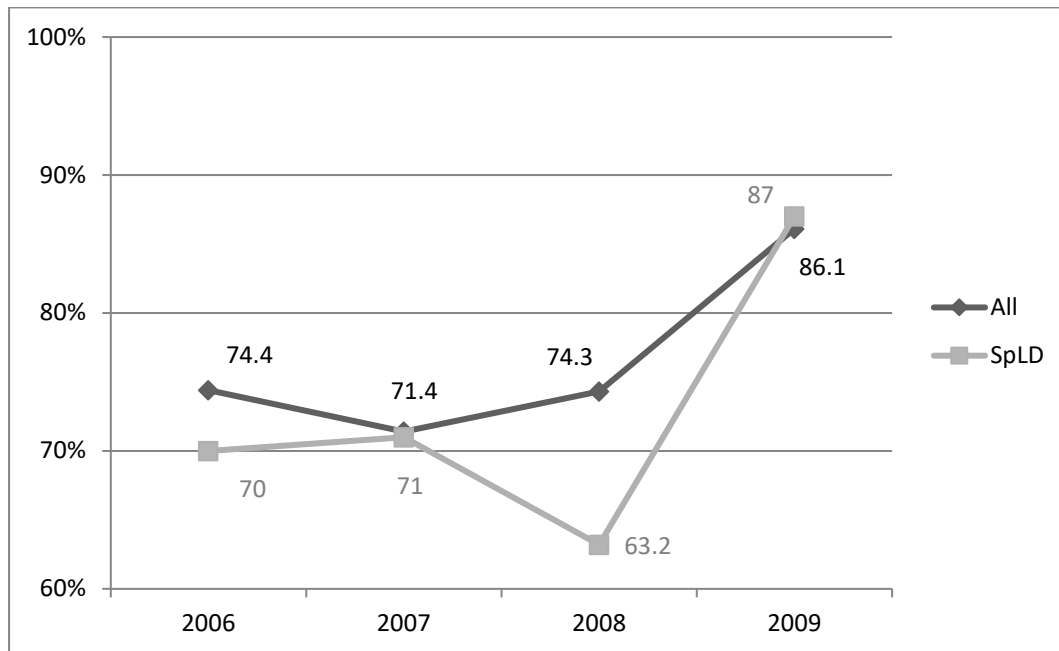
Progression data

Figure 1: Progression outcome+

In 2006, prior to this study, average progression for the total cohort was 74.4%, compared to 70% for students with SpLD. In 2007, when 'add-on' sessions were introduced, progression for both groups was comparable (71.4% for all students, 71% for students with SpLD) (Wray et al., 2011). In 2008, when no specialist provision was available, either as 'add-on' or embedded sessions, students with SpLD failed to progress as successfully as their peers: 63.2% progressed compared to the overall rate of 74.3%: a difference of 11.1%. The 2009 cohort with the embedded sessions showed the highest progression rates (all students and those with SpLD) and the overall progression rate for the SpLD students was comparable, as in 2007.

Discussion

Study skills are an essential part of nurse education (Nursing Standard, 2012), and should be made available to all students to facilitate the transition to higher education (Tinto, 1998) and aid effective and successful progression (Wray et al., 2008). This study found that embedding study skills sessions had positive benefits for students with SpLD in relation to speedier contact with support services, progression and had widespread perceived satisfaction.

The sessions on essay writing, reflection and learning techniques were particularly well received; this is unsurprising as essay writing is an area of anxiety for students with SpLD (BDA ,2011) (and those without (Martinez et al., 2011)). It is understandable that the IT session received the most negative feedback, as the software may be perceived as useful to certain types of learner only (Inspiration,

2012). Interestingly, for all sessions excluding the software session, the vast majority of respondents (96%) had used the information taught, even if they did not view the session positively.

Student feedback suggests that it providing an 'opt-in' or 'opt-out' for embedded sessions might be appropriate. Exemption should be clearly defined and equally implemented where students can clearly demonstrate competency, such as previous experience in HE or on a study skills course. In terms of teaching and delivery, students requested the provision of more concrete examples, for example, templates for essay-plans, referencing and plagiarism examples, reflective diary examples and maths in action (Shaw, 2008).

In the years that specialist study skills were provided (either as 'add-on' or embedded sessions), students made contact with Disability Services between 4 and 6 weeks earlier than in other years; earlier assessment and access to support leads to improved learner performance (Gibson and Leinster, 2011). Rates of referrals were also higher; it may be that weekly contact with a Disability Tutor reinforced access to the assessment process and entitlements and broke down barriers around asking for support (Dearnley et al., 2011).

In terms of progression, in the years when 'add-on' sessions and 'embedded' sessions were provided, students with SpLD had a comparable progression rate to their non-disabled peers. This finding is supported by previous literature (Last and Fulbrook, 2003; Trotter and Cove, 2005) and reinforces the importance of structured ongoing support systems (May et al., 2006).

The study has some limitations: it took place in one HEI in the north of England, so its findings may not be generalisable to the wider HE population. Additionally, it cannot be proved that the sessions were solely responsible for the improvement in progression rate: it is evident that the progression rate for all students had significantly increased in 2009, a likely consequence of the faculty becoming generally more retention focused. Whilst this study explored the impact of embedding in one core module, a more inclusive approach would be employing universal design throughout the curriculum. Inclusive (or universal) design treats disabled students as part of a group of learners rather than as a separate category (Rose and Meyer, 2001), reducing stigma (CAST, 2001), removing potential barriers to learning (National Center on Universal Design for Learning, 2011), and giving all individuals equal opportunities to learn (Higbee, 2003). Inclusivity helps institutions to meet their legislative duties, and increases the awareness of SpLD for staff and students. By making the study skills inclusive through embedding, the cost of delivery was reduced (£1708.84 in 2007 to £876.20 in 2009) resulting in both time and cost savings to the faculty and the University support services. In the current climate of restricted training budgets, inclusive approaches minimise time- and resource–expensive accommodations (NCUDL, 2011).

Conclusion

There are particular challenges in making specialist study skills an inclusive part of the already 'content-saturated' nursing curriculum (Giddens and Brady, 2007). By mainstreaming what had

previously been a reasonable adjustment, time- and resource-savings were made, and awareness-raising amongst students and staff promoted access to support and the adoption of more appropriate learning approaches (Hadjikakou and Hartas, 2008). Embedding diverse learning approaches is important in encouraging and retaining talented and able students and ensuring that all students have access to the necessary support and study skills; this is not a 'SpLD' issue but a 'student' success and retention issue (Crosling et al., 2009).

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