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Citation: Craig, Lynn and Machin, Alison (2020) Developing and sustaining nurses' service improvement capability: a phenomenological study. *British Journal of Nursing*, 29 (11). pp. 618-626. ISSN 0966-0461

Published by: Mark Allen Publishing

URL: <https://doi.org/10.12968/bjon.2020.29.11.618>
<<https://doi.org/10.12968/bjon.2020.29.11.618>>

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Exploring service improvement capability in nurses: a phenomenological study

Dr Lynn Craig

Professor Alison Machin

Abstract:

Background: Service improvement to enhance care quality is a key nursing responsibility. Developing sustainable skills and knowledge to become confident, capable service improvement practitioners is important for nurses in order to continually improve practice. How this happens is under researched. Aim and research design: A hermeneutic ~~pas~~, longitudinal study in Northern England aimed to better understand service improvement lived experiences of participants as they progressed from undergraduate adult nursing students to registrants. Method: Twenty, year 3, student adult nurses were purposively selected to participate in individual semi-structured interviews just prior to graduation and up to 12 months post-registration. Hermeneutic circle data analysis was used. Findings: Themes identified were (1) service improvement learning in nursing; (2) socialisation in nursing practice; (3) power and powerlessness in the clinical setting; and (4) overcoming service improvement challenges. At the end of the study, participants developed seven positive adaptive behaviours to support their service improvement practice and the 'Model of Self-efficacy in Service Improvement Enablement' was developed. Conclusion: This study provides a model to use to enable student and registered nurses to develop and sustain service improvement capability.

Key words: service improvement, quality improvement, nurse education, transition to practice, phenomenology.

Embedding a nursing service improvement culture has been a focus of successive UK policy initiatives (Craig, 2018) with plethora of more recent initiatives including

the 'NHS Safety thermometer' (Great Britain. Department of Health, 2012), 'Energise for Excellence Vision' (NHS Institute for Innovation and Improvement, 2012), 'Harm Free Care' (NHS Institute for Innovation and Improvement, 2013a), 'High Impact Actions for Nurses and Midwives' (NHS Institute for Innovation and Improvement, 2013b) and 'The Productive Series' (NHS Institute for Innovation and Improvement, 2013c). However information about how nurses develop and sustain service improvement skills beyond their initial education is lacking (Marshall, Pronovost & Dixon-Woods., 2013; Armstrong, Shepherd, Harris 2017). Service improvement can be defined as:

"The combined efforts of everyone to make changes, leading to better patient outcomes (health), better system performance (care) and better professional development (learning) regardless of the theoretical concept or tool utilised"
(Batalden & Davidoff, 2007, p.2)

A national initiative to embed this learning in undergraduate programmes (NHS III, 2008a) has created many opportunities for pre-registration nursing students to develop these skills. A survey of pre-registration students (NHS III, 2008b), concluded most of these students agreed service improvement was essential for professional development (88%) and for patient safety (94%). In subsequent studies, resistance of staff, lack of time, and student status are cited as barriers to the success of students' service improvement efforts (Johnson et al., 2010). Despite challenges, service improvement learning and the opportunity to improve patient care experiences, was valued by pre-registration students (Smith and Lister, 2011) with classroom-based sessions beneficial for learning (Smith et al., 2014; Baillie, et al., 2014). Educational programmes encompassing service improvement have helped prepare student nurses to make service improvements in practice when qualified (Machin & Jones, 2014; James, Beattie, Shepherd, Armstrong and Wilkinson, 2016). However, little is known about the sustainability of this learning.

Aim

This study aimed to understand service improvement experiences of undergraduate adult nursing students in their final University year and up to 12 months into their graduate practice.

Research questions:

- What are student adult nurses' experiences of service improvement in education and its application in the practice learning setting?
- What are registered adult nurses' experiences of service improvement in their first year of clinical practice?

