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Beyond sickness: A student perspective of Hub and Spoke learning

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Abstract:	The acquisition of competence in learning is dependent on a number of variables. Students need to feel a sense of security in the practice learning area to be able to fully develop the skills required. Hub and Spoke is one model for practice learning that has been integrated in Edinburgh Napier University undergraduate nursing programme since 2011. It relates to enhancing the quality of practice learning by improving the student experience of security and belongingness in the practice environment. Rather than focusing on the benefits of the model, this study explores the characteristics of the Hub and Spoke model that supports students learning, to develop a deep understanding of a person centred approach to care. The study involved nursing students from two different fields of practice and employed a mixed methods approach, using a combination of focus group activity and an adapted questionnaire based upon the principles of Belongingness and the SENSES Framework. These principles were selected to capture the lived experience of the student undertaking these Spoke experiences. Focus group themes emerged as 'Learning for student value', 'Connections' and 'Organisation'.
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Beyond sickness: A student perspective of Hub and Spoke learning

Introduction

The integration of Hub and Spoke models of practice learning has been utilised within one Scottish university's undergraduate nursing programmes since 2011. Early findings suggest that generally, students exhibit a greater depth of understanding when the Hub and Spoke model is incorporated into practice learning (Roxburgh, Conlon and Banks, 2012).

Hub and Spoke models of practice learning can present in a variety of forms but overall the approach has become generally accepted in nurse education as a 'value added' model to learning as they provide the opportunity for deeper student learning experiences that also enhance a person centred approach to nursing care. However, the quality of the Hub and Spoke models can become easily distilled. Reasons can include organisational and capacity issues of the institution and the placement provider. In addition, restrictions of placement areas, regulatory requirements and curriculum demands can all result in a very much reduced version of the Hub and Spoke model. If this occurs, the practice learning experience can then become easily compressed into short, disjointed and disconnected learning experiences that prioritise the administrative and curricular demands of the programme over the quality of the student learning. Thus, the Hub and Spoke approach requires further exploration to supply robust evidence which ensures only quality interpretations of the model are available.

This mixed method case study approach aims to explore the student experience of Hub and Spoke learning by deconstructing the model to identify which characteristics best benefit the student's learning. This means specifically studying the component parts of the Hub and Spoke model that impacted on three distinct areas:

1. The students ability to connect with the person rather than the patient

2. Connection with the family of that person and in turn the wider community

3. Security in the students' own learning process

The aim of this research is to identify and uncover the core characteristics of the Hub and Spoke model that best enhances, supports and develops student learning in practice.

Background and Literature

Current regulations determine that 50% of the undergraduate programme is dedicated to learning in practice environments (NMC, 2010) as it significantly impacts on student learning and development and can be organised in a variety of ways.

A review of practice learning models in health and social care professions (Campbell, 2008) identified four core approaches to organising practice learning and found that whilst the most typical rotational model provides a wide range of experiences, it also tends to erode student confidence as frequent and repeated new starts in unfamiliar environments leads to increasing anxiety and insecurity. In addition, the more typical rotational model of practice learning constrains students from gaining a broad view of the 'person' in the 'patient' as practice settings are compartmentalised and segmented into chunks which are often unrelated to student learning or understanding.

Levett-Jones (2005) explored the idea that self-directed learning for students was valuable but only when both student and teacher were adequately prepared. This would suggest that the involvement of both academic and practice staff could enhance a Hub and Spoke model by considering available learning experiences and providing guidance for students.

A further concern is that the trend for practice experience continues to be dominated by secondary and or acute care settings (Shelton and Harrison, 2011), despite 80% of healthcare journeys beginning and ending in primary care settings (Department of Health, 2008) and evidence of a steady increase in the number of patients requiring continuing care

in the community over the last year (Scottish Government, 2014). Furthermore, health and social care policy is increasingly driving forward the agenda of integration and education providers must provide flexibility in practice learning to support this change (NMC, 2010, Department of Health, 2013, Scottish Government, 2014). This move towards care, in a setting which is as near to the patient's home as possible, has encouraged nursing curriculum design to explore other areas for practice learning. These curriculums also aim to allow students to focus on the patient as an individual and not as an entity that exists only in an acute hospital setting.

