The self-reported learning style preferences of female Macmillan clinical nurse specialists

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Summary Individuals typically adopt and prefer one or two learning styles and therefore, by default, remaining learning styles are underutilised. Insight into learning style preferences confers interpersonal benefits to both learners and teachers. Enlightened learners and teachers can identify their dominant learning styles and potentially strengthen underutilised ones. Findings from a retrospective study commissioned by Macmillan Cancer Relief that investigated learning style preferences of 137 female Macmillan Clinical Nurse Specialists (CNSs) showed that the majority (73.7%) displayed a strong–very strong preference for one or two learning styles. Mean scores across four learning styles were highest for the reflector learning style (μ = 14.85 ± 3.16) followed by theorist (μ = 12.2 ± 2.87), pragmatist (μ = 11.5 (2.85) and activist (μ = 7.95 ± 3.11). An understanding of individual learning style preferences, particularly the strengthening of those that are underutilised is said to cultivate both flexible and resourceful learners and effective teachers. Such characteristics would confer considerable benefits within the remit of a Macmillan CNS position.

Introduction

In 1998, the Macmillan National Institute of Education (MNIE) introduced educational profiling

KEYWORDS
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© Macmillan Cancer Relief 2004. This process was introduced as a way of identifying the education and support needs of practicing Macmillan Clinical Nurse Specialists (CNSs) which would further their professional and personal development. A guided discussion was conducted between the CNS and a Macmillan lecturer covering a range of topics. As part of this procedure the Learning Styles Questionnaire (LSQ, 80-item version) (Honey and Mumford, 2000a) is administered to participants to identify their learning style preferences.
Background

The CNS role is multifaceted in nature and requires myriad skills. Some of these include managerial and leadership skills, an ability to teach and undertake research, as well as advanced level consultation skills and clinical expertise (Raja-Jones, 2002). Unfortunately, there has been a lack of agreement as to the nomenclature, components and competency standards associated with the CNS role (Martin, 1999; Cattini and Knowles, 1999; Ormonde-Walshe and Newham, 2001). These ambiguities are likely to add to the occupational stress experienced by new post-holders.

There are several reasons why the identification of CNSs’ individual learning style preferences might be advantageous. The role of the CNS requires the post-holder to be able to master several core competencies including a demonstrated capacity to deliver evidence-based practice (Cattini and Knowles, 1999). To fulfil this requirement the CNS must have the capacity to read, assimilate and interpret significant amounts of literature. Whether this information is generated from print, on-line sources or study days and conferences ideally should be determined by an individual’s learning style preference.

Transition to a new specialist role has previously been identified as being a potentially stressful experience (Bousfield, 1997; Glen and Waddington, 1998). On reflection, this is hardly surprising, as within a period of days, post-holders progress from being nurses with some relevant knowledge, to being conferred with the title of CNS (Humphris and Soar, 1994). Specific educational preparation for the CNS role might facilitate a smoother transition experience, but little is known regarding the most effective educational approach to accommodate this process. Moreover, critics have stated that current academic courses are fragmented and fail to meet the needs of CNSs (Rasch and Frauman, 1996; Cattini and Knowles, 1999; Gibson and Bamford, 2001).

In the light of this, a fundamental starting point would seem to be the identification of learning style preferences, particularly as this feature is not consistent across individuals.

The learning style labyrinth

An interest in the various ways of learning spans back in history at least as far as 551 BC. The Chinese philosopher Confucius was credited as saying; ‘I hear and I forget, I see and I remember, I do and I understand’; a statement that highlights three aspects of learning. The process of learning is influenced by multiple factors including a learner’s ability, motivation, life experience, attitude, age, home life, previous learning experience and learning style (Armitage et al., 2003). The topic of learning style alone covers a significant body of literature. Interpretation of this information is problematic due to the countless definitions, models, interpretations and instruments (Price, 2004; Cassidy, 2004).

