The impact of community learning during a participatory nursing research project

Heemskerk, W.M.; Renden, P.G.; Warning, T.D.; Wallner, C.; Bussemaker, J.; Dikken, J.

The Impact of Community Learning During a Participatory Nursing Research Project

Wendy M. Heemskerk, MEd; Peter G. Renden, PhD; Talitha D. Warning, MSc, RN; Christian Wallner, PhD; Jet Bussemaker, PhD; and Jeroen Dikken, PhD, RN

abstract

Background: Community learning is one approach to promote research competencies and to involve nurses and nursing students in research. This study examines the impact of community learning according to participants—both those inside and outside the community—in a joint nursing research project at a hospital. **Method:** A qualitative design was selected using a participatory approach. Data were collected through semistructured interviews, reflections, conversations, and patient input during 2 academic years. **Results:** Thematic analysis showed 11 themes, which were organized into three clusters: realization, transformation, and influencing factors. Participants perceived changes in practice and described how their perspectives have changed on care, education, and research. Reconsiderations led to some new or revised strategies, and influencing factors were associated with the contemporary context, degree of involvement, and design/facilitation. **Conclusion:** The impact of community learning emerged and extended beyond community boundaries, and the indicated influencing factors must be taken into account. **[*J Contin Educ Nurs.* 2023;54(3):131-144.]**

In response to increasingly complex care, nurses' roles have been expanded, with essential competencies regarding person-centered care, quality and safety, leadership, health policy, technology, and collaboration (Institute of Medicine, 2011; National Academies of Sciences, Engineering, and Medicine, 2021). Another essential competence of the nursing profile concerns the use of research by nurses to deliver nursing best practices. Nurses need to develop an understanding of research and to be able to use research in their day-to-day practice. Moreover, they should critically analyze, share, and apply research findings to inform their practice and make improvements to provide expert care (American Association of Colleges of Nursing, 2021; Hanze University of Applied Sciences Groningen, 2018; Nursing and Midwifery Council, 2018).

Wendy M. Heemskerk, MEd, is PhD candidate/Education Advisor, Leiden University Medical Center, Public Health and Primary Care, LUMC Campus The Hague, and Haga Teaching Hospital, HagaAcademy & Innovation, The Hague, the Netherlands. Peter G. Renden, PhD, is Senior Researcher, The Hague University of Applied Sciences, Faculty of Health, Nutrition & Sport, The Hague, the Netherlands. Talitha D. Warning, MSc, RN, is Scientific Research Coordinator, Haga Teaching Hospital, HagaAcademy & Innovation, The Hague, the Netherlands. Christian Wallner, PhD, is Head Research Group Elderly Nursing Care, University of Applied Sciences Leiden, Faculty of Health, Leiden, and Head Research Group Elderly Nursing Care, Marente, Nursing Home and Home Care Organization, Voorhout, the Netherlands. Jet Bussemaker, PhD, is Professor, Leiden University Medical Center, Public Health and Primary Care, LUMC Campus The Hague, and Leiden University, Institute of Public Administration, Faculty of Governance and Global Affairs, The Hague, the Netherlands. Jeroen Dikken, PhD, RN, is Senior Researcher, The Hague University of Applied Sciences, Faculty of Health, Nutrition & Sport, The Hague, the Netherlands.

The authors have disclosed no potential conflicts of interest, financial or otherwise.

Jet Bussemaker, PhD, and Jeroen Dikken, PhD, RN, should be considered as joint last authors.

The authors thank the nursing students, nursing supervisors, and lecturer for their contributions as community members during the research project as well as the stakeholders outside the community for their participation and input.

Address correspondence to Wendy M. Heemskerk, MEd, PhD candidate/Education Advisor, Leiden University Medical Center, Public Health and Primary Care, LUMC Campus The Hague, Turfmarkt 99, 2511 DP, The Hague, the Netherlands; e-mail: w.m.heemskerk@lumc.nl.

Received: March 19, 2022; Accepted: November 15, 2022.

doi: 10.3928/00220124-20230214-08

To equip nursing students with the required knowledge, skills, and attitudes for their future role, different research courses and interventions have been integrated into the nursing curricula for teaching research competencies (Aglen, 2016; Nordsteien et al., 2017). Collaborative learning is also seen as a beneficial learning strategy for nursing students to promote learning experiences, group skills, and professional teamwork (Zhang & Cui, 2018). Further, clinical placements have become an essential part of educational programs, in which clinical nurses usually have an important function in supporting students' learning in clinical practice (Jayasekara et al., 2018) and are role models (Jack et al., 2017). However, the literature has shown that nursing students find it difficult to use research in clinical practice because they are seldom exposed to nurses who actively use research (Aglen, 2016; Ross & Burrell, 2019). Additionally, nurses experience barriers concerning research participation and use in daily practice. These barriers include a lack of time and limited research knowledge or other factors such as interest, understanding the value of research, adequate facilities, a supportive environment, or teaching and guidance (Berthelsen & Hølge-Hazelton, 2015; Breimaier et al., 2011; Chien et al., 2013; Evans et al., 2014; Hagan & Walden, 2017; Koster et al., 2018).