Method

A longitudinal hermeneutic phenomenological design was used to explore participants' perceptions of their pre and post qualification experiences. Phenomenology is a methodological approach, which has been utilised increasingly within nursing research (Crotty, 1996; Mackey, 2004; Lopez and Willis 2004; Salmon, 2012). Nurse researchers have used phenomenology as a way to develop knowledge that is culturally relevant and consider the depth and diversity that exists in nursing environments and clinical practice (Annells, 1999; Lopez and Willis 2004; Salmon, 2012). Phenomenology is pertinent to nursing as its orientation is to the lived experience and considers relationships that nurses have with patients and each other. Phenomenology is the:

“Study of phenomena...its tends to be human experiences-experiential phenomena” (Annells 1999, p.6)

Heidegger (1962) in 'Time and Being' described phenomenology as a way to interpret lived time and engagement with the world (Heidegger, 1962). Heidegger's core philosophical position in phenomenology was a desire to explore the meaning of experience for humans (Heidegger, 1962). Heidegger's main concern was ontological, with the objective being to understand the phenomenon as it is described (Smith et al., 2009). Heidegger believed in duality; in how things appear, including visible and hidden meanings. Thus, Heidegger was

more concerned with ontological findings and understanding of 'being itself' or 'dasein' (Mackey, 2005). Dasein can be described by ordinary pre-theoretical understanding of being and can be considered simply, as our everydayness (Draucker, 1999). Heidegger's (1962) interpretive approach to phenomenology and was central in the development of hermeneutic phenomenology and was concerned in not only hearing the words, but also in revealing the meanings behind them. Heidegger's interpretive approach to phenomenology is based on experiences, which should be examined in context and on their own terms. It focuses on the interpretation of the experience of others and on empathetic understanding, it is the art of interpreting hidden meaning (Smith, Flowers, & Larkin, 2009). Heidegger (1962) suggested it was impossible for researchers to set aside previous beliefs, values and understanding. He believed the researchers must have understanding of their own fore-having, fore-sight and fore-conception in order to understand and interpret the meaning of a phenomenon (Converse, 2012). Heidegger went as far as to consider the actuality of any description without interpretation to be impossible (Koch, 1996; Flowers et al., 2009). Interpretation considers the researcher as an integral part of the social, historical and political world (Converse, 2012). Gadamer supported Heidegger and suggested that:

"Understanding and interpretation are indissoluble bound up with each other and definitive interpretation is not possible as interpretation is always on the way" (Gadamer 1979, p.300).

This study sought to explore the experiences of service improvement in nursing for participants. Phenomenology was appropriate as a research methodology as it seeks to understand particular phenomenon as it is lived by participants (Polit & Hungler, 1999; Robson, 2005). Heidegger's (1962) philosophical approach to phenomenology was interpretative, where understanding is an integral part of human experience and cannot exist outside of one's culture or history. Crotty (1998) suggests that truth and meaning of the phenomena are not seen in isolation from the knower, rather, values are important to knowledge creation as researchers propose facts are 'value' and 'theory' laden (Guba & Lincoln, 1989). Interpretivist researchers see themselves and the participant as dependent

on each other and they utilise this relationship in order to understand the phenomena (Onwuegbuzie and Leech, 2005). Their personal reality, experiences, beliefs, values, culture and understanding of the world will inevitably impact on how the research is interpreted and where the participant's data creates a shared understanding (Onwuegbuzie and Leech, 2005). Interpretation occurs with an understanding that the researcher is part of the historical, social and political world (Heidegger, 1962). Acknowledgement of researcher and participant relationships fits with interpretive phenomenology as the chosen methodology of my research. The relationship between the researcher and participants is not detached, rather the findings are a collective between the researcher and participants as throughout data collection they are constantly influencing each other (Guba & Lincoln, 1989):

“It is precisely their interaction that creates the data which will emerge from the inquiry” (Guba and Lincoln 1989, p. 88)

Ethical permission was given by the University Ethical Approval Committee and the research development department at an NHS Trust.