For example, Coffield et al. (1984) identified 71 taxonomies of learning styles in their report on learning styles. It is not surprising that Desmedt and Valcke (2004) describe the literature on this topic as the “Learning styles jungle”. Accordingly, a detailed discussion of the complexities surrounding this topic is beyond the scope of this paper and only the main concepts relevant to this study will be introduced. Put simply, learning style is a single factor amongst many that is thought to influence learning. Duff and Duffy (2002) provide a more detailed definition of an individual’s learning style as ‘the composite of characteristic cognitive, affective, and psychological factors that serve as an indicator of how an individual interacts with, and responds to the learning environment’ (p. 148). There are as many tools available to evaluate learning style preferences as there are models of learning style and no consensus as to the most suitable. For the purpose of this study the Honey and Mumford Learning Styles Questionnaire (LSQ) (80-item version) (2000a) had been used by MNIE.

Honey and Mumford (2000a) describe experiential learning as a continuous cyclical process with four stages that are mutually interdependent (see Table 1 for definitions). Each stage in the learning cycle is associated with a different learning style; activist, reflector, theorist and pragmatist. The aforementioned learning cycle is based upon elements of Kolb’s Learning Cycle (1984), although different construct labels have been used (Dellahoussaye, 2002; Price, 2004; Cassidy, 2004; Duff and Duffy, 2002). Although critics have stated that Kolb overstated the importance of learning style (Tennant, 1997) and that empirical evidence to support the model is weak (Jarvis, 1995) the model is said to provide “an excellent framework for the CNS role, as it provides a framework for development” (Bamford, 2001).
for planning teaching and learning activities and it can be usefully employed as a guide for understanding learning difficulties, vocational counseling, academic advising and so on (Tennant, 1997, p. 92).

The LSQ was designed for use by managers and professionals in the workplace to facilitate self-assessment and self-managed learning (Honey and Mumford, 2000b, p. 22). It was not designed to be a diagnostic assessment tool and functions more as a checklist to evaluate individuals’ current behavioural tendencies regarding patterns of experiential learning (Coffield et al., 2004).

There is no single learning style preference that is superior to another (Griggs, 1991); however it is advantageous to be able to utilise all four learning styles. As individuals typically adopt and prefer one or two learning styles, by default remaining learning styles will be underutilised. The LSQ grades individual learning style scores against general norms into five percentiles, from ‘very low’ through to ‘very strong’. Those individuals with a ‘strong’ to ‘very strong’ preference for several learning styles are described as ‘all round learners’ (Honey and Mumford, 1986, p. 78). Furthermore, they suggest that individuals who identify their learning style preference may go on to select learning opportunities to match their particular learning style preferences.

**Studies investigating learning style preferences**

The main focus of this section is upon studies that have used the LSQ (Honey and Mumford, 2000a) to investigate learning style preferences amongst adults. As there are limited studies investigating nurses alone, findings from studies investigating learning style preferences amongst other professions will be highlighted to provide a meaningful context for the interpretation of findings. This approach is supported by the fact that the LSQ was designed for use by managers and professional across both public and private institutions. Furthermore, CNSs routinely work in a multidisciplinary team which incorporates individuals from other professions (e.g. doctors, managers).

The few studies investigating doctors’ learning style preferences have shown a wide range of results that are inconsistent. Data from a sample of 57 general practice registrars showed that participants most commonly displayed a strong preference for a single dominant learning style (35.7%). Twenty-six percent of participants showed a strong preference for two learning styles. This finding is similar to those investigating learning style preferences of finance managers (Honey and Mumford, 1986).

