Abstract

The invisibility of nursing work has been discussed in the international literature but not in relation to learning clinical skills. Evans and Guile's (2012) theory of recontextualisation is used to explore the ways in which invisible or unplanned and unrecognised learning takes place as newly qualified nurses learn to delegate to and supervise the work of the health care assistant. In the British context, delegation and supervision are thought of as skills which are learnt 'on the job'. We suggest that learning 'on-the-job' is the invisible construction of knowledge in clinical practice and that delegation is a particularly telling area of nursing practice which illustrates invisible learning. Using an ethnographic case study approach in three hospital sites in England from 2011-2014, we undertook participant observation, interviews with newly qualified nurses, ward managers and health care assistants. We discuss the invisible ways newly qualified nurses learn in the practice environment and present the invisible steps to learning which encompass the embodied, affective and social, as much as the cognitive components to learning. We argue that there is a need for greater understanding of the 'invisible learning' which occurs as newly qualified nurses learn to delegate and supervise.

Key words: newly qualified nurses, delegation, invisible learning, preceptorship

Delegation and supervision of health care assistants' work in the daily management of uncertain and the unexpected in clinical practice: invisible learning among newly qualified nurses

The invisibility of nursing and caring has been considered in the literature (Allan, 2002; Strauss, Fagerhaugh, Suczek & Wiener,1982; Wilkinson & Miers, 1999) before. Such work has tended to focus on the invisibility of nursing at the structural level as a feminised occupation (Gamarnikov, 1978; Oakley, 1993), or at the epistemological level where it is argued, the knowing at the heart of nurses' work is overlooked in favour of biomedical knowledge (Allan & Barber, 2005; Bjorklund, 2004; Miers, 2002). We discuss an aspect of invisible nursing work, namely the invisible learning newly qualified nurses (NQNs) engage in when learning to delegate bedside nursing care to health care assistants (HCAs) and supervise their performance. The delegation of caring work by nurses to HCAs has evolved over time and bedside care is largely undertaken by HCAs (at least in the UK) (Francis, 2013); yet how nurses learn to delegate and supervise this aspect of bedside care remains an invisible part of both the nursing curriculum and practice. We build on ideas around the invisibility of feminised work in *nursing* (Oakley, 1993) and the devaluation of bedside *nursing* care (Allan & Barber, 2005) to draw attention to invisible learning of these forms of work by nurses as they delegate to and supervise HCAs. This invisible work is sometimes referred to as comprising 'soft', interpersonal (Bolton 2004) skills based on 'personal attributes' (Windsor, Douglas & Harvey, 2012); invisibility, feminine soft, personal and interpersonal skills are frequently conflated. The learning of these skills has not been studied in nursing, and delegation and supervision appear not to be taught or assessed in the curriculum or in clinical practice to the same extent as other skills.

In this paper, we address this gap in the literature to consider delegation and supervision of HCAs by newly qualified nurses (NQNs) and discuss their invisible learning as they begin to delegate and supervise HCAs' work. We draw on empirical data from ethnographic case studies (Magnusson, Horton, Curtis, Westwood, Ball, Johnson, Evans & Allan, 2014).

Literature review

Invisible learning has been discussed in relation to the hidden curriculum which entails the 'processes, pressures and constraints which fall outside…the formal curriculum and which are often unarticulated or unexplored' (Bignold & Cribb, 1999; 24). It has also been used to describe a set of influences that function at the level of organisational structure and culture including, for example, implicit rules for how to survive the institution, such as customs, rituals, and taken for granted aspects (Lempp & Seale, 2004). According to Bjørnavold (2000) unplanned learning in work situations is invisible in the sense that 'it is difficult to detect and appreciate'; and that much of 'know-how' is invisibly learnt through practice and through painful experience. We have argued in a previous paper that knowledge recontextualisation delineates the ways in which previously invisible and inter-related knowledge, knowledge which is unplanned and unrecognised (Evans Guile, Harris & Allan, 2010). In this paper we argue that this learning, if reflected upon, becomes explicit and linked for NQNs, enabling them to develop confidence in their ability to manage the staff with whom they work (Magnusson et al., 2014). Our work has contributed to a discourse on the relationship between theory and practice by critiquing the idea of knowledge transfer and suggesting the use of recontextualisation of knowledge. Here, we develop this perspective further, to explore the ways in which invisible learning takes place as NQNs

