Communities of Practice: A systematic review and meta-synthesis of what it means and how it really works among nursing students and novices

Abstract

Aims and objectives: To evaluate the enablers, barriers and impact that Communities of Practice has on novice nurses and students learning to become Registered Nurses.

Background: Communities of Practice (CoP) have formed the basis for conceptualising the process of learning that occurs amongst groups of people within a place of work - a mainstay of healthcare practice. There is a dearth of literature that focuses specifically on the outcomes from student and novice engagement with existing Communities of Practice.

Design: Systematic review and Metasynthesis

Methods: Medline, PubMed, Embase, CINAHL, ProQuest, Scopus, and PsycINFO databases were accessed between 1997 and 2019. The screening and selection of studies were based on eligibility criteria and methodological quality assessment using the Critical Appraisal Skills Programme tool for qualitative research. Metasynthesis was grounded in the original experiences and collectively synthesised into meaningful themes. The review follows the PRISMA reporting guidelines and PRISMA checklist.

Results: The findings highlight three major themes and included Enablers for successful CoP, Barriers to successful CoP, and Success in action as described by students and novice nurses.

Discussion: We suggest successful CoP occur when safe and supported spaces ensure students and novices feel comfortable to experiment with their learning, and we emphasise the benefits of having more novice nurses situated within close proximity and under the direct influence of the established practices of more experienced or core group of peers.

Relevance to Clinical Practice: Communities of Practice that function successfully create an environment that prioritise the embedding of novices into the broader group. In so doing, students and novice nurses feel supported, welcomed, empowered, able to make the transition from student to colleague and novice nurse to more experienced nurse. It allows them to experiment with ever new ways of fulfilling the role, while aiding better clinical outcomes.

Keywords: Nurses, Student, Learning, Education, Training Support, Community of Practice

What does this paper contribute to the wider global clinical community?

- Communities of practice embed and provide safe and supported learning spaces
- Close peer-to-peer professional and social relationships promote a sense of support
- Sound policy can foster Community of Practice successfully in Healthcare

Introduction

Learning, the procurement and harnessing of knowledge to bring about change, has been theorised and re-theorised over time in the context of competing paradigms. The conceptual model termed the Communities of Practice (CoP) was initially defined by Lave and Wenger (1991) as a collective cohort of individuals who problem solve and generate new knowledge. Wenger (1998) later suggested that the social participation within these groups was the foundation of learning. Here those individuals involved become actively ingrained into the practices of the social communities to which they belong by way of their practice discipline. Through these informal interactions, novices consult with more senior members of the group, identify gaps or issues, and alter their practices in line with experiences that are shared, the solutions that are discussed, and the outcomes that are fed back to the group (Li et al., 2009b; Walsh, 2017).

Lave and Wenger's (1991) ground-breaking research on how midwives, meat cutters, and tailors were able to learn new knowledge within their respective professions provides the foundation for CoP where workplace informal exchanges foster relational interdependency among people engaged or situated within the workplace. In so doing, these authors gave rise to the foundation of situational learning theory, a sociocultural process where perception and action occur before conceptualisation (Li et al., 2009b).

Buysse et al. (2003, p. 267) indicate a number of key factors that distinguish situational learning from other types of learning: (1) situational learning is grounded by daily activities that remain inseparable from the complex environments where knowledge is applied; (2) situational learning is the result of social processes that requires ongoing negotiation and problem solving with others and, (3) recognises that knowledge is acquired through

experience and transferred to other similar situations. These same key principles of situational learning underpin 'CoP'.

Communities of Practice

The early impetus for establishing CoP was to encourage self-empowerment, learning, and professional development. However, CoP are often 'organic' groups that often surface due to a shared interest, endeavour, or pursuit (Fuller et al., 2005). According to Li et al. (2009a, p. 2) and Jorgensen and Hadders (2015), the essential characteristics of most CoP include:

1. Social interaction of members with each other through formal, informal or technological settings;
2. Sharing of relevant knowledge between each member;
3. Collaboration between members to problem solve or create new knowledge; and
4. Fostering the development of a shared-identity among its members.

Li et al. (2009a) argue there are three levels or types of CoP. These include: *informal groups* where they seek to provide a forum for discussion among individuals who are interested in a topic; *supported groups* that are sponsored by management and seek to build knowledge and skills for a given competency area; and *structured groups* which are developed and managed by an organisation to advance business strategies or goals. As such, CoP are not absolute, but are fluid, and heterogeneous. For example, they can be a very distinctive professional community within a work space (i.e. workers), a sub-set community within a profession that is not defined by work space (i.e. colleagues who share a common goal to address an issue), they can be inter-professional groups that occur virtually (i.e. international research partnership), or may even be social communities with shared

interests outside a profession or employment space (i.e. mother's group) (Endslay et al., 2005; Fuller et al., 2005; Li et al., 2009a; Wenger et al., 2002). As such, they are not always concrete entities, and they can remain quite abstract and ever changing (Roberts, 2006).