Several learning methods have been initiated to promote research competencies and the involvement of nurses and nursing students in research (e.g., Häggman-Laitila et al., 2016; Hines et al., 2015; Jamerson et al., 2011; O'Byrne & Smith, 2011; Scala et al., 2016; Waltz et al., 2022). Community learning is a potentially suitable way to enhance nurses' capacity and confidence in conducting research (Landeen et al., 2017). Community learning also offers the opportunity to foster collaboration and improve knowledge (Fingrut et al., 2018) or to enhance students' learning and promote research activities with others (Beishuizen, 2008; Heemskerk et al., 2020). However, little is known about the impact of community learning in hospitals on regular nursing wards where practice-oriented research takes place. The goal of this study is to describe the impact of community learning according to participants—both those inside and outside the community—in a joint practice-oriented research project at a hospital.

COMMUNITY LEARNING

Different types of community learning have been initiated in health care and educational fields, with various names and purposes. Because a variety of communities exist, it is necessary to clarify that the community described in this study contains specific features of a community of learners, in which students undertake various collaborative activities and are featured as designers (i.e., researchers and lecturers) of their own learning (Brown, 1992, 1994). In a community of learners, students have an active role in the process of knowledge building and collaborate with lecturers who support them in working on questions related to the big ideas of the domain of research. Within this community environment, students learn to conduct research in collaboration with others (Beishuizen, 2008). In addition, the community in this study has characteristics of a community of practice, in which people deepen their knowledge and expertise by interacting on an ongoing basis and sharing challenges or passions about a topic (Wenger et al., 2002). The community aspect embodies the development of shared identity around a common agenda or area of learning where individual and collective learning takes place in the development of shared practice (Wenger et al., 2011).

A well-known framework that supports research on community learning and is meant to be useful to both community members and stakeholders is the value creation framework of Wenger et al. (2011). This framework proposes detailed sets of indicators to understand the value created by community involvement. In addition, the framework offers suggestions for using narratives to assess hard-to-measure aspects, such as trust, social capital, and learning (McKellar et al., 2014). In particular, the indicators of Wenger et al. (2011) related to performance improvement and the redefinition of success, also called realized value and transformative value (Wenger-Trayner et al., 2019), provide insight into how changes in practice made a difference (e.g., personal performance, knowledge products) and changed people's perspectives and the broader environment (e.g., community aspirations, institutional changes). Such a framework, which makes it possible to integrate heterogeneous data sources (McKellar et al., 2014) and which can be partially applied for research questions regarding community learning (Heemskerk et al., 2021), is a suitable tool to study the effect of community learning.

METHOD

Study Design

A participatory research design was chosen because this approach focuses on conducting the research process with those who are affected by and/or responsible for action on the issues studied, such as community members (Bergold & Thomas, 2012; Jagosh et al., 2012). Unlike more traditional research approaches, which are usually undertaken by professional researchers or research teams, this study was carried out by researchers in partnership with community members.

Community Context, Goal, and Members

A community was established in a large teaching hospital in the Netherlands in collaboration with three regular nursing wards—surgery, pulmonary, and gastroenterology—and the nursing department of a university of applied sciences. The community was initiated in 2019 to use research competencies of students and to provide possibilities for clinical nurses to engage in practice-oriented research. The manager of the academy of the hospital and faculty manager at the university of applied sciences supported the community. Before the start of the community, both managers organized preparatory meetings with other stakeholders (lecturers, education professionals, and researchers) for information, support, and community participation. Community membership was voluntary to ensure that all members were committed to engaging in the community.

The following members were structurally involved: three nursing supervisors (each was from one nursing ward and supervised the students), two nursing research lecturers of the university of applied sciences (P.G.R., J.D.), one scientific research coordinator of the hospital (T.D.W.), and the principal researcher (W.M.H.). During the first 20-week period, six students in the final year of a bachelor's program in nursing collaborated with the structurally involved members and were, therefore, part of the community. During the second 20-week period, students were replaced with six new nursing students because of a semester change, and a third lecturer participated in the community. Members collaborated in the first period on a joint research topic concerning the quality of care with patient involvement, which matched the students' school assignments. In the second period, follow-up research regarding the previously formulated topic was conducted.