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Characteristics of learning style preferences and their association with the four stages of the experiential learning cycle (adapted from Honey and Mumford, 2000a,b)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stages in the learning cycle</strong></td>
<td><strong>Associated learning style</strong></td>
</tr>
<tr>
<td>Stage 1. Having an experience</td>
<td>Activist</td>
</tr>
<tr>
<td>Stage 2. Reviewing an experience</td>
<td>Reflector</td>
</tr>
<tr>
<td>Stage 3. Concluding from an experience</td>
<td>Pragmatist</td>
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<tr>
<td>Stage 4. Planning the next steps</td>
<td>Theorist</td>
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</table>
With regard to the preferred learning style, general practitioners’ scores tended to fall into the reflector-theorist quadrant of the LSQ (Lesmes-Anel et al., 2001). These findings are supported by those of Lewis and Bolden (1989) who surveyed general practice trainees. However, findings from Stimpson and Plusa (2004) differ. They found that the learning style preferences of a small sample of surgical trainees and consultants appeared to alter in tandem with increasing seniority, from activist to reflector and finally to pragmatist (Stimpson and Plusa, 2004). In general findings were inconsistent. Factors that may account for this are small sample sizes, participants from different specialities with varying levels of experience or inherent weaknesses in the LSQ.

The majority of studies concerning the learning styles of nurses have used Kolb’s Learning Style Inventory (LSI) (1976) as the measurement tool which therefore precludes comparison. Honey and Mumford (2000b) have published normative scores from a sample of 144 nurse tutors and 189 student nurses (1st, 2nd and 3rd year) who completed the LSI. Mean scores across students and tutors were similar and the pattern of learning style by preference identical; the reflector learning style preference showed the highest mean score followed by pragmatist, theorist and activist respectively.

The Macmillan CNS as a teacher, learner and manager: the potential influence of learning style.

The CNS role requires the post-holder to function effectively as a provider of education for both other health professionals and patients (Cattini and Knowles, 1999). With regard to this, Honigsfeld and Schiering (2004) recommend that teachers critically examine their own teaching style and consider whether their approach is entrenched in their own learning style preference, or matched to the predominant learning style that they have been exposed to as part of their own early educational experiences. As CNSs provide education, often without a formal teaching qualification, this approach may prove useful.

In the UK, not all CNSs are educated to degree level (Cattini and Knowles, 1999). Although consensus has yet to be reached, professional organisations have suggested that CNSs should be educated to at least degree level. In this study this would mean that the majority of participants would be future consumers of further education, as less than half had completed a degree qualification. The matching of learning style preference and teaching style has been heralded as a potential means of improving educational outcomes, although debate continues as to the value of this approach (Cavanagh and Coffin, 1994; Thompson and Crutchlow, 1993). Despite the lack of agreement on this topic, encouraging learners to consider their own individual learning preferences seems likely to confer benefits. A learner who is able to identify his or her learning style preference will not only be able to consolidate existing learning styles, but also identify and strengthen those less frequently utilised. Subsequent improvement in this area is said to cultivate a more flexible, resourceful learner (Honey and Mumford, 2000a). Furthermore, an adaptable learner stands to benefit from all types of learning experiences, rather than being limited by one or two learning style preferences.

The CNS role also requires the demonstration of effective management skills. As far as the development of such skills is concerned, Bates (1994) linked the identification of learning style preference as a key factor in the development and retention of ‘high flyers’ in management. Certainly, the varied nature of the CNS role would serve to provide numerous learning opportunities that fall within all four of the aforementioned learning styles.

Summary

An understanding of the learning styles of Macmillan CNSs is important and relevant for several reasons. All CNSs are expected to be able to deliver evidence-based practice in their role as clinical experts in addition to functioning as effective teachers and managers. An individuals learning style preference influences all the aforementioned facets of the CNS role; as each involves the CNS learning and assimilating new information or delivering information to others. Moreover there has been a shift in the way in which nurse education is delivered with the increased use of Web based material and non-traditional and distance education approaches. CNSs are likely to be future consumers of further education in view of the expectation that all CNSs be educated to at least degree level. Knowledge of Macmillan CNSs learning style preferences has the potential to inform CNS specialists themselves and those involved in the provision of their further education.

Aims

The study aimed to identify:

(1) The number of dominant learning styles displayed by a group of practicing female Macmillan CNSs (i.e. the number of participants learning style scores that fell into the ‘strong’ ‘very strong’ category);
The learning style preference which showed the highest mean score across a group of practicing female Macmillan CNSs.