Participants of a CoP can be either full participating members at the core, those who may participate less regularly, or transient members who exist on the periphery of the group (Walsh, 2017; Wenger et al., 2002). More specifically, Endslay et al. (2005, p. 29) have identified five types of members within CoP. These participants include the leaders or facilitators who keep dialogues and processes in motion; the experts of the topic with skills or knowledge at centre of the community; those who are considered core members and who are active participants in discussions and activities; the 'lurkers' who may not be regular contributors, but may be key resources of knowledge; and peripheral members who are involved within the group as participants (Hurtubise et al., 2017). It is these peripheral members who gain greater knowledge, identity, and acceptance within the community and they have the potential to move from being at the transient periphery to becoming experts themselves (Birks et al., 2017; Cox, 2005; Johnson et al., 2012; Jorgensen & Hadders, 2015; Li et al., 2009a; Oborn & Dawson, 2010).

In healthcare settings, CoP are simultaneously receptacles and generators of knowledge that can be conveyed and transmitted to other members within the community (Roberts, 2006). Through participation in these communities, individuals gain a sense of belonging to the community. Relationships are formed, experiences are gained, and learning can transpire among all individuals who seek to share and generate knowledge (Fuller et al., 2005; Ranmuthugala et al., 2011; Ranse & Grealish, 2007). It is the 'practice' in CoP where

specific knowledge within the community is shared, developed, and enhances the construction and distribution of knowledge (Li et al., 2009b, p. 6).

Each of these CoP in clinical and non-clinical healthcare spaces have their own esoteric culture, with a hierarchy of power, where there is a shared language, humour and innovativeness (Johnson et al., 2012; Jorgensen & Hadders, 2015). CoP within healthcare are social entities that rapidly evolve; distribute new ideas, stories, information and skills; and work to sanction the cultural practices of how to behave while at the same time creating new knowledge and promoting the identity of what it means to be a health professional (Fuller et al., 2005; Hägg-Martinell et al., 2016; Lewis & Kelly, 2018; Ranse & Grealish, 2007).

Current literature is replete with references to notions of CoP; however, there is a dearth of focused studies that explore the conceptual elements of CoP within a healthcare context, specifically in nursing (Seibert, 2015). Surprisingly, although CoP are recognised within nursing as a conceptual model for informing the socialisation of novices into an existing community of clinicians, there is limited research evidence that explore the perspectives or outcomes from their engagement with an existing CoP.

The systematic review and metasynthesis seeks to identify the potential impacts that CoP have on novice nurses and nursing students learning to become Registered Nurses. As such, the aim of this review is to inform how CoP are and can be established, implemented and maintained for and with students and novice nurses.

Aims and methods

The systematic review and metasynthesis was guided by the systematic review and metasynthesis protocol developed by Butler et al. (2016) to identify, evaluate, and synthesise qualitative research-based evidence. The objectives, analysis methods and

inclusion/exclusion criteria were developed and documented, following the guidelines outlined by PRISMA (PRISMA, 2015) to ensure accurate and complete reporting of findings (See Supplementary File 1).

Search strategy

Medline, PubMed, Embase, CINAHL, ProQuest, Scopus, and PsycINFO databases were accessed for CoP studies between 1997 and 2019. The databases were accessed by title, keyword, or abstract and then full-text. Search terms included: “communities of practice” OR “community of practice” OR “community of learner” OR “community of learners” OR “communities of learner” OR “communities of learners” OR “community of learning” OR “communities of learning” AND “nursing” OR “nurse” OR “nurses”. This strategy was used to search title and abstract in all databases and was adapted to the specific requirements of each database. Additional searches were conducted by hand searching reference lists of identified articles.

Inclusion and exclusion criteria

The reviewed studies included those that were original research focussed on students undertaking a Bachelor of Nursing degree or those Registered Nursing professionals that were newly qualified or termed ‘novice’ nurses. Nurse education settings included both within and external to the hospital (ward) setting, or where training/education occurred with other healthcare professionals (interdisciplinary) recognising the fluidity of CoP not occurring in specific spaces. Studies were excluded if the focus adopted a didactic approach to learning and teaching or where the learning was not couched within situational learning theory and/or CoP model. Further, studies were excluded if they only used the CoP framework to inform a theoretical basis of the research without following through to the

analysis and presentation of findings. Full-text articles published in languages other than English were not reviewed given the issues associated with translation quality.

Study screening

The articles retrieved from the search were exported to EndNote (version X7) and screened by two reviewers (HP and DT) after duplicates were removed. Both reviewers independently screened all studies based on titles, keywords and abstracts to exclude irrelevant articles. In the second round, full text articles were assessed independently and judged against the inclusion and exclusion criteria by two reviewers (HP and DT). Each study was classified as 'include', 'exclude' or 'not sure' in the review. Any discrepancies between the two reviewers were resolved by discussion with a third reviewer (HN) until consensus was achieved.