Every 2 weeks, from February 2019 to July 2019 (first period) and from September 2019 to February 2020 (second period), a 2-hour session took place. The first sessions of each period were focused on formulating practical issues into a research problem, aim, and question. During the following sessions, all other stages of the research process, from determining a method to presenting the outcomes, were discussed. In addition, the members explored what contribution they could make to answer the research question regarding the impact of community learning. Although structurally involved members initially facilitated the sessions, all members were accountable for the session content and the creation of a stimulating environment to learn collaboratively. Therefore, members were encouraged to discuss problems and questions, share their writing, and collaborate on different activities, such as selecting respondents for data collection or involving clinical nurses outside the community to participate in the data analysis. Mutual expectations were developed about how to work together and about handling and using information related to the objectives of the overarching research project on the impact of community learning.

TABLE 1

OVERVIEW OF COMMUNITY MEMBERS AND STAKEHOLDERS INVOLVED DURING THE STUDY

Community members	*n*	Stakeholders	*n*
Students[a]	12	Clinical nurses	8
Nursing supervisors	3	Hospital/faculty managers	2
(Research) lecturers[b]	3	Patients	54
Scientific research coordinator	1	Team leaders for nursing wards	4

[a]Six students during the first period and six students during the second period.
[b]Two nursing research lecturers during both periods and one nursing lecturer during the second period.

Research Setting and Participants

This study was conducted in the hospital during two consecutive 20-week periods in the 2018-2019 and 2019-2020 academic years. The participants included both community members and other stakeholders who were not members of the community but were involved in the process (**Table 1**). All participants were personally contacted by the principal researcher and agreed to participate. Patients who were interviewed for data collection regarding the students' school assignments and their joint research project were approached by the students themselves.

Data Collection

Data were collected between February 2019 and June 2020. Two consecutive semesters were chosen for data collection to match the authenticity of the curriculum (i.e., changing student groups after 20 weeks of research) and community development over time. Semistructured interviews with the participants were conducted by the principal researcher. Triangulated data concerned members' reflections, conversations with other participants, and data from patients collected by students of the community (**Table 2**).

The predefined topics realization and transformation, discussed during the interviews, were inspired by the value-creating indicators suggested by Wenger et al. (2011) related to performance improvement and the redefinition of success. Perceived factors of influence by the participants were also discussed. The interviews with patients ended with closing questions to explore their interests in the research findings and discuss their feedback, which are proposed sources of data by Wenger et al. (2011) to evaluate aspects of performance.

TABLE 2

OVERVIEW OF DATA COLLECTION TYPES

Types and participants	No.
Interviews[a,b]	
Semistructured individual interview with students	12
Semistructured individual interview with nursing supervisors	3
Semistructured individual interview with lecturer	1
Semistructured individual interview with clinical nurses	8
Semistructured individual interview with hospital/faculty managers	2
Semistructured group interview with students and nursing supervisors	2
Reflections[c]	
Individual reflection by students	12
Group reflection by research lecturers and scientific research coordinator[d]	4
Group reflection by research lecturers, scientific research coordinator, and nursing supervisors[d]	2
Conversations[c]	
Group conversation among team leaders for nursing wards, students, nursing supervisors, research lecturers, and scientific research coordinator[d]	2
Group conversation kickoff meeting among students, nursing supervisors, and research lecturers[d]	2
Group conversation transition from first period to second period among students, nursing supervisors, research lecturer, and scientific research coordinator[d]	1
Input of patients[e]	
Input of patients collected by students during interviews	54

[a]Core data collected by principal researcher.
[b]Interviews by telephone instead of face-to-face because of coronavirus disease 2019 (COVID-19) (six students, one nursing supervisor, one lecturer, two managers).
[c]Triangulated data collected by principal researcher in collaboration with participants.
[d]Including principal researcher as discussion partner.
[e]Triangulated data collected by students.

In line with a participatory research approach, members periodically reflected on what they had learned from the research findings and the process of working together (Centre for Social Justice and Community Action, Durham University, 2012). Through this ongoing reflection, the insights gained were discussed and brought into relation. In addition, the principal researcher kept a structured log and reflective notes, which were periodically processed after a community session. Each community session was recorded to assist with the log and reflective insights.

The interviews, reflections, and conversations were also recorded and transcribed by the principal researcher to become familiar with the data. Based on the audio records, the patients' input collected by the students was read, checked, and refined if necessary.

Data Analysis

Data were subjected to a thematic analysis process (Braun & Clarke, 2006, 2013) using the qualitative data analysis software ATLAS.ti Windows, version 9 (ATLAS.ti Scientific Software Development GmbH). The collected data regarding the first 20-week period were read and analyzed independently by two researchers (W.M.H., P.G.R.) to indicate initial codes. The initial codes formed an overview of thoughts about the data and were then structured into meaningful categories to identify candidate themes. The predefined descriptions regarding performance improvement (realization), the redefinition of success (transformation), and influencing factors were kept in mind, but the codes were predominantly guided by data. Next, the same researchers and two other researchers (C.W., J.D.) coded the data collected during and after the second 20-week period by using the list to validate and modify the codes, categories, and themes. During this process, data from the first 20 weeks were also reviewed by using the modified list. Finally, the produced themes were defined in combination with the predefined descriptions to indicate what had been realized and transformed during community learning. During the data analysis process, the researchers organized periodic analysis sessions until consensus was reached.