A purposive sampling approach by email, targeted 150 adult nursing final year students. Purposive sampling allows selection participants in a meaningful way rather than attempt to make a representative sample (Denzin & Lincoln, 2002; Liamputtong, 2009). In interpretive research, purposive sampling is appropriate as it allows the researcher to select participants, as they can purposefully inform an understanding of the research question (Cohen, Kahn & Steeves, 2000; Cresswell, 2009). By sampling purposively there is no means by which to assess how typical the sample is (Polit & Beck, 2010b). Nevertheless, this is not a concern when using phenomenological methodologies, as the sample is always purposive as it must include those who have experienced the phenomena being investigated (Corben, 1999).

Liamputtong (2009) argues that there is no set sample size in qualitative research; rather the sample size should be flexible. Sampling from five to twenty-five participants is often suggested for qualitative research methodologies which include phenomenology (Bagnasco,

Ghirotto, & Sasso, 2014). The sample size should consider the depth of data sought and the intensity of contact with participants. Interpretative phenomenological studies are more likely to have smaller sample sizes since the analysis of data is so in-depth (Patton, 2002; Bryman, 2012). Other studies with similar methodology and methods in order to examine other researchers' sampling strategies. Standing (2009) carried out a longitudinal hermeneutic study exploring experiences of student to registered nurses. Following the post-qualifying period, there was 50% attrition of participants (Standing, 2009). This helped inform the decision for 20 participants, enough to allow rich data collection and allow for potential attrition during Phase Two (There were 15 participants for phase Two , only 5 attrition) .

The participants had completed a service improvement module as part of their second year education programme, where they engaged with service improvement, explored theoretical improvement methodologies (DMAIC, Lean, Six Sigma) and had been assessed via a written assessment of their experiences.

All participants their placements in the participating NHS Trust which was likely to be the location of their first staff nurse job. This was important to enable post-graduate follow up. Twenty students gave consent to be individually interviewed twice, once as a student and again in their first year of being qualified.

In phenomenological research there are several different ways to collect data including unstructured and semi-structured interviews (Van Teijlingen & Ireland, 2003; Sloan & Bowe, 2014). Interviews are concerned with exploring knowledge related to specific phenomena that individuals describe through narratives of their lived experiences (Liamputtong, 2011) and is useful to gather individual reflective recollections (van Manen, 1997; Sloan & Bowe, 2014). van Manen (1990) describes this as 'borrowing' the stories of the participants as a means to develop understanding. This requires participants to reveal descriptive information through questions that are reflective in nature and propel participants to think of their experiences with the phenomenon (van Manen, 1997). Phenomenological

interviews differ from usual in-depth interviews as they establish 'conversational relationships' that develop trust and encourage mutual discovery (Liamputtong, 2011).

An interview schedule was developed to facilitate the semi-structured interviews and was used in both phases of this study. Robson (2005) suggests that interview schedules should incorporate an introduction, a focussed lead question and several key questions or prompts

1. 1. What does service improvement mean to you?
2. 2. What do you understand about service improvement?
3. 3. What experience have you had of service improvement learning?
4. 4. What experience have you had of service improvement in practice?
5. 5. Has there been anything in your service improvement experience that has changed the way you feel about it or the way you facilitate it?
6. 6. Is there anything else you want to tell me about your role in service improvement?

Each participant was asked the same opening question (1). At the end of each interview, the same final question (6) was asked.

Forty interviews lasting 30-45 minutes were undertaken by the lead researcher at the university, digitally recorded and transcribed verbatim. Digital and written data were stored in line with data protection policy. Data were analysed using a phenomenological, hermeneutic circle approach (van Manen, 1990) comprising three stages: Transcripts were read and recordings listened to, to understand the context of each participant; key themes across the transcripts were identified and clustered into overarching themes; these themes were then interpreted to develop in depth understanding of participant experiences of service

improvement learning and practice (Lindseth & Norberg, 2004). The process was informed by re-reading relevant literature.