Methodological quality assessment procedure

The methodological quality of the included studies was assessed independently by two reviewers (HP and DT). The scoring of the 24 publications against the Critical Appraisal Skills Program (CASP) tool for qualitative research (Critical Appraisal Skills Programme, 2018) and against Cochrane quality criteria as outlined by (Higgins & Green, 2008). This led to an overall agreement between the reviewers of 92%. The quality of the quantitative paper was rated as 'criterion met' (+), 'criterion not met' (-), 'unknown if the criterion is met or not met' (u), and 'not applicable' (n/a) (Higgins & Green, 2008). Among the qualitative papers, these were scored as 'met' (1), partially met (0.5) and 'not met' (0) and then added to gain a final score of 9.0-10.0 (High quality), 7.5-9.0 (Moderate quality), 6.0-7.5 (Low quality), or 0.0-6.0 (Exclude) (Critical Appraisal Skills Programme, 2018). Any disagreements in the quality assessment results among reviewers were discussed, and a third reviewer (HN) was consulted to reach consensus.

Data extraction and analysis

Informed by the approach to qualitative systematic review outlined by Butler et al. (2016) the data extraction was undertaken by two reviewers (DT and HN) who extracted all data using Microsoft Word and Nvivo 12.0. Butler et al. (2016) further indicates that both first order and second order constructs, as well as the interpretation, ideas, accounts and assumptions of each articles author, formed the basis for a thematic analysis. Following a modified version of the steps outlined by Colaizzi (1978) which include a process of reading and re-reading to get a sense of the whole, identifying significant statements, formulate meaning of the statements, grouping the formulated meanings together as a theme and develop an exhaustive description. The constant contact with the data ensures the findings are confidently grounded in the original experiences presented within the review articles. As such, data included first order constructs – all participants' quotes – and second order constructs, the authors' of each article and their interpretation, ideas, accounts and assumptions. Reviewers then used the first order constructs and second order constructs to thematically analyse the data, which systematically identified recurring themes, patterns, and experiences, which then was used to describe each phenomena. This ensured the findings were confidently grounded in the original experiences, to collectively synthesise the findings from all publications into meaningful themes and subthemes. The data synthesis was completed by one researcher (HN) and discussed with the second and third researchers (DT and HP) until a consensus regarding all details was reached.

Results

The literature search yielded 480 potentially relevant publications and after screening of publications, 19 articles were identified and full texts were retrieved. Hand screening of the

references of each individual paper revealed a further five potential publications, creating a list of 24 potential, full texts articles that were retrieved. Upon further refinement of this final 24 articles, 16 were initially excluded from the review due to not being original research and were instead evaluations, or using only CoP framework as a means of informing a theoretical basis without maintaining consistency of the principles through to the analysis and presentation of findings, as outlined in Figure 1. Three additional publications were excluded due to poor methodological quality including the only paper employing a quantitative methodology that was shortlisted (process outlined in Table 1). The quality score of the qualitative publications ranged from 5.0 to 9.5. Eight (80%) out of ten publications had a score of more than 6.0 and were considered to be of high methodological quality and as such were included in the review presented here.

Figure 1: Systematic review flow chart *[about here]*

[Table 1 about here]

Description of the reviewed studies

A total of eight manuscripts were the outcome of the systematic review, as outlined in Table 2, and included six peer reviewed articles from six individual studies (Jorgensen & Hadders, 2015; Lewis & Kelly, 2018; Molesworth, 2017; Ranse & Grealish, 2007; Thrysoe et al., 2010, 2012) as well as two theses (Astley-Cooper, 2012; Walsh, 2017). Seven studies focus on the nursing student's lived experiences of the impact of learning in CoP while undertaking hospital or aged care placement (Astley-Cooper, 2012; Molesworth, 2017; Thrysoe et al., 2010), experience of being on a general practice placement (Lewis & Kelly, 2018), on an overseas placement (Jorgensen & Hadders, 2015), and experience of being within a Dedicated Education Unit (Ranse & Grealish, 2007). Similarly the experiences and learning of

newly qualified registered nurses were also examined as they commenced work in the hospital setting (Thrysoe et al., 2012). Lastly, one study examined the impact of CoP on the learning of nursing students in a mental health nursing program and the practice of registered mental health nurses (Walsh, 2017). Overall, there were a total of 109 participants across the eight studies, and consisted of 93 nursing students, and nine first year registered nurses.

[Table 2 about here]

The findings from the systematic review of qualitative studies that explored the phenomena of CoP among both student and novice nurses in healthcare settings highlighted a number of positive and negative factors. This focus is best articulated by way of three emergent themes that makeup the significant aspects of the phenomenon of interest: Enablers of successful CoP; Barriers of successful CoP and Success in action. Each of these themes and subthemes will be explored in more depth below.

Enablers of Successful CoP

Across the articles in this review we idetified a number of factors that were consistently associated with positive affirmation of the CoP model by both novice and student nurses. Captured by way of the theme titled *Enabling Successful CoP* we have focused our attention on the core factors that have emerged from the overall review process. These core elements have been refined into three key sub-themes that represent the enabling factors most closely and consistently associated with successful CoP: *Environment, Support from peers and other members*, *Welcome, Acceptance and Belonging*.