The acquisition of competence in learning is dependent on a number of variables but specifically, students need to feel a sense of security in the placement area to fully develop the skills required (Levett-Jones and Lathlean, 2008). Recent research (Roxburgh et al 2012) demonstrates that organising a 'Hub and Spoke' model of learning can deepen student understanding and support growth in confidence. This is in contrast to the rotational model, as the Hub and Spoke approach reduces the quantity of disconnected placement movements, by ensuring allocations *'fit together'* either by patient group, or geographical location or by the subject area of the student learning. Using this approach enables students to see the logical movement and patient journey between placement areas which adds to the fluidity of achieving practice learning objectives. This research proposal continues the previous work of Roxburgh et al (2012), however, rather than focusing on the benefits of the model itself, the researchers seek to explore the characteristics of the Hub and Spoke model that support students to develop a deep understanding of a person centred approach to care (McCormack and McCance,2010)

For the purposes of the research, a Hub is the base placement from which learning is complimented by Spokes. Spokes are brief learning experiences that in some way enhance learning in the Hub. Spoke experiences can be pre-set by the university, or negotiated on an

individual basis between the mentor and the student. In the latter case, the 'Hub' mentor will liaise with the 'Spoke' mentor to ensure the student's selected Spoke is congruent with the module learning objectives. To further support this, the university will provide guidance on the appropriateness of the Spoke placement for both students and mentors. The degree of learning in the Hub and Spoke model is dependent on the degree of connection with three specific areas: the community; the patient journey of health and ill health and the student journey of learning. Thus, mentors, students and university are all aiming to accentuate this with any Hub and Spoke configuration.

Within this university, a field approach as opposed to a programme approach has been taken to practice learning. Each of the fields of nursing and midwifery (adult, learning disability, mental health and child health) have developed placement experiences in slightly different ways to reflect the needs of their patient population with a range of distillations of Hub and Spoke learning. The first step in this research was to establish examples of good practice and gain an understanding of how these impact on the students' experience of practice learning. Both child health and mental health nursing fields have been active in exploring alternative and atypical practice learning experiences for student nurses. The child health programme validated children's third sector placements, local authority nursery settings and child and family centres, whilst the mental health programme reconfigured the organisation of practice learning so that geographical and person centred connections are emphasised. In addition, the organisation of the potential Spokes is different between the two programmes. The child health programme has a fairly well established set of Spoke opportunities which are organised for students; whilst the mental health programme places more emphasis on students identifying relevant Spokes themselves in accordance with their individual learning needs. These differences may be summarised as a 'formal' and 'informal' approach to Spoke activity.

Methods

A phenomenological approach was used to try and understand the meaning of Hub and Spoke placements as experienced by student nurses studying child or mental health nursing (McConnell-Henry, Chapman and Francis 2009), at Edinburgh Napier University. The need to understand their perceptions of learning led to the use of a mixed method design being employed within this small scale exploratory study. Using both quantitative and qualitative approaches facilitated the development of a detailed view of the Hub and Spoke experience in addition to allowing results to be generalised to the specific population of undergraduate student nurses.

A questionnaire design combined two established methods of assessing qualitative experiences of individual and organisational care giving. The Belongingness Questionnaire (Levett-Jones and Lathlean, 2008) and the Senses Framework (Nolan, Davies ,Nolan and Keady, 2006), were selected as both explore organisational or individual attributes that, if present, produce qualitative enhancements in person centred experiences. The Belongingness Questionnaire was selected as its focus is entirely on student experience of practice learning, whereas the focus of the Senses Framework is related to organisational and environmental elements that foster relationship based care. By combining the two, the research team were able to extract data which reflected the lived experience of student nurses experiencing these Spoke placements. Table 1 shows the way in which questions and themes linked together.