Ethical Considerations and Measures

To conduct this study and enhance quality, an application was submitted to the regional medical ethical committee (METC Zuidwest Holland), and approval was obtained from the hospital board. In addition, the Guidance Committee for Nursing Research of the hospital reviewed the proposals of both student groups (first period and second period) before data collection.

Ethical principles specifically related to a community-based participatory approach were taken into account (Banks et al., 2013; Centre for Social Justice and Community Action, Durham University, 2012; Wilson et al., 2018), in the first place regarding community partnership, collaboration, and power. Consent was obtained from all participants in this study, including those who participated for the benefit of the students' research project. In addition, community participation was voluntary; for example, students could register themselves to participate based on the information they had obtained. At the start of the research project, members discussed how to work together

TABLE 3

OVERVIEW OF CLUSTERS

Cluster	Themes	Content
Realization	Together	Created sense of togetherness and cooperation
	Growth and success	Resulting benefits, developments, or achievements
	Conducting research	Achieved effects, involvement, or experiences in research
	Guidance and facilitation	Established student supervision and provided facilitation
Transformation	New or revised perspectives	Renewal or restructuring of someone's thinking and perception
	Reflection-transfer	Reflective considerations and transfer in changing strategy
	Acting differently	Changed attitude or behavior based on reconsiderations
Influencing factors	Contextual	Contextual circumstances within or around the community
	Direct and/or indirect involvement	People involved inside and/or outside the community
	Design/facilitation	Community design with the associated facilitation
	Expectations of community members	Members' expectations before their participation in the community

as research partners, defining expectations, communication, methods, roles, tasks, facilities, and the process for reflection. The members also came to agreements about research aims, activities, moments of data collection, and at what point they became respondents themselves. Moreover, the principal researcher was not responsible for the assessment of the students or other participants either inside or outside the community. Second, agreements were reached about ownership and about the rights of each member to use the data for their own work or the production of publications. In accordance with the members, the principal researcher (W.M.H.), two members (P.G.R., J.D.), and an independent researcher (C.W.) took responsibility for the thematic analysis and interpretation of the data. Third, training was offered during the sessions to the nursing supervisors and students by the other members to gain knowledge about ethical principles and handling personal data (e.g., consent, personal information, confidentiality, anonymity).

Throughout the research period, community members periodically reflected together on community positionality and relationships to become more aware of the potential issues and conflicts regarding the participatory aspect of the research approach, for example, group dynamics, inclusiveness, and barriers to participation (Banks et al., 2013).

RESULTS

The thematic analysis showed four themes regarding the overarching cluster realization (performance improvement): together, growth and success, conducting research, and guidance and facilitation. Regarding transformation (redefinition of success), three themes were identified: new or revised perspectives, reflection-transfer, and acting differently. A third cluster, influencing factors, included identified factors that may have influenced community learning and its impact. Three themes in this cluster were found: contextual, direct and/or indirect involvement, and design/facilitation. In line with some themes, one separate theme emerged regarding the expectations of community members (**Table 3**).

The clusters (i.e., realization, transformation, influencing factors) and corresponding themes are described and illustrated with quotes of the participants presented in corresponding figures. Reference is made in the text to the figure number and number of the quotation (e.g., see 2:3). The expectations of community members are described and integrated in relation to the respective themes of the overarching clusters.

Realization

Together

Within the community, members described mutual collaboration as "nice," "good," and "plentiful." They described this collaboration based on the activities that the members undertook, for example, working together in conducting research or assessing students. Multiple students experienced some kind of influence on processes and products through their collaborative role within the community (see 1:1). In addition, collectivity was experienced both within and outside the community, which was primarily related to the established cohesion between school and practice. This coherence was seen as a benefit by members because students were no longer being placed

in a position between the two parties (i.e., being passed from pillar to post by school and practice) because of understanding, cooperation, and unambiguity (see 1:2). Managers also saw collectivity regarding the connection between school and practice (see 1:3). Community members also spoke about collaborative learning related to sharing knowledge and perspectives to progress individually and as a group. This collaborative learning was perceived as bringing professionals together in the community, with members expressing their perspectives among themselves and through conversations between members and participants outside the community (i.e., clinical nurses, team leaders) (see 1:4). The collaboration and collectivity that were experienced were in line with the members' previous expectations. In addition, expected challenges among students involved joint decisions about choices, directions, or solutions in addition to dealing with different ways of working. Before the second period, nursing supervisors found it challenging to involve the nursing wards more in community activities (**Figure 1**).