Environment

The environment of the placement experience was identified as an important enabling factor for novice and student nurses learning process. Certain environmental conditions supported novices to feel comfortable, become familiar with staff, and to participate in practice activities (Jorgensen & Hadders, 2015; Ranse & Grealish, 2007). For instance, Jorgensen and Hadders (2015) revealed novices had several positive learning experiences when the placement environment allowed more personal connections and communication to occur amongst CoP members. This was underscored by the experiences of novice nurses who were able to move between a major hospital to small rural hospital: "…everything took another turn for me; this was a small hospital and much easier to get contact with people and dare to let oneself loose. I ventured to communicate with patients and nurses and this made it so much easier..." (Jorgensen & Hadders, 2015, p. 41).

Support from peers and other members

Peer support, where novice and student nurses who are situated on or in the periphery of the CoP engage in both formal and informal collaboration, as well as cooperation in order to help each other, was identified as another central enabling characteristic for a successful CoP (Jorgensen & Hadders, 2015; Ranse & Grealish, 2007; Thrysoe et al., 2012; Walsh, 2017). Many students across the studies reviewed valued this peripheral cooperative practice as a useful method or process for learning due to their proximity, accessibility and willingness to help (Ranse & Grealish, 2007; Thrysoe et al., 2012; Walsh, 2017). A central feature of the close relationship amongst those students and novice nurses in the periphery of the CoP is the influence of social interaction, the sharing of jokes and understanding the personal lives of their peers, on their own motivation and their effort to do well within the setting in which they found themselves, as evidenced here, 'going out for a bite' (Thrysoe et

al., 2012), or even chatting about a shared interest beyond the workplace (Walsh, 2017). Overall, the relationships among novice peers involved a combination of informal social interactions with reflective learning, and learning through a range of formal and informal interactions and engagements (e.g. an online group) (Jorgensen & Hadders, 2015; Walsh, 2017).

Another key factor of a student and novice nurse's positive learning experience in a CoP is the professional conversations that occur within the CoP. Here we refer to conversations between student or novice nurses, with those more active or more core members that make up the CoP. For example, a professional conversation may occur when a novice nurse caring for a patient with a particular condition might engage with a more senior nursing clinician in regard to the psychomotor skills required for performing a particular assessment technique or the nuances of the ongoing management of the particular case. Alternatively, it may be a discussion concerning best practice approaches to a nursing intervention and the related institutional policy and procedures.

The positive support from preceptors, supervisors or mentors (other senior Registered Nurses), while in clinical practice, included professional guidance and training (Astley-Cooper, 2012; Jorgensen & Hadders, 2015; Thrysoe et al., 2010, 2012), particularly in specific practical learning circumstances (Walsh, 2017) and related to the provision of direction or instruction for further learning (Astley-Cooper, 2012). While we recognise the diverse terminology used to identify a senior member of a profession supporting a more junior member of that same profession, here the term supervisor and mentor have been used synonymously (Bernard & Goodyear, 2008, p. 8).

Welcome, Acceptance and Belonging

An additional enabling factor that facilitates learning among novice nurses or students is the experience of being welcomed into a clinical space, where there is clear sense that the other clinicians were expecting their arrival (Jorgensen & Hadders, 2015; Ranse & Grealish, 2007) and are then respected within the clinical space (Jorgensen & Hadders, 2015). This can occur when core and active members of a CoP are well-prepared for the presence of a novice (Jorgensen & Hadders, 2015), but this moves beyond merely accepting their presence to having trust in the novice by giving them responsibilities and clinical opportunities that facilitate the process of learning (Astley-Cooper, 2012; Jorgensen & Hadders, 2015; Lewis & Kelly, 2018; Ranse & Grealish, 2007). It is in these communities where the observation of others, the practice of skills, and knowledge is gained or developed. The community needs to be both a 'safe' space to interact, while allowing the processes of learning to occur by communicating, observing behaviours, and following practices of experts. As such, Walsh (2017), reported that novices value and benefit from specific support from members of a CoP, particularly in vulnerable situations (e.g. violence), or in a work culture with established rules and protocols.

The articles reviewed suggest that in order to create a safe learning space, the student and novice nurses need to feel supported and importantly accepted by their mentors and to get a genuine sense of trust within the novice-expert relationship. Key to building this relationship, the mentor is required to bestow the characteristics of: being knowledgeable, approachable, friendly, and patient (Lewis & Kelly, 2018) or organised, supportive, nice, and helpful (Astley-Cooper, 2012) with a sense of confidence which inspires more novice mentees (Lewis & Kelly, 2018). Additionally, support from other non-mentor members of the CoP was considered by student and novice nurses to be important (Ranse & Grealish,

2007). Core or central members of the community who engaged with novice practitioners engendered a string positive sense of belonging in the novices (Ranse & Grealish, 2007). Interestingly, Lewis and Kelly (2018) suggested that students and novice nurses tended to provide more positive feedback about the wider CoP when they had been engaged with various members of the core community group irrespective of the level of interaction. This was echoed by other authors (Molesworth, 2017; Walsh, 2017).