encounter the uncertain and unexpected as they learn to manage patient care in clinical areas through the development of their delegation and supervision skills. In doing so we develop an empirically based description of invisible learning in NQNs' practice of delegation and supervision; one which captures the invisible, unrecognised and unplanned steps to learning and which encompasses the embodied, affective and social, as much as the cognitive, components to learning. We describe four steps: 1) learning through mistakes; 2) learning from difficult experiences; 3) informal learning from colleagues; and 4) 'muddling through' to illustrate invisible learning. We argue that invisible learning was observed amidst the pressures and constraints of working in a team which relied heavily on HCAs (Magnusson et al., 2014), and the rules and rituals (Allan, Magnusson, Ball, Evans, Horton, Curtis, & Johnson, 2015) and expectations of NQNs (Johnson, Magnusson, Allan, Evans, Ball, Horton, Curtis & Westwood, 2014) which formed an integral part of the workplace culture.

This article reports on one aspect of a wider UK research project (Magnusson et al., 2014) which explored how NQNs recontextualise knowledge learned during training to practice as a qualified nurse. A key theme which emerged from the study was 'invisible learning,' an informal learning process distinct from more formal learning mechanisms. A particular area where invisible learning was observed was nurse delegation to, and supervision of, HCAs in performing bedside nursing care. While delegation and supervision of nursing care are crucial to the safe, effective and efficient delivery of bedside care, and failures in such work can result in risks to patient safety and patient outcomes (Anthony & Vidal, 2010; Standing & Anthony, 2006), this is the first observational study of learning to delegate and supervise.

Despite the increasing relevance of delegation and supervision for the role of the modern nurse (Gillen & Graffin, 2010; Standing & Anthony, 2008; Weydt, 2010), these skills do not form a central component of undergraduate nurse programmes or preceptorship programmes in the UK. These were introduced to support the transition from student to registered nurse usually in the first six months of qualifying (Hasson, McKenna & Keeney, 2013). Preceptorship programmes are variable across individual clinical settings (de Wolfe, Perkin, Harrison, Laschinger, Petersen & Seaton, 2010) with a programme lasting from between two weeks in one hospital to one year in another and NQNs entitled to one week of supernumerary practice to one month. The preceptorship phase can be a reality shock (Hollywood, 2011) with many NQNs feeling as if they have been 'thrown in at the deep end' (Whitehead & Holmes, 2011, 19), left to 'sink or swim' (Hughes & Fraser, 2011, 382) or 'fumble along' (Gerrish, 2000, 473). It is therefore important to understand how NQNs make sense of (recontextualise) knowledge learnt in the university as they begin their new roles, and also to interrogate whether the knowledge taught serves NQNs' self-perceived needs. This process of learning in new contexts is sometimes referred to as knowledge transfer or knowledge translation (Kothari, Bickford, Edwards, Dobbins & Meyer, 2011) that is, the transfer of knowledge taught in university to difference clinical settings. However the concept of knowledge transfer (KT) is contentious (Evans & Guile, 2012; Kothari et al., 2011) with Kothari et al., (2011) suggesting that learners use an interaction-based approach to knowledge transfer rather than a *simple* single act of transfer. It has been suggested that 'invisible learning' can play an important role in nurses' informal learning (Eraut, 2004) and can be central to whether, and how, NQNs are able to make the successful transition during preceptorship (Bjørk Tøien & Sørensen, 2013).