Researcher understanding of participants' experiences was checked with them throughout data collection (Bradbury-Jones et al., 2010). Member checking occurred with participants concurrently as part of each interview, during both phases of this study. Lincoln and Guba (1985) suggest member checking is important in validation of research findings. However, there are conflicting viewpoints regarding the use of member checking in hermeneutic phenomenology. Member checking may be distressing or unwanted, and participants could forget or regret what they said or disagree with the interpretation (Bradbury-Jones et al., 2010; McConnell-Henry et al., 2011). McConnell-Henry et al., (2011) argue that interviews only present a snapshot of time and context to the experience and by revisiting this through member checking there is a potential threat to the rigour of the study. Nevertheless, with interpretive research there is no need to either prove or generalise findings, rather the aim is to uncover and understand the data as it is immediately recounted by the participant (McConnell-Henry et al., 2011). Some researchers argue member checking is a key feature of hermeneutic phenomenology (Doyle, 2007; Bradbury-Jones et al., 2010) which can occur as a one off event or continuously throughout data collection and the research process (Doyle 2007).

A transparent audit trail of researcher decision making ensured the study and its results were trustworthy (Guba & Lincoln, 1994).

Findings

van Manen's (1990) approach to data analysis was used, as this was congruent with the research methodology and conducive to analysing hermeneutic phenomenological data. The activities allow a structured and sequential process to facilitate analysis (van Manen, 1990; Polit and Beck, 2010). van Manen's (1990) six activities are conducive to analysing hermeneutic phenomenological data. The activities allow a structured and sequential process to facilitate analysis (van Manen,

1990; Polit and Beck, 2010). However, it is important researchers avoid fixed signposts during data analysis, as these may not support the flexible philosophy underpinning hermeneutic phenomenology (van Manen, 1990). Each stage of data analysis occurred in this study, however, in reality there was flexibility between the stages. It was not a linear process and I frequently returned to the hermeneutic circle for naive reading, re-reading and interpretation of the transcripts throughout each stage of data analysis. Gadamer (1979) supports this approach, suggesting that movement between the six activities, both forwards, and backwards, allows researchers the time to consider, re-consider and reflect on the parts and whole. It is through these activities that the researcher can fully engage in the hermeneutic circle (Gadamer, 1979). Through an ongoing hermeneutic process of data analysis, the researcher is able to identify convergent and divergent viewpoints (Appleton & King, 2002).

Four overarching themes emerged from the hermeneutic data analysis of the participants voice:

Figure 1 Four emerging themes

- *service improvement learning in nursing;*
- *socialisation in nursing practice;*
- *power and powerlessness in the clinical setting;*
- *overcoming service improvement challenges*

Figure 2 Van Manen activities of data analysis applied to the study.

Service improvement learning in nursing

Service improvement in nursing was an overarching theme that incorporates sub-themes including a personal understanding of service improvement, seeing a need for service improvement, micro and macro perspectives of service improvement and

linking theory to practice. It was evident in the findings that all the participants had socially constructed an understanding of service improvement and were able to give a definition of what service improvement meant to them. The findings illustrated that the participants had experienced service improvement both in university and during their clinical practice. As students, participants conveyed understanding of service improvement, citing their rationale, applied theoretical models and different approaches for service improvement :

“[Service improvement] means trying to improve and change the service so patients have a better experience, an overall experience” (P4/1).

Another participant also identified a patient focused rationale for service improvement:

“[Service improvement is] changing any service or service that you give to patients, so it could be an intervention or some other way care is given or organised” (P19/1).

This understanding stayed with the qualified participants however they talked about their nursing role in service improvement in a more personalised way; recognising the scope of the contribution they could make as individual newly qualified practitioners:

“Looking back, you gain knowledge and skills as your career progresses. You don't want to go in with a huge service improvement, just start little and build up. I have used some of the theory about change and PDSA [Plan, Do, Study, Act]. I am always reflecting and learning” (P6/2).

Another talked about the importance of having service improvement confidence, despite being newly qualified and still on a learning journey:

“I am still learning, but if you have a good idea about something, having the confidence to go with it, giving reasons and rationale as to how and why you want to do it, to improve the patients service” (P15 /2).