Growth and Success

Students within the community experienced professional development in their nursing role, for example, regarding evidence-based practice, communication, care provision, and coordination. They also developed traits related to inquiring attitudes, such as being critical. Students perceived themselves as being more critical of themselves, care situations, or research. Nursing supervisors also became more critical (see 1:5). In addition, community members expressed personal growth or benefits regarding communication, research, and collaboration. Some students associated the growth or benefits with personal difficulties, such as planning and organizing, gaining conversational skills, and standing up for themselves (see 1:6). Outside the community, some of the interviewed clinical nurses stated that, in future opportunities, they would cooperate in such research activities more quickly or without hesitation (see 1:7). The managers indicated the community learning itself as an advantage (see 1:8), which was also reflected in the statements of most members about re-engagement. However, some students only wanted to participate again under certain conditions, such as having clear agreements or a free choice of research methods. In addition, members sometimes encountered disinterest, resistance, or a lack of understanding by participants outside the community (see 1:9). The professional and personal development experienced was in line with the members' previous expectations involving development in their nursing role or being research-oriented, as well as in the ability to work on personal goals (**Figure 1**).

Conducting Research

Clinical nurses outside the community experienced a changing role for themselves during the students' research project. They had access to the collected data and felt more actively involved during the analysis through their contribution. The nurses were encouraged to encode transcripts, read literature, and discuss their own approach with colleagues (see 1:13). Although the interviewed nurses did not explicitly state that a certain research interest had increased, community members believed that some colleagues were interested or curious about the research. In addition, many patients were curious about the findings, and some patients engaged with students and provided feedback (see 1:14). Within the nursing wards, the actual effects of the research itself and the outcomes were not explicitly noticed by participants. Some of them mentioned a lack of time or heavy workload as possible reasons (see 1:15). Community members considered themselves involved in a larger research project because the research actually took place in practice and because of the research quality in relation to the depth and volume of data (see 1:10-1:12). Previous expectations of community members were similar and related to being part of a larger research project and generating data relevant to practice (**Figure 1**).

Guidance and Facilitation

Community members experienced increasing efficiency with regard to learning, supervision, or additional processes. They mentioned having direct connections and being in touch with each other. Time was saved when it came to the support, assessment, or research process (see 1:16). Inside and outside the community, students' support was indicated by both the students and those who supervised them (see 1:18, 1:19). Several students compared the current support with the support from previous years, internships, or traditional classroom education (see 1:17). The assessing role that some members had toward the students within the community did not seem to be a barrier for most of them. Some students even experienced this role of having interim adjustments as pleasant, as expected by one of the lecturer researchers because they were now a member of the community (**Figure 1**).

Transformation

New or Revised Perspectives

Students within the community described a new or revised perspective on patient care, with words such as "gain insight into" or "become aware of," for example, in regard to the input or concerns of patients (see 2:1). In addition, community members expressed their percep-

Theme	Inside the community	Outside the community
Together	1. *I think, by taking that role, I helped ensure that there was simply a good report. Basically a clear report of what we were going to do.* =student=	3. . . . *you are jointly working on the same research question because you can approach it from different ways. I think that is powerful, you see. So, school and practice are less far apart.* =manager=
	2. . . . *school and practice all agreed. So, you do not get any confusion all of a sudden like: "School thinks this, practice thinks that," with which you cannot do anything. So, that was very pleasant.* =student=	4. *I had never done it* [coding] *before. So, I also went to her* [student] *and said: "Is it wise, because I have never done it." . . . she then explained verbatim what I had to do exactly.* =clinical nurse=
Growth and success	5. . . . *in a research community certainly, because two lecturers were there who look at something from a different perspective . . . that made me, as a nurse supervisor, even more critical than I already was, I think.* =nursing supervisor=	7. *I actually liked being involved in this way, because maybe this* [coding] *will happen more in the future and then the first feeling of uncertainty, which I described earlier, will not be there next time.* =clinical nurse=
	6. *I also dare to state my own interests better in a group project. For example, the idea of the collaborative advisory products also came from me. . . . So, I dare to suggest things better, that is a very important item.* = student=	8. . . . *but this form* [community learning] *of how you designed this in X* [hospital] *. . . that also turned out very nicely.* =manager=
		9. *And so, you also see that the team leader sometimes does not fully see the added value of such a research community.* =nursing supervisor=
Conducting research	10. *The subject, yes, that does not really matter to me. But just really actively doing research, actually being partly in the real world, so to speak.* =student=	13. *And I had to start coding. Then I briefly discussed with the colleague: "How am I going to do that? Should I just add this or should I make a schedule?" And then we came up with this and apparently it was good enough* [laughs]. =clinical nurse=
	11. *That you did research together. And so, that you can also focus on the different insights of diverse wards and different target groups.* =student=	14. *Well only if you find it difficult yourself, then you could write down some points in advance that come to your mind. You can then check whether you have done that.* =patient to student=
	12. *Because you have more data. So, you have data from different wards with the same research question. So, it does not only say something about one ward but also something about the other ward.* = nursing supervisor=	15. *There are certain interests every now and then. But they* [nurses] *experience a lot of workload in the ward, so that research is seen as something additional.* =nursing supervisor=
Guidance and facilitation	16. *First of all, I really liked that there are super short connections. As a student it is quite nice, yes, I think it is really nice that you can consult with your supervisors from practice and with school at the same time, which takes no extra time.* =student=	18. *Well, I also think that if a nurse looks at the interview, at the transcript, and gives her own interpretation to coding, you may also learn something from that as a student. So I think it really is.* =clinical nurse=
	17. *I also received now good support from school, but also from here* [practice]. *It was of course the first time, but I have never experienced such support from school in this way. And this was ten times better than before.* =student=	19. *But it is just really nice to see what they* [students] *are doing. Then you can also ask about it and support them of course.* =clinical nurse=