We draw on Evans and Guile's work (2012) which stresses a new approach to understanding professional knowledge, "one which concentrates on different forms of knowledge including those manifested in 'skills' and 'know-how' and embedded in communities as well as propositional knowledge" (2012, 245). This is not knowledge transferred but knowledge recontextualised. Evans and Guile (2012) have shown how curriculum designers recast disciplinary knowledge (*from its disciplinary origins*) and workplace knowledge (*from its professional and/or vocational contexts*) and combine them in learning programmes, to lay the foundations for knowledgeable practice. In the classroom, teachers may choose pedagogic strategies, such as 'real life' case studies or problem-based learning to pre-figure the demands of practice for new entrants (or to simulate new situations through 'learning labs' for experienced workers). But, most importantly, knowledgeable practice develops through learning in and through the workplace itself, through observation of others; through mentorship, coaching and peer learning and by drawing on new ideas and experiences accessed through work and, often, beyond work. Timetabled sessions and instruction in nursing preceptorship programmes can introduce codified, procedural and work process knowledge but unlike disciplinary or subject knowledge, where there are clear criteria leading to the goal of greater abstraction and depth in understanding, there are few rules about how to structure and sequence the content towards the goal of knowledgeable practice, as the latter depends on invisible learning. The invisible learning is often triggered by the activity and the context. Knowledge recontextualisation takes place when the NQN recognises a new situation as requiring a response and uses knowledge – theoretical, procedural and tacit - in acts of interpretation in an attempt to bring the activity and its setting under conscious control (van Oers, 1998). When the interpretation involves the enactment of a well-known activity in a new setting, an adaptive form of

recontextualisation takes place as existing knowledge is used to reproduce a response in parallel situation. Where the interpretation leads the learner to change the activity or its context in an attempt to make a response, a productive form of recontextualisation takes place, as new knowledge is produced. Knowledge recontextualisations are fundamental to workers beginning to enact existing workplace activities; or working with experienced others to modify change them in the face of unexpected occurrences or the need to find new solutions. In the clinical context, forms of knowledge are embedded in routines, protocols and artefacts as well as in organisational hierarchies and power structures (Allan et al., 2015; Evans et al., 2010). As well as learning to participate in workplace activities and to use protocols and artefacts, newly qualified practitioners use work problems as a further 'test–bed' for theoretical and subject-based knowledge. This is facilitated when workplaces create stretching but supportive environments for working and learning and learners take responsibility for observing, inquiring and acting. Learners, through a series of such knowledge recontextualisations, come to self-embody knowledge cognitively and practically. This is a process that is invisible in the sense introduced earlier, as it is difficult to detect and appreciate.

Methods

Our research aim was to understand how NQNs recontextualise knowledge to allow them to delegate and supervise nursing care on the wards when working with and supervising healthcare assistants. Ethnographic case studies (Burawoy, 1998) were conducted across three hospital sites selected for maximum variability (see table 1).

<Please insert Table 1 around here>

Ethical approval was obtained from the National Health Service Research Authority (NRES), each participating hospital research and development committee,

and each team member's university ethics committee. The research team met to plan shared observation and interview schedules; data were collected by all members of the research team through participant observations (approximately 230 hours) and semi-structured interviews, with NQNs, HCAs, and Ward Managers/ Matrons. Observations were located in hospital wards, following a NQN for a shift as s\he worked with the HCA assigned to the same group of patients and in particular focusing on their delegation and supervision practices. Observations included all nursing activities undertaken on a shift from arranging discharges, washing and toileting patients to making beds, doing the drug rounds and writing up nursing notes. Shifts included night shifts, handovers, and transfer of patients between clinical areas; three team members who were nurses worked alongside NQNs as participant-observers while two non-nurse observers maintained a fully observer role. As much as possible, interviews with NQNs followed observations of those same NQNs working with HCAs and interviews were also held with the HCAs they had worked with and their ward managers. (See Table 2 for full details of data collection). Staff were invited to participate by letter and were consented to participate before each observation and interview. Patients, while not the focus of the research, were consented to participate in the observations.