Several participants described service improvement opportunities within the preceptorship period as consolidating their previous service improvement learning:

“As part of preceptorship I did service improvement. We have the knowledge and skills framework, which we have to work towards. Without learning, you would never be getting to best practice. I think if you don't look for how you can improve your service, you don't improve things for your patients” (P 2/2).

Several qualified participants recognised that as lifelong learners, there may be a time when they would need to refresh their understanding of service improvement learning theory, for example:

“If I was doing some service improvement, I would look back at the theories behind it. I would have a good read and re-educate myself” (P15/2)

Socialisation into Nursing

It was apparent that socialisation and learning in nursing practice was an important feature for participants as both student and registered nurses. Socialisation is the process which starts during nurse education and continues throughout a nurses career (Dinmohammadi et al., 2013; Kay, 2015; Strouse & Nickerson, 2016). Socialisation in nursing, occurs through social interactions with colleagues in clinical practice and can have both positive and negative consequences concerning the development of the nurses (Gray & Smith, 1999; Mackintosh, 2006; Kay, 2015). Service improvement confidence was not always experienced by student participants, who arguably had not yet been fully socialised into the nursing community of practice. One student participant felt they did not really belong to the clinical area team they were trying to make improvements with,

“As a student I think it is difficult to fit in, you haven’t been properly socialised into the team” (P20/1).

Another felt the same, describing having to “fit in” as a pre-requisite to making changes of any kind:

“You don’t feel you belong. It doesn’t matter what you do. You have to just learn to fit in. You’re not part of the social scene. I felt not supported [in service improvement activity]” (P7/1).

Several suggested they tried to join conversations to develop relationships with work colleagues, but were ignored:

“They did not like the idea of me coming in as an outsider and changing [service improvements]. You don’t fit in. You would go to lunch and try and join the conversation and they would blank you. It wasn’t sociable” (P13/1).

At a time when retention of nursing students on their course is a national priority, this perceived lack of support for them on placement is of concern. However, this perception changed when the nurses were qualified and employed in their first job. Fitting in and having supportive relationships was perceived as important:

“As a student you weren’t embedded in a culture or in a team quite yet. You were an outsider with outside views which is sometimes good, but when you are working here all the time it is easier to pick up the things that need a little bit of help” (P2/2).

This sense of becoming an “insider” is an indication of the participants’ socialisation into the nursing profession post qualification. Another qualified participant also reflected on how different she felt as a student:

“When I look back to being a student, I don’t think I was ever really part of the team. Compared to now” (P8/2)

Power and powerlessness in the clinical setting

As students and later as registered nurses, the participants discussed an awareness of power in context of making changes through service improvements. The participants were aware of power as a dynamic in the clinical environment and that this influenced how they approached and undertook service improvements in practice. Power and powerlessness emerged as an important feature in how participants experienced service improvements in nursing. Nursing occurs in a social environment, where power impacts nurses in context of their working situation (Gray & Thomas, 2005; Bradbury-Jones et al., 2008). Power pervades social norms and sustains power imbalanced relationships (Potter, 2003) (Gray & Thomas, 2005). In this context, this theme had three related sub-themes namely: 'personal influence', 'fear of failure' and 'professional responsibility'. Student participants were aware of the power imbalance in the clinical environment and this influenced how they approached their service improvements projects. Some felt powerless because of their student nurse status:

“There was nothing, nothing [service improvement] I could do as a lowly student nurse” (P2/1).

Another who also felt powerless, suggested that common assumptions were that service improvements were implemented in a “top down” way, driven by people more “senior” with more organisational power:

“I am still in my little white student nurse uniform, not higher up. I have no power. I think a lot of people expect service improvement to come from higher up” (P9/1).

This perception reflects a lack of confidence as a student for engaging in “bottom up” improvements and change. As registered nurses participants noted a tangible change in their power, status, responsibility and authority in making improvements:

“It’s completely different looking back. [as a staff nurse] I am aware of it [service improvement] in everything I do. I am aware of small things every day that you can do to improve the service. You can see where the flaws. We have the power now to say, ‘maybe we can change this?’” (P16/2).