Figure 1: Quotes illustrating the themes of the realization cluster.

Theme	Inside the community	Outside the community
New or revised perspectives	1. *I do think that there are subjects that you may not think of very quickly, but which have a lot of influence on the patient, so to say, or play a significant role. And I mainly think the feelings . . . And I have become more aware of that, yes.* =student= 2. *After our first session, we talked about design thinking, well I did not like it . . . yes, it has changed. Because now I understand, I now know the goal and what you can achieve with it. So now I think it is, yes, good.* =student=	3. *But I think that meeting last year also helped them* [lecturers] *understand what it can mean and how important it really is to offer much more guidance in the workplace.* =manager= 4. *Then I thought: "Oh, it* [coding data] *is a little easier than I thought. Yes."* =clinical nurse=
Reflection-transfer	5. *But also learning to reflect with yourself, for example, by listening to those interviews, I have become very aware of how I say things sometimes.* =student= 6. *Yeah, so what I really missed was a cooperation agreement. Now the group was there, most of them knew each other and that is why it might not have been necessary at first, but certainly later I thought: "We do need this." Because you have to be able to fall back on something . . .* =student=	7. *So I think yes, that it is confirmed for myself that I can do more than I sometimes think. . . . Well, I am not so aware that I think in limitations. Until I have to think about it. And then I come to the conclusion like: "Oh, I can do more."* =clinical nurse= 8. *Yes. So you now see that, for example, the fourth year* [nursing educational program] *already teaches in a different way and takes that into account in their program. So yes . . . that is actually already embedded. Yes.* =manager=
Acting differently	9. *Every now and then I try to take a little more time to really sit with the patient so that he can tell his story. Because that is often, well, not everyone needs it, but some patients need it too. And I think, I have developed that insight more.* =student= 10. *Yes. By using the design thinking method, I have become more aware of the importance of prompting questions. . . . And now I experience that I enter into a conversation like: "How do you mean? . . ."* =student=	11. *So yes, you know, of course the priority lies with the acute situation. Anyway, I have seven other people who also need attention. They got less at that time. And when it was quiet again I made time for them again. So in a way you make up for what you missed before, so to speak.* =clinical nurse=

Figure 2: Quotes illustrating the themes of the overarching transformation cluster.

tions of education and learning, and revised perceptions of participants outside the community were also noted, such as lecturers who now understand the importance of learning and coaching in practice (see 2:3). Community members also reconsidered perceptions of research. For example, they recognized the added value and pleasure of doing group research as well as the usefulness of the design thinking method, which was applied by the community during the second period (see 2:2). Some clinical nurses outside the community described a revised perspective on coding data, such as the difficulty of coding (see 2:4) (**Figure 2**).

Reflection-Transfer

Participants within and outside of the community voiced personal reflections on personal actions, behavior or roles, and changes in strategy, for instance, a personal reflection on something that could have been done differently or specific moments when self-reflection was promoted (see 2:5). The reflective considerations that arose among some of the clinical nurses outside the community related to their own actions, development, or competencies, sometimes with regard to what could be improved, but they also reflected on their own capacities (see 2:7). Regarding changes in strategy, members from the first period chose to do some

things differently during the second period, for example, discussing the final product earlier in the process, adjusting the assessment strategy, or including additional sessions with each other. The students from the first period insisted on proposing a cooperation agreement to avoid the mutual tensions they had experienced (see 2:6), which was drawn up by the students of the second period. In addition, strategy changes were underway outside the community involving implementing community learning in other health care organizations and adopting group-oriented research in the educational program (see 2:8) (**Figure 2**).

Acting Differently

Students from the community mainly experienced changing attitudes or behavior based on a reconsideration of what they considered important. First, regarding patient care, students tailored their behavior to the wishes or needs of the patients, for example, taking time for patients based on the insight that they want to share their stories (see 2:9). Second, regarding questions and conversations, students consciously asked questions and engaged with patients or other professionals based on their insights (see 2:10). Other participants expressed no actual change in their own attitudes or behavior, with the exception of one nurse outside the community, who remarked on taking time for patients who have less priority (see 2:11) (**Figure 2**).