<Please insert Table 2 around here>

Observations notes and interviews were transcribed verbatim by a transcriber. Data were analysed using thematic analysis (Guest, MacQueen & Namey, 2012) both manually and with the qualitative software NVivo by one researcher and then raw data and themes shared at two data analysis workshops with all the researchers.

Findings

Our findings highlight the importance of both visible and invisible learning to NQNs. Visible learning was evident in time-tabled preceptorship activities, assessments and mentorship. However, as we observed NQNs across three hospitals for substantial periods (230 hours), we observed numerous examples of invisible learning in practice, as well as examples of visible, formal learning. According to our analysis, this largely invisible learning took four main forms: learning through mistakes; learning from difficult experiences; informal learning from colleagues; and 'muddling through.'

Learning through mistakes

The NQNs encountered unexpected situations on a daily basis, and as part of recontextualising knowledge learnt at university, they also learnt through making mistakes. The findings demonstrate that the NQNs made mistakes ranging from minor to more serious, and that this was constantly on their minds as they were charged with taking on more responsibility:

> *I think you learn from your own mistakes and other people's mistakes as well because you know, there's a lot of 'this could go wrong, this could go wrong' but when like you're actually faced with it yourself you sort of realise it and it's the little things that happen like that cause like a bigger error and then that's it you have to take a step back then and think 'god, what else could go wrong?' (Site A NQN14)*

Ward managers were aware that making mistakes was a part of learning for NQNs. On wards where nurses felt well-supported, there were strategies which provided them with a safety net during this period of 'trial and error' as this ward manager suggests:

> *I'm not going to let you make a mistake, ….. so it's about having safe challenge, it's about if I see you doing something wrong I'm going tell ya and I'm not telling you to get at you I'm telling you because one I don't want you to hurt the patients and two I don't want you as a person to make a mistake and it's about having that safety backup (Site A ward manager3)*

This extract highlights the approach of ward managers who practiced a 'safe challenge' strategy which empowered NQNs to talk openly about when things nearly went wrong; in a sense these ward managers carried the burden with them and supported them. Allowing health professionals to reflect and learn from patient safety incidents is supported by current healthcare policy. However, so-called 'blame and shame' patient safety cultures are still common in healthcare organizations which obstruct the possibility of learning from errors (Feng, Bobay & Weiss, 2008). On wards where there was a 'safe challenge' approach, NQNs felt more able to learn from mistakes in a safe way:

> *If you keep thinking 'I'm going to make a mistake' then you will make a mistake but I know the support's always there and the support workers and the HCAs here are really good so, I know that if I was, if I'd a problem that there's them and there's other nurses in the other teams as well so I know I can go to them, so I know the support here is really good on this ward. (Site A NQN12)*

But in some cases, where a mistake had been made and an even more serious one averted, the learning was painful as this nurse describes. She had relied upon a healthcare assistant to check that the patient going to theatre had the correct name on the wristband, and consequently, had signed off the paperwork.

I've had lessons along the way that I won't trust them again to, to do something correct, yeah, because I've learnt the hard way really … the anaesthetist came back and they said 'the patient had a wrong wrist band on her leg', 'she had the patient's name of another patient on her leg' and the care assistant had put [it] on her leg and I hadn't double checked it (Site B NQN2)

A mistake had obviously been made and a serious untoward event report was raised against this nurse. She expressed deep regret about this incident, but felt that she had learnt and would never make the same mistake again. The risk of unsafe mistakes can be profound, for both patient and nurse, as was highlighted by this ward manager:

I've worked in other places where newly qualified nurses because they've worked there as their last placement, people see it as an automatic transition that they will just come in and fit on the off duty and be a qualified nurse all of a sudden… that will knock their confidence completely if they pick up bad practices straightaway, they'll start cutting corners, they won't deliver on what's been asked of them and they'll fail, you know and we are setting them up to fail if we do that, so a big belief of mine is to embed what they've learnt in the last three years and try and sort of ease them into that, you know, and embed good practice from the beginning really. (Site A ward manager1)