Another clearly felt empowered in her newly qualified status, able to suggest pro-actively changes:

“Now when qualified, you do have a say [in service improvement] and it’s important that I do speak up and you do have the power to say how things are done” (P1/2).

Another participant recently qualified described the transition phase between student and becoming registered nurse as being an optimum time to engage in service improvement:

“Looking back, you are in the best place, you just come in from university with new eyes and want to improve” (P2/ 2).

This suggests that harnessing service improvement enthusiasm in the important preceptorship period and empowering graduates, might be a way of maintaining the sustainability of service improvement learning and practice.

Overcoming service improvement challenges

Theme Four was ‘Challenges in changing practice’. There were several sub-themes associated with challenges to change. These included ‘mentors and staff as practice based support’; ‘ward manager as change agent’, ‘resistance to change’ and ‘ritual and routine. Positive relationships in clinical practice were key enablers for overcoming challenges in implementing service improvement. For students, perhaps understandably, it was the positive, effective mentors they had encountered who helped them to feel good about their service improvement efforts:

“It depends who you work with. You can have some mentors, who are quite good at facilitating change and asking for ideas and they have some respect for the student, you are not just another body” (P19/1)

“My mentor was brilliant, she respected student nurses.....She was a role model for me [in service improvement]” (P14/1)

Some of the qualified nurse participants reflected on their student experiences. They were able to make comparisons between their experiences then and now, in trying to overcome service improvement challenges. They also identified relationships within teams as factor influencing nurses' ability and opportunity to challenge and improve practice:

“As a student you don't have the confidence to implement anything, I guess it's how well you get on in the team but moving from placement to placement all the time makes it really difficult. As a qualified member of the team, you get on well with everyone. You fit in and you wouldn't be afraid to say to someone; ‘maybe we can do it this way?’” (P5/ 2).

Having colleagues on the ward with a research role seemed to be something that could enhance receptivity of staff to new ideas to try out:

“I would go and see the other nurses and see what they thought, if there was enough ‘oomph’ behind it. We have a lot of research nurses They are a great support” (P4 /2).

People focused ward managers were key enablers in empowering qualified participants to make improvements:

“Definitely our ward manager supports change and values your ideas and always listens to what you have to say” (P6/2).

“She [the sister] was really receptive. She was a great help to me” (P2/2).

Strong leadership skills were identified by another as pivotal to embedding a service improvement culture where challenges could be overcome:

“They [ward manager] is confident, they are a strong leader. They are supportive, open to staff opinions; not only listening to senior staff member, but to everybody” (P16/2).

Self-determination was identified as a way of overcoming the challenges of implementing service improvement. One student participant said:

“I just got on with it [service improvement]; I got a bit more confident. Sometimes you can’t please everyone; you just have to get on with things” (P9/1).

Several qualified participants discussed how, despite challenges, they would persevere, believing they had an important role to play in improving care for patients:

“If you don’t look at how you can improve your services, you don’t improve things for your patients. There is not going to be any advances, you are not going to use any evidenced based practice” (P2/2).

One participant suggested continuous improvement and change was essential to ensure patients received the best, contemporary evidence-based nursing care:

“If you are stuck in your ways and set in a certain pattern you are not always going to meet everybody’s needs and it could be detrimental to patients” (P4/2)

Figure 3 Initial theoretical developments emerging from the four key themes

Discussion

This study aimed to better understand the service improvement experiences of participants as student nurse and throughout their first year of post registration practice. Across the themes identified, common behaviours helped participants engage in service improvement, sustaining their knowledge and enthusiasm post qualifying. The participants were revealing behaviours, which they had developed in

response to their learning and experiences of service improvement in nursing. These “positive adaptive behaviours” are consistent with Bandura (2002) who found that effective problem solvers are motivated to improve their own practice. The adaptive behaviours identified included: **valuing positive role models; developing reflective practice; becoming a lifelong learner; growing in confidence; playing the game to fit in; adapting to role transition; and seeking ward manager feedback and support.**

Valuing positive role models: Several participants (9/14/17/19/2) talked about role model mentors and colleagues. They described how their sense of self efficacy had grown from watching and learning from them as students, seeking to emulate them as qualified nurses. Positive role modelling in nursing usually occurs through a process of mentorship, helping students fit in and develop the skills necessary for professional practice (Elcigil & Sari, 2008; Gignac-Caille & Oermann, 2010; Huybrecht et al., 2011; Houghton 2014; Luanaigh 2015). This study has identified that service improvement role models are also important for students and new registrants.