As well as generic levels of support, the novices within a CoP identified specific areas of support from both core and active members of the community as critical to their sense of belonging. For example, a student has said "…there were six to seven (sic) nurses that we spent… most of the time [with]. We came to like them very much. They phoned us at night whenever there was a delivery [on the ward]. These were much more reciprocal relationships…" (Jorgensen & Hadders, 2015, p. 41). It remains vital for novices to be accepted and included as part of the community both within clinical setting and in the social setting (Jorgensen & Hadders, 2015; Ranse & Grealish, 2007; Thrysoe et al., 2010, 2012). For example, being included and part of conversations with staff (Thrysoe et al., 2010) and the feeling part of the team/group positively influenced the novice's feelings of acceptance, emotions (Thrysoe et al., 2010) and motivations to participate in the CoP. This has led to positively shaping professional practice and developing deeper learning of advanced knowledge among novices within and outside the clinical setting (Thrysoe et al., 2010).

Barriers to Successful Communities of Practice

As well as factors that enable and facilitate the student and novice nurses to become part of or gain from a CoP, the literature reviewed also raises awareness of barriers to success. While the barriers identified through the voices of student and novice nurses within the

literature are varied in nature, three key sub-themes have emerged that embody the consistent principals that lead to poorer outcomes: Feelings of alienation, Marginalisation, Frustration and work pressure.

Feelings of Alienation

Feelings of alienation, or feeling like an outsider as described by Astley-Cooper (2012), was a common barrier that student and novice nurses reported as having a significant impact upon their full participation in their relevant CoP. While these novice members expected to be actively included in the day-to-day professional practices and thus learn from other registered nurses and their supervisor or mentor – factors already identified as enablers of success – they found themselves being ignored and left on their own at times. As one student recalled, "You're just standing there and they're walking by you and you're thinking 'what do we do?' It feels like you're invisible" (Astley-Cooper, 2012, p. 125). Similar incidents of feeling unwelcomed, overlooked or treated with indifference were reported (Astley-Cooper, 2012; Jorgensen & Hadders, 2015; Molesworth, 2017; Ranse & Grealish, 2007; Thrysoe et al., 2010), albeit at different degrees and in different forms. Exclusion was reported both within the clinical environment as well as in other social settings during lunch time or breaks, whereby host or mentor nurses did not take the initiative to include students or novice nurses. For example, a student commented, "Some days you can feel that you aren't even seen on the ward here and during lunch they don't talk in a way that you can participate, and you are not invited to join in" (Thrysoe et al., 2010, p. 364). Despite their, at times, best effort to be recognised, accepted or seen, the student and novice nurses reported alientation and its impact upon learning and their ability to contribute (Astley-Cooper, 2012).

The student and novice nurse narratives in the reviewed studies supported alienation being associated with staffing and time factors (Astley-Cooper, 2012; Molesworth, 2017). “It's a case of waiting if they are available, waiting for them to finish a drug [medication] round or something like that. They are very, very busy", a student noted (Astley-Cooper, 2012, p. 130). It appeared from the consistent reports that the host or mentor nurses were left with very limited time, which impacted upon their ability to interact and engage with students or novice nurses. In other cases, the mentor or other registered nurses appeared not to be fully aware of their roles and how to engage novices in the CoP (Jorgensen & Hadders, 2015; Ranse & Grealish, 2007). While acknowledging their willingness to help when possible, a student noted, “More or less they take time to answer if we ask them [for advice] even if they are quite busy...I have got the impression that not all nurses are informed about what we do here and why we are here” (Jorgensen & Hadders, 2015, p. 41). All of these factors have led to the feeling of alienation or ‘not belonging’ on the part of novice, and their consequent limited participation within the community impacted therefore upon its overall success.

Being Marginalised

While different to the notion of alienation where someone is kept out of the CoP, being marginalised for us means that a student or novice nurse is given access to the CoP, however, in a seemingly token manner that is detrimental to the overall success of the community. Student and novice nurses often reported feelings of being marginalised, largely due to their perceived lack of experience and knowledge. As reported by the reviewed studies, there have been incidents when ideas or suggestions by the more novice members were either ignored or rejected by more experienced members. This is clearly illustrated in a comment by a student, “No response back and her attitude was ‘Don't tell

me what to do ...' The impression I got was, 'You're only a student'." (Molesworth, 2017, p. 34). While this lack of professional acceptance or recognition tends to be felt with other nursing staff, rather than with the mentor or supervisor, student and novice nurses reported feelings of having their opportunities to contribute to the wider activities of their CoP restricted (Thrysoe et al., 2012).

When novice practitioners' ideas or contributions were disregarded, especially without any explanations during professional discussions, they were deprived of the opportunity to function as a valued member of the community. Consequently, novices found it hard to build their self-esteem and confidence in their competence, "you really felt that you weren't worth anything, you know" (Thrysoe et al., 2012, p. 554). In the absence of explanations, such rejections or complete neglect tended to make students or novice nurses feeling marginalised and disrespected, as evidenced by a participant in the study by Thrysoe et al., (2012, p. 553) "because if you say something and they do not take it seriously and listen, then I stop saying more", which further aggravated their feeling of being excluded and undermined their willingness to contribute to the CoP.