**Method**

This study was a retrospective documentary study commissioned by Macmillan Cancer Relief.

**Sample**

All Macmillan CNSs who participated in the educational profiling process (©Macmillan Cancer Relief 2004) over a 12-month period (1/1/03–31/12/03) were invited to participate in the study (n = 272). One hundred and seventy-two Macmillan nurses from all four countries of the UK gave consent for their profile to be analysed. One hundred and fifty nine were returned, 20 of which were incomplete leaving 139 data sets, a 51% response rate. Two were from male post-holders, and since there are known gender differences in learning style preferences (Honigsfeld and Dunn, 2003), these two data sets were excluded from the analysis leaving a final sample of 137 participants. To improve readability future reference to the sample of Macmillan CNSs in this study refers to the aforementioned all female sample.

**Data collection**

Since this was a national study, Ethics Committee approval was obtained from the MREC. Following ethical approval, MNIE contacted all potential participants in order to gain consent for researchers to analyse their individual educational profiles. Profiles of consenting postholders were returned from six of the seven MNIE centres where they were held. Any identifying features such as name and place of work were removed from the profiles (by NH) prior to being given to researchers (FA SJC) for analysis, to preserve participant anonymity.

The information extracted from the profiles included:

1. Sample characteristics of gender, position specialty, practice setting, geographical location and length of time in post.
2. The Learning Styles Questionnaire (80-item version)

This self-administered inventory consisting of 80 individually rated (1 or 0) items, requiring either a positive or negative response to each question. Four scores ranging from 0 to 20 are generated for each of the following four categories; activist, reflector, theorist and pragmatist. The scores for each category can be graded against normative scores into one of five percentiles (very strong preference, strong preference, moderate preference, low preference and very low preference) indicating individuals’ preferences for each of the learning styles. Normative scores to generate the aforementioned percentiles were established by Honey and Mumford (2000a) from a sample of 3500 subjects. Furthermore, they classified scores for a particular learning style that fell within the ‘strong’ to ‘very strong’ category i.e. the top 30% of scores, as a dominant learning style.

**Statistical analysis**

Data were anonymised, coded and entered into a computer database and analysed using SPSS version 11. Descriptive statistics were computed to firstly explore the number of dominant learning styles displayed by the sample of Macmillan CNSs (dominant learning styles were those which fell into the ‘strong’ ‘very strong’ category) and secondly, to indicate which learning style preference showed the highest mean score across the sample.

**Results**

Sample characteristics are presented in Table 2. Participants were all female and came from a varied background of clinical specialities. A typical participant had been employed in a palliative care post for 19 months.

The first study objective was to evaluate the number of dominant learning styles displayed by the sample of practising Macmillan CNSs (i.e. the number of participants learning style scores that fell into the ‘strong’ ‘very strong’ category). Scores were classified into categories against general norms from Honey and Mumford (2000a).

Fig. 1 shows that the majority of the sample (73.7%) displayed one or two dominant learning styles. Few participants displayed three (7.3%) or four (0.7%) dominant learning styles and 18.2% had no dominant learning style preference.

The second study objective was to identify the learning style preference which showed the highest mean score across the sample of practising Macmillan CNSs.
Table 3 shows the sample distribution of learning style scores. Of the four learning style preferences identified, the reflector learning style scored the highest mean score amongst Macmillan CNS (mean 14.85 ± 3.16). This was followed by the theorist (mean 12.2 ± 2.87) and pragmatist learning styles (mean 11.59 ± 2.85). The activist learning style was the least frequently reported dominant learning style preference (mean 7.95 ± 3.11).

Discussion

The majority of Macmillan CNSs displayed one or two dominant learning styles. Three or four dominant learning style preferences were uncommon. These findings were similar to those of medical registrars, although a greater proportion of Macmillan CNS displayed three dominant learning style preferences (7.2%) compared to medical registrars (2.4%). Findings from a random sample of 300 finance managers (Honey and Mumford, 1986).