We suggest that good support structures at the level of the ward were crucial for the NQNs as they navigated through their new status as staff nurses with its attendant greater responsibly and higher levels of authority. It was evident that the risk of making mistakes and potentially harming patients made NQNs scared, and for some the emotional burden was so great that they moved into denial:

> *Like fear, like you're straightaway scared and then like you feel bad if the patients'*
> *been hurt and then if, anything worse I don't think, I can't think about it, because*
> *causing harm to a patient that's what we're not supposed to do, we're to do the*
> *opposite so if you do cause harm even if it's just by mistake it's not, its, I just don't*
> *want to think about it really. (Site A NQN14)*

Learning from mistakes can be a powerful learning tool where knowledge may be effectively recontextualised from practice experiences. However our findings indicated that experiential learning can also be traumatic, particularly if there is little or no reflective space and can, in turn, produce poor practice 'cutting corners'. It can also result in patient safety being compromised.

Learning from difficult experiences

Our findings suggest that some of the NQNs were under-prepared for particularly demanding situations, including major emergencies, and the deaths of patients. Experiencing such situations, coming to terms with them, and developing confidence in the ability to handle them, are crucial to the NQNs' successful transition to qualified nurse:

> *A lot of student nurses have never been exposed to cardiac arrest, so in that*
> *situation the nurses struggle because it is a difficult situation and it's not one that*
> *you have a lot of the time [with]… (Site C ward manager4)*

> *I had my first cardiac arrest a couple of months, well at least a couple of months*
> *ago now, but it sounds, this sounds awful but because I've had that I'm not scared of*
> *it happening again now. (Site B NQN9)*

These two extracts highlight the significance of NQNs encountering, and learning to cope with, cardiac arrests, and how the experiencing of successfully dealing with one can be a significant confidence-builder. However for some NQNs a major incident which does not have a successful outcome, and/or where there has been inadequate support, can be traumatic as an observation field-note suggests:

> *NQN tells me she is nervous when lights are off in bay at night because she can't see the patients. She would like to have the light on by every bed. But luckily the patient with a trachy[eostomy] which needs clearing is by a window and light is on, good. She explains to me that this patient could die if she does not look after her properly – big responsibility. She also talks about something that happened last year where a young person died in her sleep during the night when it was dark. I asked if they knew why patient died. Nurse say she never heard about the cause of death. (Site A obs1)*

It was evident that the lack of light in the night made this NQN very anxious, as she felt that she could not effectively observe the patients in her care. She used a torch to illuminate the faces of patients as she walked around the beds in the dark. In addition, she associated darkness with the death of another young patient who had sadly died on her ward and this worried her. The NQN expressed fear that this could happen again with one of her patients. What appears to have been a major factor for the nurse was not just the patient's death, but also not knowing why the patient had died, and not having had the opportunity to debrief about it afterwards.

The data suggest that good support structures at ward level are crucial for NQNs during their preceptorship period. It was evident that major events had the potential to either build or undermine confidence, dependent upon both the outcome and also how

the incident was dealt with, and whether the NQN was supported in making sense of the experience, or in other words, recontextualising knowledge.

Informal learning from colleagues

Our analysis suggests that invisible learning with and from colleagues takes three main forms: observation, informal discussion, and 'osmosis' (unconsciously absorbing practice styles and skills from others). This nurse describes how much she learned from watching a patient being told she had a terminal condition:

> *Yeah, and I watched, I was in once with a lady who was my patient and she'd just been told that she had terminal bowel cancer and the bowel specialist nurses in there and they had a consultant in, so I went in as well, but I was watching how, I was using it, because I didn't, I didn't say anything because you know, I was watching it, how they dealt with, and I picked up a lot of really good communication skills from, from them. (Site C NQNS1)*

This NQN is highlighting the importance of being able to witness, and draw knowledge from the handling of a particularly difficult, and sensitive, situation.