Influencing Factors

Contextual

Participants voiced influencing factors regarding existing knowledge, previous experiences, and mutual connections between people (see 3:1, 3:3). In addition, a few students indicated that a safe environment was a contributing factor to community activities (see 3:2). A lack of time to participate in research activities during daily practice was frequently expressed by students of the community and clinical nurses outside the community (see 3:4). Individual characteristics such as inexperience, lack of knowledge, or private circumstances were also mentioned, as were personal concerns or prevailing beliefs. For example, some noted resistance or a lack of understanding by some of the professionals outside the community (see 3:5). One student expected to feel safe and familiar in the community beforehand. Some other students did not know exactly what to expect beforehand or approached the community with an open attitude (**Figure 3**).

Direct and/or Indirect Involvement

Other influencing factors related to those who are involved in and outside the community, for example, the cooperation of patients in the research and mutual student relationships. These student relationships included helping and complementing each other (see 3:6). Several clinical nurses outside the community expressed that the information provided was unclear regarding their coding task. In addition, there was no feedback from the students after their contribution. Earlier and better involvement of the nursing ward was recognized by the members in the community, with some clinical nurses outside the community suggesting that an improvement in this aspect could increase the willingness to engage in research (see 3:8). Specifically, students in the first period encountered mutual problems related to communication and collaboration that eventually led to discussions and unresolved arguments. This item was later discussed by some students from the first period and the new students from the second period (see 3:7) (**Figure 3**).

Design/Facilitation

Community members perceived facilitating design aspects such as being part of a group, frequently meeting in one location in clinical practice, practical application, and learning on demand (see 3:9). The ability to provide input as a student and the opportunity to ask questions and discuss problems were mentioned in the same line. Specifically, managers outside the community believed that commitment, multilevel support, and supportive leadership were essential (see 3:11, 3:12). Community members sometimes experienced the design and ongoing processes as difficult, for example, the time required for group processes or participation in an existing research project. The different roles of professionals within the community were sometimes seen as difficult, and students in the community experienced some difficulties in supervision and provision of information. For the first group of students, this difficulty was related to experimenting with something new (research in a community) and the associated ambiguities. For the second group of students, difficulties were mainly a result of miscommunication between lecturers in the community and misalignment with regard to the final product (see 3:10) (**Figure 3**).

DISCUSSION

This study was designed to examine the impact of community learning inside and outside the community during a joint practice-oriented research project at a hospital. The results of this study show that the impact of community learning emerges within the community but also extends beyond community boundaries.

First, this study shows the impact of community learning by identifying what change this learning has achieved and how it made a difference. Participants inside and outside the community experienced growth or improvement in performance for themselves and/or others. This growth

Theme	Inside the community	Outside the community
Contextual	1. *Yes, I think it helped that we already knew each other. So I have actually worked with everyone at least once. So that helped.* =student=	3. *Yes, of course, I still had my prior knowledge from school.* =clinical nurse=
	2. *And then also just the openness of the group. That everyone just expressed their thoughts and yes, just a safe environment . . .* =student=	4. *But hey, there's almost never time for that. At least you're invited* [for the sessions], *but then again, I think patient care is just more important.* =clinical nurse=
		5. *He* [team leader] *thinks: "Yes, that costs a lot of money if all those lecturers and nursing supervisors come together for one group of students." And I think he also expresses this vision, which of course also influences the team.* =nursing supervisor=
Direct and/or indirect involvement	6. *Be open to each other. And see and use each other's qualities. And see each other's shortcomings, well, see weaknesses and help with that. Complement each other, yes. Especially that.* =student=	8. *Well, I think it would be nice if colleagues were there. And that is because you will indeed understand more why it is done and how it should be done. And I think that resistance can indeed be removed. I noticed that when we talked about it. Everyone also said: "If we get an explanation about the research from someone, people will say 'yes' to coding much faster."* =clinical nurse=
	7. *The collaboration* [between students in the community]. *It ended very badly. That is because we did not communicate well with each other. We had not made any agreements in advance.* =student=	
Design/ facilitation	9. *And I also really enjoy discussing the questions I have right away. And when I also heard that they would see each other so frequently, every two weeks, I think. Or sometimes it was even every Monday of the week that we saw each other. That you could just discuss issues every time.* =student=	11. *But it is also a matter of relying on substantive expertise. You know? So, yeah, then I should not know any better. You know? As scary as it is sometimes, then yes, that is the substantive expertise and you learn that pretty quickly I think. Of course you learn to trust like: "Well, if they need me, I will hear it."* =manager=
	10. *Well, I think the lecturers should have been more aligned. Because that is where it went wrong. One said this and the other said that.* =student=	12. *Well, there must be commitment from the directors, yes. Which you clearly understand on different levels: "Do you know what you are getting into?"* =manager=