Frustrations of New Role

Frustration amongst the students and novice nurses in the studies reviewed was palpable and was consistently identified as a barrier to the overall success of the CoP. Frustration was most commonly associated with student and novice nurses not knowing what to do in certain situations and feeling unable to seek clarification (Astley-Cooper, 2012; Jorgensen & Hadders, 2015; Thrysoe et al., 2012). Students reported feeling that their knowledge and skills did not meet the expectations of more experienced members of the group and felt it

was more evident in situations where they had been assigned tasks without detailed explanations or instructions. This frustration can be seen in the following comment.

> "The nurses kind of talk to you as if you know everything. Well some of them do and it's like, I don't know what you're talking about and you're just there nodding your head and you're too scared to ask a question 'cause you think they're going to think you're stupid… A lot of the time I was doing the dressing by myself and I shouldn't say this, but a lot of the time it was just guesswork." (Astley-Cooper, 2012, p. 119)

In the absence of conversations or discussions about how a task or a problem could be dealt with, students and novice nurses struggled to learn from their hands-on experience and instead carried on in the workplace with a constant fear of making mistakes. "I think the frightening thing is that you don't know if you've messed up if you're not being supervised" (Astley-Cooper, 2012, p. 205). Their frustration was sometimes caused by the lack of confirmation from more experienced nurses that they had done the right thing, and from the more novice nurses' reluctance to ask questions for fear of losing face (Thrysoe et al., 2012). The resulting frustration that this uncertainty created about their own professional performance and the judgement of others in relation to their competence, was depicted as hindering novice nurses from full participation and development of professional capacity, as evidenced here "I have often been frustrated and sad because it is difficult to know what to do about things and how to influence and what it is that we just have to accept" (Jorgensen & Hadders, 2015, p. 41).

Another frustration that was identified to impact a student's ability to engage in forming relationships with those in the CoP was the unexpected and high nursing workload (Astley-Cooper, 2012; Jorgensen & Hadders, 2015; Ranse & Grealish, 2007). Students described

their experience as both physically and mentally draining, especially when they were new to the working environment with all of the policy and procedure requirements. As an example, a student reported, "It puts strain on you. If you have a bad day at work you go home and you're quite depressed, but you have to go back and put up a smile the next day and be jolly in order to meet your work outcomes and then come home and be depressed" (Astley-Cooper, 2012, p. 210). Novice practitioners reported an increase in the perceived pressure to become part of the CoP during the first phase of their transition to the role of novice nurse, “I can’t remember that we laughed during the first week; we were very serious all the time” (Jorgensen & Hadders, 2015, p. 41). At times students reported being asked to carry out duties that were not necessarily consistent with their expectations of learning. "I was going off the ward with the bed [patient flow] manager that particular day and she came to collect me from the ward and they said, you can't go, we're short staffed, and you need to stay here … I was a pair of hands" (Astley-Cooper, 2012, p. 148). Similar stories were reported, when students were unable to gain diverse experiences and skills because of the demands of work in a certain unit (Ranse & Grealish, 2007), leaving them no choice but to fill a staffing gap and leaving them feeling frustrated.

Success in Action – Orbiting the Communities of Practice core

This theme embodies the way in which novice and student nurses perceived and described how a successful CoP works or looks in action. When student and novice nurses became successfully embedded within a CoP a series of positive outcomes were consistently reported. Novice nurses reported that through interaction with others also in the periphery they were able to gain an appreciation of nursing as being something different to the stereotypical image of nursing and instead opened up opportunities that may be less considered (Lewis & Kelly, 2018). In addition, successful communities instilled a sense of

reinforcement of their theoretical learning and a building of their capacity to move beyond clinical learning to making sense of the social, spiritual, communication and management of patients (Ranse & Grealish, 2007).

Novices reported that within a genuine CoP there is also opportunity for reciprocal relationships and learning among novice, core and active participants, particularly when students bring new innovations and knowledge into the healthcare environment (Walsh, 2017). Novice nurses in a study by Walsh (2017) articulated that being situated on the periphery of a successful CoP provides a safe 'space' where one can make 'mistakes' and take risks in their learning knowing that they are supported by their mentor or core group. These same novices reported that being supported by senior members within the CoP, such as mentors or preceptors remains imperative to ensure that the best learning is achieved (Walsh, 2017).

While novice nurses identified the importance of feeling supported in the clinical setting for an overall feeling of success, they are at the same time cognisant that this success in action is dependent on the level or capacity of the novice to connect and make connections with members of the CoP. It was identified by novices that quality connections were more imperative than the quantity of connections. This was, in most cases, novices had been more accepted and included within the CoP to a point that they felt like colleagues rather than students, and helped them find their place in the group. This then allowed novices to feel comfortable enough to ask questions, create discussion and learn clinical practices with more ease (Thrysoe et al., 2010; Walsh, 2017).