Participants also described learning from more experienced HCAs as this HCA herself observes:

> *They [NQNs] need support, they need a lot more support than obviously the staff that have been here a long time. But we are a good team I think, and we do give them all the support they need … I've known recent ones [that] have asked me things, which I think, 'Why are you asking me?' But obviously because I've got experience and I've done the job for a while they know they I know quite a lot of things…. (Site A HCA3)*

NQNs in our study were themselves aware that they could learn from HCAS also:

'I think, what I've noticed is these support workers know more things than we do, they know a lot, it's like you think all they do is making beds but when you're doing a ward dressing, they will do best dressings, because they've been here for long time … better than us, and… as a newly qualified I found a lot of help from the support workers.' (Site C NQN8)

Both these extracts highlight the value of informal support with colleagues whether qualified nurses or not. However, while it was recognised that NQNs could potentially learn a lot from HCAs, some participants were concerned about the safety aspects, as this HCA observed:

I was with another staff nurse who'd been here for a while as well and this newly qualified nurse was taking out a patient's drain and she wasn't sure how to do it, but I knew how to do it anyway because I've observed, I don't do that myself but we were telling her and I was telling her 'this is how you do it', I'm not even, I'm not even qualified to do that because I don't do that but when I'm telling her this is how you do it – I shouldn't be telling her like she should know already … because otherwise you're kind of, you're walking in the dark otherwise and you know, you're putting, you're putting patients at risk if you don't know.(Site A HCA2)

This extract shows that there may be risks attached with less structured learning, and, in particular learning from less qualified colleagues. Many NQNs spoke of the benefits of informal discussions with their peers:

> *… and people just talk about it and you'll be like 'yeah, yeah, I've done the same' or*
>
> *'I've done similar' or 'how have you done that', you just sort of, you know, peers I*
>
> *suppose, learning from peers…. (Site A NQN9)*

So, here we can see the importance of being able to informally discuss scenarios with peers, and of exchanging ideas and experiences, and also of mutual identification.

Invisible learning by 'osmosis' involves absorbing good practice from colleagues without being fully aware of doing so:

> *Ensuring that they've got qualified staff working with them and what we try to do*
>
> *is we try to mix the staff that they work with, so although they have a preceptor we*
>
> *try and get them to work with different staff so they can see how different people*
>
> *work and they can pick the best traits out of each of members of staff. (Site A ward*
>
> *manager2)*

This type of learning also has its advantages and disadvantages: nurses could potentially pick up 'bad' as well as 'good practices' by unreflective working with more experienced colleagues. This highlights the importance of reflective spaces to encourage critical thinking among nurses, especially NQNs.

Muddling through

Despite the presence of formal preceptorship programmes, participants nonetheless described their experience of preceptorship as 'muddling through' uncertainty in delegating and supervising work delegated to HCAs; they described using routines to manage this muddle, to make things 'fit into place':

> *It just seems like a muddle when you start and then after six months it all seems to*
>
> *fit into place. (Site B NQN2)*

This 'muddling through' involved a period of struggle as the NQNs tried to gain mastery over delegating and supervising HCAs; mastery which over what was a stressful experience, a 'struggle' as they learnt the work routine and coped with low staffing:

> *I did struggle [at] first, like maybe month, two months nearly, until I got myself a round routine and then, then it's gone better and better now, now it's, if we've got enough staff then if the staffing levels are good, then yeah you can get a job done, without too much stress and I can actually finish on time. (Site A NQNS2)*

Many NQNs thought the period of 'muddling through' was a necessary part of their adjustment to becoming an effective delegator, a confident, nurse who could supervise HCAs in their work:

> *They did, they did sort of give you lectures about you know, how to, to delegate and what have you and how to use those kinds of skills but I don't think anything prepares you for it until you come in the job because you can, you can kind of theorise about how you're going to do it but its, you have to adapt to your surroundings and who you're working with and I think only by doing the job and getting your confidence up as a qualified nurse that's how you kind of learn to do it and how to do it really. (Site B NQN7)*

For some nurses, 'muddling through' as they learnt to delegate and supervise for a group of patients was not a successful experience, 'you're given too many responsibilities too soon. 'Muddling through' could contribute to attrition rates amongst their peers.