Developing reflective practice: Many of the participants (2/8/7/13/20) reflected on their service improvement experiences. In keeping with other research (Hatlevik, 2012), participants perceived that reflection helped bridge the service improvement theory – implementation gap; facilitating development of their identity and knowledge as service improvers. Through reflection participants developed resilience, as in other studies (Jackson et al., 2007; Thomas & Revell, 2016). Reflection also helped them to identify strategies to overcome service improvement challenges, believing passionately in the positive impact service improvement has on patient care. Bandura (1971b) found that learners model their behaviours through being self-reflective and being self-reactive.

Becoming a lifelong learner: Participants 2 and 15 discussed preceptorship and lifelong learning as being integral to the nursing role (Benner, 1984; NMC, 2018). Other studies have shown professional development started in the pre-qualifying period, continues throughout a nursing career through lifelong learning (Davis et al., 2014; Coventry et al., 2015). In this study, the preceptorship period was crucial for sustaining and further developing service improvement learning. A service improvement mindset was synonymous with a lifelong learning philosophy mindset. Where confidence dipped, participants would return to study the theory underpinning their practice. Effective ward managers were viewed as those willing to listen and learn from students, as well as qualified staff, where new learning could improve patient care. Effective integration of lifelong service improvement learning into a clinical practice setting culture will also have positive benefits for future students.

Growing in self-confidence: Those participants (2/4/5/6/14/19) who felt supported in practice developed more self-confidence as service improvers. Conversely, a lack of support from mentors and colleagues impacted negatively on participants' confidence as change agents. Other research also indicates student nurses develop self-confidence in practice through positive mentoring experiences, peer support and being successful in practice (Bahn, 2001; Chesser-Smyth and Long, 2013). Self-confidence is linked to self-efficacy and reflects an individual's perception of their own ability to perform a goal or task (Bandura, 1997; Potter & Perry, 2001). Qualified participants described growing service improvement self-confidence and self-efficacy through reflective practice and colleague support.

Playing the game to fit in: Several participants (20/7/13/8) described developing what might be called "belongingness" in social psychological terms; through social contact, working on incremental acceptance and becoming an integral component of the group in the clinical practice area (Maslow, 1968; Baumeister & Leary, 1995).

Studies suggest nursing socialisation starts during training, through social interactions in practice placements, continuing throughout a nursing career (Gray & Smith, 1999; Mackintosh, 2006; Dinmohammadi et al., 2013; Kay, 2015; Strouse & Nickerson, 2016). As students, participants perceived their lack of confidence in making service improvements, was linked to feelings of not fitting in or lack of belonging; exacerbated by the short length of time spent in any one area. They described the adaptive behaviours they adopted in order to fit in such as using previous work and personal stories to start conversations. Some participants perceived that these casual, non-threatening conversations could help them get their service improvement ideas accepted.

Adapting to role transition: Role transition was an important point in the participants' service improvement experiences. As students, some participants felt powerless to make service improvements. Research suggests social norms in nursing sustain power imbalanced relationships; where this is negative it can affect practice efficacy (Potter, 2003; Gray & Thomas, 2005; Bradbury-Jones et al., 2008). Some participants described a feeling akin to 'transition shock' (Duchscher 2009) in the newly qualified period, finding it hard to cope with the competing demands of clinical practice and ongoing learning; including service improvement learning. This is in keeping with other research suggesting role transition is complex and challenging (Maben et al., 2006; Feng & Tsai, 2012; Hatlevik, 2012). In this context, some participants also found it hard to make service improvements during role transition unless it was part of their pre-ceptorship programme expectations (Chang & Hancock, 2003; Schoessler & Waldo, 2006; Duchscher, 2008; Duchscher, 2009; Feng & Tsai, 2012; Hatlevik, 2012). Nevertheless, through professional transformation, participants (1/2/4/16) recognised an increased accountability and responsibility for making service improvements now they were qualified.