Thus far, we have focused on the connections between core and peripheral members of the CoP. Successful communities, however, also involve connections amongst student and

novice nurses of varying degrees. As highlighted by Walsh (2017), situational learning within a CoP occurs between novices. For example, novices share ideas, build and reinforce clinical understanding and practices, while mitigating misconceptions and errors in practice (Ranse & Grealish, 2007; Walsh, 2017). This is particularly evident when more senior novices were supportive and were sought out by more junior novices in order to gain insight into clinical practices or processes. For example, it was highlighted that second year students "really appreciated the third and fourth year students… they were really freshly out of second year, so they… had an idea of what [they needed] to do… and were more willing to take [them] through those steps" (Ranse & Grealish, 2007, p. 175). Thus, working with and learning from more senior novices may be considered a Communities of practice mechanism or a process used for learning (Astley-Cooper, 2012).

Successful CoP foster support for novices who navigate the, at times, difficult elements of workplace culture. Working with other novices of varying stages of development, may help student and novice nurses to recognise those members of a group that are less willing to work with novices, and equally those who tolerate or who embrace novices. Students and novice nurses alike, however, suggest that while they acknowledge the precarious nature of the relationship they do not want to offend the staff member or hinder the bourgeoning relationship, but build rapport, respect and honesty, while attempting to appreciate the values and practice within the CoP (Astley-Cooper, 2012; Molesworth, 2017; Walsh, 2017).

Discussion

This systematic review of literature has explored the phenomena of CoP from the perspective of students and novice nurses with a particular focus upon identifying the enablers, barriers and perceived benefits of the approach. Three major themes: *Enablers*

for successful CoP, *Barriers to successful CoP* and *Success in action*, were created to explain this phenomenon as it was described by students and novice nurses within the literature.

As such, the results of the review highlight and subsequently point towards strategies that health agencies might consider in order to establish a 'favourable environment', regardless of location or clinical situation, that enables success and have the potential to influence positively the way in which novices are enveloped into the community itself (Jorgensen & Hadders, 2015). Fostering opportunities for interaction and guidance from mentors and core members of the community, clinical learning, supporting close peer-peer opportunities for engagement both within a professional capacity, as well as in a social capacity, help to build a sense of perceived support amongst student and novice nurses who identified themselves as being in the periphery of the CoP. Student and novice nurses also highlighted that being able to recognise that core or mentor staff are prepared for their arrival to a setting fosters a sense of being welcome, which could be as simple as involving them in conversation. Recognising novice members and making them feel accepted requires a mentor, or core member of the group, to be patient, knowledgeable, approachable, organised, and friendly, and it may require contact with the novice outside of working hours as a way of checking-in. These findings are consistent with the literature regarding enablers for effective functioning of a CoP, especially in a healthcare context. Roberts (2015) and McSharry and Lathlean (2017), for example, found support including formal and informal opportunities for sharing and discussion as key contributing factors to enhancing the level of participation, engagement, and learning of members in CoP. It is therefore crucial to ensure that healthcare professionals, especially those who play the role of mentor or core members of a CoP, be provided with adequate preparation and conditions to create an enabling environment for students and novice nurses (Edgar et al., 2016; Henderson & Eaton, 2013).

This would allow novices to gain 'legitimate peripheral participation' (Lave and Wenger, 1991) that is necessary to learn and progress with confidence towards full participation in their CoP.

Barriers to the successful implementation of CoP were not surprisingly in the main identified as the antithesis of the success criteria outlined above. This is where novices felt alienated from the existing CoP and, at times, felt marginalised by having their views and opinions overlooked. This led to a poorer sense of community adhesion and a lack of inclusion was experienced. Novice and senior or mentor clinicians at times felt overwhelmed and unsure of different aspects of their respective roles. This was further perpetuated by the lack of access to open, patient, and accepting support from peers which led to poorer overall community success. A perceived high workload for a novice staff member is somewhat of a 'double-edged' sword. The high workload without access to ready-at-hand support of peers creates a sense frustration, while at the same time creates a time-poor scenario that makes the creation of deeper connections within the CoP unachievable. These results are in line with the literature that examines factors influencing participation in a CoP (Cope et al., 2000; Roberts, 2006). To minimise barriers, efforts from all members are needed in building positive relationships, encouraging contribution of ideas especially from novice members and ensuring adequate guidance, feedback and recognition. One example identified through this review was more senior staff providing updates to the novice nurses about the wellbeing of a patient. Alternatively, having a structured means of gathering socially on a regular basis was also shown to help embed the newer staff into the CoP. This would make new members feel accepted, valued and thus more willing to actively engage in the CoP.

Students and novice nurses reported that, in action, a successful CoP provided them with a safe and supported space within which they felt comfortable to experiment with their learning and begin to feel like genuine colleagues rather than students. Creating an environment where it is easy to engage in a dialogue with a senior member of the community operates to mitigate errors in clinical practice. While novice clinicians prefaced the quality of the relations with members of the community, over the specific number of relationship, the need for strong connections amongst their direct novice peer group in order to navigate the group dynamics of the community as a whole was a new and essential finding of the review. It is these connections between novices which requires further exploration and research to ascertain their significance and value in overcoming barriers experienced among students and novices in practice and how these bonds or relationships may have an impact on novice longevity within the nursing profession (Astley-Cooper, 2012; Molesworth, 2017; Walsh, 2017).