Table 1

Questionnaire example questions (themes in brackets)
1. I was able to undertake Spoke experiences (learning)
3. I felt like I fitted in with others in the team (security)

9. I involved informal carers and family (person centred)
10. Spoke learning enabled me to be better understand communities' issues (community connectedness)
12. I knew of people's stories beyond their health experiences (client journey)
15. I was able to pursue learning that I was particularly curious about (student centred)
16. I was better able to meet my learning competencies as a result of my Spoke experiences (learning)

Purposive sampling was used to provide and maximise representative data collection whilst addressing the principles of adequacy and appropriateness by collecting data from an established group of undergraduate child and mental health nurses working in their chosen field of future practice.

The students were approached to participate when they were in university to minimise disruption to their practice learning experience and as such there were a significantly larger number of child health responses (19) than mental health responses (5) due to differing programme theory/ practice activity. However, the research team felt that the data captured would still be valuable and could potentially provide further evidence of Hub and Spoke characteristics due to the mixed methods approach of the study.

As the study had a specific timeline to adhere to, the investigators approached student cohorts from the child and mental health fields of practice who had recently undertaken Hub and Spoke placement experiences in their undergraduate programme. A total of 4 cohorts were chosen: 3 from the field of child health and 1 from the field of mental health.

Although two of the investigators were known to the students, they reduced the potential for bias by interviewing students from different fields of practice.

Data collection and analysis

The standardised ethical framework of gaining approval, providing information, gaining informed consent, and maintaining confidentiality during all aspects of data collection, analysis and findings was applied within the study to protect the participants. Ethical approval was sought and gained from the Research and Ethical Approval Committee of the University thus fulfilling the guidance criteria for undergraduate research activity involving student nurses. All students were presented with detailed information to enable them to make decisions in an informed manner and were provided with written and verbal assurances regarding confidentiality and anonymity.

Data collection occurred through the use of focus groups and questionnaires. The focus groups enabled students to respond to thoughts about the quality of the Hub and Spoke experience for their learning with discussions being allowed to emerge freely in relation to the questions which had been specifically developed to reflect the overall study aim. Audio recordings were used alongside field notes to capture the detail of the discussion. The questionnaire used in the study was a modified combination of the Senses Framework and the Belongingness questionnaire, using closed questions to allow the researchers to code each question and produce specific data for analysis. To test validity and reliability, a pilot test of the questionnaire was conducted with other students from the field of mental health nursing prior to using it with the student study group.

Individual cohorts of child health and mental health student nurses were approached to participate in the study with a total of 24 completing the questionnaire and a further 27 volunteering to participate in the focus group activities. There were three focus groups in total, two child health groups (n=9; n=10) and one mental health group (n=5). These groups

were formed from the larger year cohorts of child (n=68 per year) and mental health (n= 70 per year)The groups were of one hour duration and were formulated around eight stem statements that aimed to instigate discussion around two specific areas: a) practice learning in general and b) the specific Hub and Spoke experiences.

Data collection took place over a six month period. The first phase involved focus groups being organised whilst the students were in university as the first priority was to minimise disruption to student learning. Transcription of data was carried out by each researcher for their own group which was then analysed by a different researcher to reduce bias. The second phase involved completion of questionnaires which were sent out to the specific cohorts of students by email and also via the electronic learning platform which is used by the university.

Findings

Questionnaire Results

The questionnaire participants were 24 in total with a mixture of child and mental health student nurses. The questionnaire analysis was conducted by examining the 24 responses and categorising answers in either 'never or rarely true', 'sometimes true' or 'often or always true'.

The results stated that out of 24 respondents, 100% were able to undertake Spoke learning when out in practice with 92% saying this was 'often or always true' and 8% stating this was 'sometimes true'. 100% of respondents answered that they felt part of the team while undertaking these experiences and felt supported by their mentors and other members of the team to undertake Spoke learning. Although the results showed that all of the students had an opportunity to take part in Spoke learning, 11% of respondents reported that sometimes, Spoke experiences were limited. This was supported by findings from the focus groups when some participants reported that they sometimes had to 'fight' for

opportunities in some Spoke areas, particularly if these areas already supported other learners.