> *It's really sad you know, a lot of my friends who qualified as nurses the same time as me have left nursing altogether. There's not enough support on the ward, not*

enough senior staff, newly qualified nurses are put upon and given too many responsibilities too soon... It's worn me down. You don't expect to be worn down in your first six months, you know. You come in all enthusiastic, you want to make a difference, you want to be the best nurse that you can, but then there's no support, and so much pressure, and you're not allowed to flourish. (Site B NQNF)

For other nurses, however, the 'muddling through' eventually led to a successful transition. Here the NQN reflects on becoming more confident as she realises that she has the knowledge to delegate and supervise 'wherever it was stored' and she does this through personal reflection and through discussion with others:

The knowledge was there I just didn't feel that it was there and I didn't feel that I knew enough but then when I started talking about it and doing it and pulling things you know from wherever it was stored I thought 'wow, I do know this', you know, 'wow, where did that come from?', I do know what it is to be a nurse … you look at yourself in the mirror and think 'I can do this, I am a nurse', you know I am a good nurse' (Site A NQN13)

These data would suggest that NQNs need extensive support, both formal and informal, during their period of 'muddling through' to learn to delegate ad supervise HCAs. Without this support, quality of care and patient safety may be compromised.

Discussion

In the four types of invisible learning identified, we suggest that NQNs strive to manage uncertainty and bring order to unexpected and new situations in ways which use, stretch and challenge their knowledge in all of its forms. The NQNs learn not only to enact established workplace practices and procedures but also to modify their responses in the search for solutions to unexpected occurrences or in the light of

experiences of mistakes they, or others around them, have made. They learn through

this process to develop their judgment of what constitutes safe practice, and enact it

through effective delegation or appropriate situations for learning from co-workers.

Learning through difficult experiences and mistakes are most readily associated with

productive forms of knowledge recontextualisation. In learning through making

mistakes, for example, productive forms of knowledge recontextualisation are taking

place when new knowledge or insights are produced in responding to unexpected or

unpredictable situations. But in practice both adaptive and productive modes co-exist.

Adaptive as well as productive forms of knowledge recontextualisation can result from

mistakes, as NQNs adjust their approach to using existing protocols or procedures in

different contexts. These adaptations can be either beneficial or detrimental to practice:

the examples have shown how defensive practices can sometimes be traced to adaptive

learning that has resulted from making mistakes or difficult experiences. The

deepening of adaptive to productive learning through knowledge recontextualisation is

crucial for activities such as delegation, where there are few pre-existing guidelines and

where the development of attuned judgement is crucial to effective practice.

 Supporting NQNs to working through dilemmas about trusting co-workers or difficult

  experiences such as the death of patients, potentially benefits from a knowledge-

  aware approach to preceptorship, one that enables the NQN and preceptor to

  articulate what is learned and to connect it with prior learning to develop current

  practice and move from adaptive to productive knowledge. These socio-cognitive

  processes contribute to the development of the attuned judgments that define

  knowledgeable practice and support the process by which NQNs think and feel their

  way into professional identities. In their accounts of 'muddling through', newly

  qualified nurses are adapting existing knowledge of many different types to respond in

the contingencies of the present moment to multiple pressures and demands. Their

responses are themselves contextualized in the routines and protocols of record

keeping, patient confidentiality and safety checks. They are also modified according to

workplace relations and the organisational hierarchies that influence how NQNs

communicate with HCAs, doctors and their preceptor. Knowing when, how and with

whom to communicate in an emergency or unpredictable situation can be critical to

the outcome. The NQN is thus building productive knowledge of how to work with the

protocols and manage the workplace relations that are embedded in clinical practice,

towards the goal of knowledgeable practice and attuned judgment. The findings show

how NQNs come to embody knowledge cognitively and practically and suggest a range

of practices that could improve support for these important forms of learning.