Limitations

Overall, given the systematic review only located qualitative research of any quality in England, Europe and Australia, the findings may not be representative of Communities of Practice globally. Although insightful, greater emphasis should be focused on quantitative research which measures Communities of Practice, the quality of outcomes within these interactions, and level of satisfaction within such communities.

One model that has been successful, and has implications for practice, is the 'preceptorship model' which is an approach that extends beyond supervision itself. It is where a clinician is 'buddied' or assigned with a single novice staff member or student in the clinical setting over a period of time. Although there are variations to this model, it is through this

approach, the preceptors build a strong sense of rapport, provides psychosocial support, while socialising the novice and other novices into obtaining the values, beliefs and identity of the profession and remains a central figure for the novice within the community (Quek & Shorey, 2018; Vihos et al., 2018).

This review has highlighted that when such approaches are centred on CoP, they function successfully to create an environment that prioritise the embedding of novices into the broader group. In so doing, students and novice nurses feel supported, welcomed by the team, empowered to seek clarification, and able to make the transition from student to colleague and novice nurse to more experienced nurse, and to experiment with ever new ways of fulfilling the role. Providing an environment that supports the free dialogue amongst staff of varying levels of development e.g. from novice to more experienced nurses) in the aid of better clinical outcomes can only be considered a positive outcome to pursue.

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Table 1: *Methodological quality assessment of qualitative articles using Critical Appraisal Skills Programme (CASP) checklist*

Author (Year), Country	A	B	C	D	E	F	G	H	I	J	Total	Quality of research paper
Astley-Cooper (2012), England	1	1	1	1	1	0.5	1	1	1	1	9.5	High quality
Hagg-Martinell et al. (2016), Sweden	1	0.5	0.5	1	1	0	0	0.5	1	0	5.5	Exclude
Jorgensen and Hadders (2015), Norway	1	1	0.5	1	1	1	1	1	1	1	9.5	High quality
Lewis and Kelly (2018), Scotland	1	0.5	1	1	1	0.5	1	0.5	0.5	1	8	Moderate quality
Molesworth (2017a), England	0.5	1	1	1	1	1	0.5	0	1	1	8	Moderate quality
Ranse and Grealish (2007a), Australia	1	0.5	0.5	0.5	1	0	0.5	1	1	1	7	Low quality
Thrysoe et al. (2010), Denmark	1	1	1	0.5	1	0	1	1	1	1	8.5	Moderate quality
Thrysoe et al. (2012), Denmark	1	1	1	0.5	1	0	1	1	1	1	8.5	Moderate quality
Walsh (2015), England	0	0.5	1	0.5	1	0	0	0.5	1	0.5	5	Exclude
Walsh (2017), England	1	1	1	1	1	0.5	1	1	1	1	9.5	High quality

Quality criteria: A: Was there a clear statement of the aims of the research?; B: Is a qualitative methodology appropriate?; C: Was the research design appropriate to address the aims of the research?; D: Was the recruitment strategy appropriate to the aims of the research?; E: Was the data collected in a way that addressed the research issue?; F: Has the relationship between researcher and participants been adequately considered?; G: Have ethical issues been taken into consideration?; H: Was the data analysis sufficiently rigorous? I: Is there a clear statement of findings?; J: How valuable is the research?/Recommendations; 1: Yes, 0.5: Unsure, 0: No; High-quality paper: Scores 9–10, Moderate-quality paper: Scores 7.5-9, Low-quality paper: Less than 7.5, Exclude: Less than 6.

Table 2: *Features of reviewed studies*

Author, Year, Country	Design	Sample (N)	Study Year (n)	Study settings	Data collection	Data analysis
Astley-Cooper (2012), England	Hermeneutical phenomenology	10 Students	2nd year =3 3rd year =7	University	Interviews	Thematic analysis.
Jorgensen and Hadders (2015), Norway	Qualitative exploratory	7 Students	3rd year = 7	Bangladeshi Hospital	Interviews; Focus groups	Content analysis
Lewis and Kelly (2018), Scotland	Qualitative exploratory	18 Students	Unspecified	GP practice	Interviews	Not explicitly described
Molesworth (2017), England	Qualitative exploratory	17 Students	1st year = 17	Nursing home	Interviews; Focus groups	Content analysis
Ranse and Grealish (2007), Australia	Qualitative exploratory	25 Students	2nd year = 17 3rd year = 8	Unspecified	Focus groups	Note-based analysis
Thrysoe et al. (2010), Denmark	Hermeneutical phenomenology	9 Students	Unspecified	University	Interviews	Structural analysis
Thrysoe et al. (2012), Denmark	Hermeneutical phenomenology	9 Novice nurses	N/A	Hospital	Interviews; Observation	Structural Analysis
Walsh (2017), England	Phenomenology	7 Students	1st year = 2 2nd year = 1 3rd year = 4	Unspecified	Interviews; Focus groups	Phenomenological analysis