92% of the respondents said that 'often or always' Spoke experiences helped them understand communities' issues'. This could provide some evidence that students begin to understand the patient beyond an episode of acute illness, and are able to connect with this client group out with a hospital-type setting. There was an appreciation and understanding, especially by child health students, of the role of the family and how this impacts on health.

In both statements which stated that mentors and team members were supportive in their pursuit of Spoke experiences, 92% of students said that this was 'often or always true'. This would support the notion that clinical staff value these extended experiences for the students in their areas. Additionally, focus group evidence provided good examples of how mentors facilitated this learning and were often key in the success of these experiences.

The mentors as facilitators provide a possible solution to the challenge that Levett-Jones and Lathlean (2008) identify within their research. The research found that students needed to feel secure in order to experience optimum learning. The process of moving from place to place often makes students feel unsettled therefore their learning is compromised. By using mentors to coordinate these additional experiences, this could allay student anxieties and encourage them to elicit the best from their experience.

Encouragingly, only 8% stated that they 'rarely or never' felt they could better understand learning competencies as a result of Spoke experiences which suggest that students are able to link theory to practice by participation in the Hub and Spoke model.

Focus Group Results

Table 2 gives details of how primary themes derived from the focus groups were further examined using the two quality models and how these were broken down into sub-themes. Each questionnaire question had an identified sub-theme and these themes were grouped together following data analysis of the focus groups. Thus providing supporting evidence from the focus group themes, to the questionnaire findings.

Table 2

Primary Theme (from focus groups)	**Sub theme (from questionnaire)**
Learning	A. Security, learning, efficacy, student centred
Connections	B. Patient journey; person centred care; community connections, client journey; connectedness
Organisation	A and B combined

Using an inductive approach to data analysis for the focus groups, three themes encapsulated the student experience. These were:

- Value for learning
- Making Connections
- Organisation and Systems

These themes will be explored further in the discussion section of the paper.

Limitations

The researchers accessed student nurses that were currently in university at the time of the study therefore limiting the sample size and type. Although the questionnaire was available to the wider population of child health and mental health students via the university learning platform, it was accepted that those student nurses who were in the practice setting would not access this platform regularly due to focusing on practice-related activities. The university learning platform is an electronic system that students access

online to support their learning. It is used as an adjunct to face-to-face learning and is utilised widely in all practice and theory modules across the department.

Although not a limitation as such, it should also be acknowledged that the qualitative tools used to investigate the Hub and Spoke experience were both established in their own right and were used together as a quality measurement in this study.

Discussion

The study produced overall findings as well as specific findings relevant to the themes of learning. All respondents who participated in Spoke experiences stated that it enabled them to form a better understanding of issues relating to the patient's communities, a theme which also emerged during the focus group sessions. Additionally, all participants felt the Spoke learning complemented the knowledge that they gained in university. In contrast to the rotational model of practice learning, connecting the Hubs to the Spokes meant that movements between placement areas were reduced and were then driven by student learning objectives, not by regulations or limitations in mentor capacity. Participants identified an enhanced sense of control over their learning experiences which directly fed into their sense of competence and confidence. Development of these skills are deemed crucial attributes of nurses by the NMC (NMC, 2010).

Although all participants confirmed the availability of Spoke placements, two participant groups reported some difference in experiencing the Hub and Spoke model. The child health students reported a sense of ease about finding learning experiences that satisfied curiosity as well as learning competencies. In comparison, the mental health students struggled a little more with this, perhaps finding it difficult to locate the 'person' and the 'community' in a typical mental health experience. This may be accounted for partially by the different approach used between the programmes in developing Spokes with the child health programme predetermining Spokes whilst the mental health programme placing more

reliance on the student driving the experience. However, it may also relate to the characteristics of each of the fields of practice. So, for example, *'the family'* is more accessible and visible in child health nursing whilst in mental health nursing, *'the family'* can seem to have a more remote and rather diffuse presence. This issue will be further developed through an exploration of the themes of learning in relation to the experience of the participants.