### Table 3 Learning style preference scores of female macmillan CNSs compared to normative scores\(^a\)

<table>
<thead>
<tr>
<th>Learning style Preference</th>
<th>Reflector Mean (±)</th>
<th>Activist Mean (±)</th>
<th>Theorist Mean (±)</th>
<th>Pragmatist Mean (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macmillan CNSs (n = 137)</td>
<td>14.85 (3.16)</td>
<td>7.95 (3.11)</td>
<td>12.2 (2.87)</td>
<td>11.5 (2.85)</td>
</tr>
<tr>
<td>Nurse tutors (n = 144)</td>
<td>13.3 (4.3)</td>
<td>10.5 (3.8)</td>
<td>10.7 (4.6)</td>
<td>11.9 (3.5)</td>
</tr>
<tr>
<td>Student nurses (1st, 2nd and 3rd years) (n = 189)</td>
<td>14.3 (3.4)</td>
<td>10.3 (3.8)</td>
<td>12.1 (2.8)</td>
<td>12.7 (2.6)</td>
</tr>
<tr>
<td>Norms for females (n = 117)</td>
<td>12.9 (3.8)</td>
<td>9.6 (3.4)</td>
<td>12.0 (2.9)</td>
<td>13.0 (2.5)</td>
</tr>
<tr>
<td>General norms (n = 3500)</td>
<td>13.6 (3.1)</td>
<td>9.3 (2.9)</td>
<td>12.5 (3.2)</td>
<td>13.7 (2.9)</td>
</tr>
</tbody>
</table>

\(^a\) Normative scores from Honey and Mumford (2000a,b).
showed similar results, although 20% of the sample displayed three dominant learning styles, which was more than both the doctors and Macmillan CNSs. In general, findings from Macmillan CNSs compare favourably with other populations, in that some individuals demonstrated more than one dominant learning style preference which is said to equate with greater ‘learning’ flexibility. It appears that the greatest proportion of participants across a variety of populations, displayed either one or two dominant learning styles. Honey and Mumford (2000a) stated that the ability to utilise several learning styles enables individuals to become flexible, resourceful ‘all round’ learners, who stand to benefit from a wide range of learning opportunities.

With regard to the prevalence of the various learning styles, Macmillan CNSs showed a strong, to very strong preference for the reflector learning style. The remaining learning styles, in order of preference, were theorist, pragmatist and activist. This finding is supported by some (Lesmes-Anel et al., 2001; Lewis and Bolden, 1989), but not all of the studies investigating doctors’ and nurses’ learning style preferences (Stimpson and Plusa, 2004; Honey and Mumford, 2000b). The normative data from nurse tutors and student nurses published by Honey and Mumford (2000b) support in part current findings; reflector and activist learning style preferences showed the highest and lowest mean scores respectively. Interestingly CNSs rated the remaining learning styles, in order of preference as theorist and pragmatist. This pattern is reversed in Honey and Mumford’s (2000b) normative data for nurse students and tutors. One learning style does not confer an advantage over another, but it is interesting that Macmillan CNSs have a greater preference for the theorist rather than the pragmatist learning style. This may reflect a preference for Macmillan CNSs to spending time problem solving and planning as part of experiential learning, which is important in the context of functioning as an autonomous practitioner.

All four stages of the learning cycle combined with their learning style preference are important and none fully effective in isolation. The preference of Macmillan CNS towards the reflector learning style has potential implications in the context of their role. Firstly, the reflector learning style preference is associated with both advantages and disadvantages. Individuals with a dominant reflector learning style tend to have a thoughtful approach and are good listeners (Honey and Mumford, 2000a); both characteristics would appear to be concomitant with the role of a Macmillan CNS. However, a preference for reviewing which is part of the reflector learning style, is sometimes combined with a dislike of being ‘forced’ into the limelight e.g. to act as a leader. In addition, those with a reflector learning style preference tend to be worried by significant time pressures and the inability to do a thorough job (Honey and Mumford, 2000a). In support of this, several studies have found that sources of significant occupational stress identified by CNSs were consistent with time management difficulties (Bousfield, 1997) and an inability to provide optimum care (Newton and Waters, 2001). This may in part reflect the disadvantages associated with a dominant reflector learning style.