Seeking ward manager feedback and support: The majority of participants (2/4/5 12/9/16) described ward managers as important in fostering a culture of service improvement and change. The significance of the ward manager in creating ward learning cultures is well documented (Orton, 1981; Fretwell, 1982; Ogier, 1986; Welsh & Swann, 2002; McGowan, 2006; Carlin, 2013). Whether student participants felt empowered to make service improvements, mainly depended on ward manager leadership. This leadership was also identified as important by qualified participants. Active engagement from those in senior positions is critical to successful service improvement (Gollop et al., 2004). Nurses can experience high levels of empowerment when ward managers nurture perceptions of autonomy and confidence (Madden, 2007). This study confirms that ward manager leadership is integral to nurse-led service improvement models (Shafer & Aziz, 2013).

A model of self-efficacy in service improvement enablement

The seven positive adaptive behaviours identified, underpinned a process of participant professional transformation towards self-efficacy (Bandura 1997). With increasing resilience, they felt more empowered to make service improvements as they transitioned from student to registered nurse. The 'Model of Self-efficacy in Service Improvement Enablement' brings together these positive adaptive behaviours as a way of understanding how participants' education and practice was interrelated to influence their service improvement learning and practice.

Figure 4 : Model of Self-efficacy in Service Improvement Enablement

Although the model is presented as a linear process, the rate of service improvement engagement and development differed between participants; influenced by the context of their learning and practice. However, by the time the participants had made the transition from student to registered nurse, they had all achieved a degree of empowerment, resilience and transformation, enabling them

to move forward with service improvements in their own work context. This model offers an explanation for other research which found that nurse-led service improvement requires knowledge and skills that must be continually practiced and refined in order to be successful (Wilcock & Carr, 2001; Christiansen & Griffith-Evans, 2010).

Nursing undergraduate and preceptorship programmes should focus on developing these positive adaptive behaviours towards sustainable service improvement knowledge and skills. Policy makers at local level need to ensure that students and new registrants are supported by ward managers in their implementation of service improvement projects in order to develop their service improvement self-efficacy. Further research with other professional groups and in different healthcare contexts is needed to refine and test the model.

Limitations

This study took place in one university and NHS Foundation Trust. It is therefore context specific; participants were adult nursing only. This reduces findings transferability.

Conclusion

This study explored service improvement experiences of adult nurses as students and qualified practitioners. It showed they used positive adaptive behaviours to navigate their service improvement learning and practice contexts. The process of becoming service improvement practitioners has been explained through the *'Model of Self-efficacy in Service Improvement Enablement'*. This provides a framework for understanding how nurses undergo concurrent processes of professional transformation, empowerment and resilience building, through service improvement experiences. Ward management leadership approaches, supportive colleagues and an opportunity to practice service improvement skills pre-qualifying and in the

preceptorship period, were identified as essential to develop and sustain service improvement capability. This was important for participants as students but also as qualified nurses, where they believed service improvement practice could be sustained through reflection and lifelong learning. For all participants the central motivation to push past challenges encountered was a commitment to improving care for the patients they were caring for. This study's findings can inform the practice of nurse educators, practitioners, policy makers and healthcare delivery organisations; thereby potentially making a contribution to global efforts to embed a service improvement culture for the ongoing benefit of all.

Reflection points

- How do I view service improvement in practice ?
- What skills and knowledge do I have to help me make service improvements in practice?
- How can I meet the gaps in my knowledge and practice?
- How do I support learners in practice in identifying and making service improvements?
- How can I make service improvement central to nursing activity ?

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