Value for learning conceptualises the student perception of benefit in terms of expanding knowledge and generating understanding. Students were most responsive to Spoke experiences if such gains were clear and explicit. Therefore, comments such as *'I didn't know such places existed!'* reveals the previous narrowness of the students practice learning experiences shadowing the student's horizons in terms of where the health journey of an individual can take them. The *Learning Value* was also contained in feeling better informed about the potential future role of the nurse as students discussed the way in which Spoke activity supported them to filter favoured clinical areas from less favoured. The Spokes enabled the students to match their personality and areas of interest and curiosity with what is possible, and so *Learning Value* was clearly perceived in students being able to control their own Spoke learning. Indeed, this very control led to *'greater confidence because of Spoke learning'*

The second theme of '*Making Connections'* relates to the capacity of Spoke learning widening the lens of the student perception of the individual, the health system and the community that they are operating in. Child health students in particular discussed the way in which Spoke learning helped them to '*see how it all comes together'* and '*gave a feel of the community'.* However, students felt it important that the Spoke activity either linked to the Hubs or the client journey otherwise learning was '*by chance'* and that there was a struggle to connect the Spoke activity with the '*theory in the classroom'.*

The final theme *Organisations and Systems* revealed the way in which deeper learning can be obscured if administrative processes are not clear or well understood, or if involved parties are not cognisant of the educational approach that underpins Hub and Spoke activity. Students felt unclear about their own role in organising Spoke activity. They considered the purpose of Spoke learning to be vague and for some, an unnecessary distraction from the Hub area. '*Spokes reduce the amount of time in the acute hospital'* and that *'not all of the mentors understood why I was looking for Spokes'*. There was a sense of lack of consistency in the way in which the university organised and supported the student to identify a Spoke area and that '*some Spoke areas were in high demand'* resulting in either Spoke areas becoming resistant to student nurses or Spoke learning becoming diluted to simply '*a visit with a talk from someone'.*

Conclusion

The planned focus of the research was to identify and uncover the core characteristics of a model that best enhances supports and develops student learning in practice.

From the emergent themes it is clear that students valued the option of undertaking a 'different' experience which offered them the chance to see connections to the wider patient journey and understand the influence of the community and its services on general health and wellbeing. The fact that most students discovered new information which made a positive impact on their learning highlights the importance of ensuring undergraduate nurse education programmes offer practice learning environments which accurately mirror the patient's journey. As the delivery of health and social care moves towards a more integrated service approach (Department of Health, 2013, Scottish Government, 2014) it is important for students to see the 'bigger picture' and understand the need to communicate with a wide range of practitioners and services. Findings from the study indicate that the

Hub and Spoke experience positively contributed to the development of student confidence in communicating with different practitioners and enabled them to improve their organisational skills – both of which are important aspects of nursing practice.

As this was an exploratory study, there are still many issues to further develop, not least the organisational aspect from the university point of view. Student feedback indicated there was significant work to be undertaken in relation to the administrative aspects of introducing the model to students, informing mentors and updating members of the teaching teams. Additionally there appears to be a need to embed this approach to practice learning within the general curriculum. These initial findings provide important evidence of the value of the Hub and Spoke experience for student learning and provide the researchers with a small base of evidence upon which to build to positively enhance student learning across all fields of practice.

Recommendations

The research findings strongly suggest that it is the detail of the model, in terms of how it is configured within the programme, the degree to which the model enables a student-centred approach to practice learning and the opportunity to widen learning that is considered to be most supportive for students. Examination of the characteristics of the model enable curriculum developers to ask the tricky questions – are our aims simply to enhance capacity or do we want to provide added value to the student learning experience? The research findings suggest that the first is simpler to achieve whilst the second, requires much more detailed and precise processes to be in place.

However, if the future of nursing in the UK is truly to be held in a world of health and social integration, and if the nursing profession wishes to ensure their place in that world, then educators must enable students to see the world beyond sickness and hospitals.

Student nurses should be involved in person centred care for their clients and patients from an early point in their career ensuring a greater understanding of the individual and how their role in the family and wider community contribute to the society around them.

This will shift the expectation that all care happens in an acute hospital setting and prepare nurses for a resolute and confident career in healthcare.

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