In a greater political and professional context the tendency of nurses to gravitate towards a reflector learning style preference and identify the activist learning style as their most underutilised learning style might explain why individuals with such a profile are attracted to nursing, which is a historically submissive role (Reverby, 1987). Indeed, Kolb (1984) stated that the membership of specific professions is partly determined by preferred learning styles.

Furthermore, CNSs are said to commonly experience feelings of disempowerment (Bousfield, 1997). One approach to overcoming this difficulty could be a proactive approach to gaining power and influence (Paul, 1991). Bousfield (1997) echoed this sentiment by recommending that CNSs ‘control their own destiny’ p. 253. Both of these directives would appear to be in direct opposition to what has been described as the submissive nature of nurses which extends back in history (Reverby, 1987). It is possible that the preference for the reflector learning style over the activist learning style preference exhibited by Macmillan CNSs is indicative of this historically submissive role. Activists are said to learn least from activities involving a passive role (Honey and Mumford, 2000a). An alternative explanation for this pattern might be that a dominant reflector learning style is more in keeping with a democratic leadership style.

Implications for Macmillan nurse education

It seems that the identification of learning style preference is a useful exercise that enables the participant to identify dominant learning style preferences and consider ways of strengthening underutilised ones. This is important from the perspective of the Macmillan CNSs functioning both as effective learners and teachers. Wider scale studies may confirm whether the findings from this study are consistent across other CNS roles. If CNSs are to follow Bousfield’s (1997) recommendation of
controlling their own destiny, nurse educators may need to adopt approaches to assist Macmillan CNSs to strengthen learning styles more congruent with this approach. Identification of learning styles may be only the first stage, therefore, of an educational intervention which could go on to support CNSs in practical ways to strengthen under-utilised learning styles. For example, a systematic programme of peer coaching, incorporating the detailed strategies provided by Honey and Mumford (2000a), could help post-holders to develop non-dominant learning styles.

Limitations

The study was retrospective in nature and the all female sample comprised approximately half of the population of CNSs profiled in 2003. As participation in the study was voluntary, Macmillan CNSs with a dominant reflector learning style preference may have been more likely to participate in the study than those with activist learning style preferences. Due to the careful anonymisation procedures used, there are no data available concerning the non-responders. Furthermore, participation in profiling itself is voluntary and this activity may appeal more to those with a strong preference for the reflector learning style. The possibility of response bias cannot therefore be ruled out. In addition, it is not known whether findings would be replicated amongst male Macmillan CNSs. Moreover, the study would have been strengthened by the inclusion of demographic data such as participants’ age; this information was not recorded as part of the profiling process.

There are weaknesses associated with the use of the LSQ which was not designed as a psychometric instrument. Evidence to support its’ validity and utility is mixed (Duff and Duffy, 2002; Allison & Hayes), although test–retest reliability has been documented as 0.89 and face validity described as satisfactory (Honey and Mumford, 1986).

Conclusion

Findings from this study shed light upon the patterns of learning style preferences evident amongst female Macmillan CNSs. This information is useful to inform both practitioners and educators. To date there were no studies sourced on this specific topic. Honey and Mumford (2000a) stated that ‘all round’ learners can utilise more than one learning style and therefore stand to benefit from a wide range of learning opportunities. In this study female Macmillan CNSs displayed a preference for one or two dominant learning styles which is similar to findings from other professions. They also showed a ‘strong’, to ‘very strong’ preference for the reflector learning style, with the remaining learning styles, in order of preference, theorist, pragmatist and activist. The ability to strengthen underutilised learning styles, in particular the activist learning style may lead to more flexible and resourceful learners and more effective teachers, managers and leaders.

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