Conclusion

In this article, we have described four types of 'invisible learning' as NQNs make

the transition from student to fully operational qualified nurse. This invisible learning

can be made visible and amenable to intervention and support when it is understood as

more than the experiences that inevitably occur when NQNs encounter the pressures

and demands of the 'real world' of practice. The four types all entail the interplay, in the

contingencies of the moment, of subject knowledge, procedural knowledge and forms of

personal knowledge that are continuously used, refined and reworked in the practice

context. Productive and adaptive forms of knowledge recontextualisation co-exist.

Adaptive forms are not always beneficial to practice and productive forms are

strengthened by access to, and support from, expert and intellectual resources that

enable the NQN to 'stand back' from challenging situations and think about them in new

ways.

In the context of delegation and supervision, the knowledge recontextualisation processes inherent in 'invisible learning' have a range of practice implications. Learning through mistakes in delegation and supervision raises questions about the distinction between mistakes that can potentially be harmful to patients and staff, and mistakes that are perhaps less risky. It might be possible to have controls in place which assess the level of risk involved in decision-making such as 'flagging' areas of HCA bedside care which require greater or lesser monitoring by the NQN. The use of simulated situations as part of nurse training and post-qualifying transition might offer the opportunity to make 'safe mistakes' in the context of delegation and supervision of HCAs which can be useful for learning purposes.

Learning from challenging experiences can be extremely helpful to NQNs in building their confidence in being able to handle potentially frightening, challenging and emotionally stressful situations. However, without adequate support and reflective space this opportunity for positive learning can have the opposite effect, increasing NQN fears and anxieties, and decreasing their confidence levels. It is important to have mechanisms in place to ensure NQNs are offered appropriate support and debriefs following such major events. Providing NQNs with adequate supports will also enable them to provide adequate support to the HCAs to whom they delegate and supervise.

Learning from colleagues informally, via observation, discussion and osmosis, can be invaluable to the NQN during transition. However, again, there is the possibility for 'bad' as well as 'good' learning. It is important to support NQNs in developing their own reflective and critical thinking skills, in order to ensure that what they learn is beneficial, rather than detrimental, to their practice. It is also essential to distinguish between informal collegial support between experienced HCAs and NQNs, and

situations where there is an over-reliance upon HCAs to support NQNs, and almost a 'reverse delegation' between them, in ways which might be inappropriate and which could have patient safety implications.

The sense of 'muddling through' may be an inevitable part of the NQN experience as they transition from student to fully functioning qualified nurse. However, it is important to think about the possible impact on HCAs of this 'muddling through,' to ensure that this does not lead to a confusing, negative and possibly burdensome work experience for HCAs. Moreover, although NQNs might feel as if they are 'muddling through,' it is important that this should not actually be the case. There should be a clear pathway and purpose to the NQNs' preceptorship, closely monitored and supported, and with robust, reliable and effective mentoring practices. Our study did not find that this was happening consistently. There needs to be a great emphasis on 'visible learning,' particularly effective support at ward level, as well as closer scrutiny and support for 'informal learning' on the ground.

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Data collection method	Site A	Site B	Site C	Total
Observation of nurses (twice/nurse)	17 nurses 34 obs.	6 nurses 12 obs.	10 nurses 20 obs.	33 nurses 66 obs. (approx. 230 hours)
Nurse Interviews	16	4	8	28
HCA Interviews	6	2	2	10
Ward Manager / Matron Interviews	5	3	4	12
<u>TOTAL (Interviews and Observations)</u>	<u>61</u>	<u>21</u>	<u>34</u>	<u>116</u>

Table 2. Summary of data collected (November 2011 to May 2012)

	Site A	Site B	Site C
Ward specialities where participants worked	• EAU • Elderly • Medicine • Trauma • HDU • Surgical • Adult • General • EAU	• Medical • ADU • Surgical • Adult • General	• Surgical • Respiratory • Medicine • Gastro • Adult • General
Approximate number of beds	700	700	450
Preceptorship programme	Yes	Yes	Yes

Table 1 Overview of the three hospital sites which participated in the study