Figure 3: Quotes illustrating the themes of the influencing factors cluster.

or improvement was related to conducting research and associated attitudinal traits (e.g., being critical) as well as personal goals or challenges. Moreover, community members stated that they also developed further as a group. Consistent with the literature about the potential of community learning to enable learning both individually and collectively (Heemskerk et al., 2020; Stoll et al., 2006; Wenger et al., 2011), this study shows that learning with and from each other in shared practice can be achieved, driven by the different perspectives of participants and joint activities or interactions. Bringing students' and professionals' perspectives together in one community seems to allow members, individually and collectively, to feel empowered to learn with others outside the community when undertaking research activities. Notably, despite the constraints mentioned by the participants (e.g., lack of time, sense of resistance, or unclear communication regarding their contributions), mutual activities and interactions with community members challenged clinical nurses outside the community to contribute to research differently than they had previously, for example, by contributing to data analysis instead of just giving feedback. In addition to other studies that generally focused on learning methods specifically designed for nurses to promote their research competencies or involvement (e.g., Carter et al., 2020; Chlan et al., 2020; Landeen et al., 2017),

this study finds that clinical nurses can also be encouraged to conduct research through the learning of others (i.e., community members) rather than being an active part of a respective learning method or group themselves.

Second, this study shows the impact of community learning by indicating how participants' perspectives and the environment have changed. The results of this study support previous research regarding value creation in communities that showed that members restructured their thinking about professional topics, other people, and/or personal competencies (Bertram et al., 2017; Booth & Kellogg, 2015; Dingyloudi & Strijbos, 2015; Triste et al., 2018). In this case, members' participation in the community allowed them to revise their perspectives on care, education, and/or research but also resulted in a better understanding of their own actions and behavior as well as those of others. In addition to previous studies, this study also shows a transformation of practice or strategies, for example, students of the community stated that they acted differently regarding patient care and communication based on a reconsideration of what they found important. Further, new or revised processes and products were created and adopted by participants inside and outside the community (e.g., assessment strategy, cooperation agreement, group-oriented research). Possible explanations for these additional findings are that previous studies collected the data in a single time frame and that the opportunity for reflective activities to make actual transformation explicit was limited. Additionally, Dingyloudi et al. (2019) explicated that redefining success and reflecting on individual or collective strategies are complex to express and require a high level of reflection by the participants. It appears that the period of data collection during this study (multiple time frames over 2 academic years, including data collected from new members joining the community after the first semester) made it possible to perceive subsequent changes in the environment, which would otherwise have remained hidden. Moreover, the diverse reflections and conversations among students, professionals, and lecturers as part of the participatory research may have prompted articulation of specific transformations and made unconscious changes more apparent.

The findings shed light on the impact of community learning according to members and stakeholders outside the community. Changes both inside and outside the community were indicated that made a difference as well as a renewal of perspectives and the environment. For example, clinical nurses outside the community contributed to the research, some of whom engaged in personal reflective considerations, managers reflected on community learning as added value, and stakeholders' resistance or misunderstandings apparently were reduced through dialogue and experience. A similar occurrence was also reported by Smit et al. (2021), where scholars explained this as a spillover phenomenon. Although Smit et al. (2021) focused on interprofessional collaboration between primary health care professionals, both participant groups (program and nonprogram) developed their interprofessional network further, and scholars related this phenomenon to the theory of the three degrees of influence of Christakis and Fowler (2009). This theory holds that everything people do or say tends to ripple through their networks and have an impact on others: friends (one degree), friends of friends (two degrees), and friends of friends of friends (three degrees). Similarly, the current study shows a spillover effect of community learning for the members who are directly connected within the community itself, for the patients and colleagues of the members outside the community (e.g., clinical nurses, team leaders, managers), and for those people at other levels or in other organizations who are connected to the colleagues of the community members (e.g., policy-makers, education developers).

The study results suggest that most of the influencing factors are related to the community from which members instantly learned or benefited. For instance, the mutual issues between students from the first period were reflected as barriers, but the learning process also made the issues explicit so as to avoid possible pitfalls in the future. Moreover, working in a small group, being part of the community, having opportunities for discussion, experiencing a safe environment, and having learning activities relevant to practice were valued. According to Vangrieken et al. (2017), a supportive community environment requires a balance between creating openness and making room for constructive discussions and in-depth collaboration to maximize learning opportunities. Hence, a culture of respect and trust is important to create such a balance between feeling safe and being challenged. It is conceivable that the strength of the impact was reinforced because of such a balance in the community, given the influencing factors that were identified by members and the readiness of most members to re-engage after their experience. In addition, the strength of the impact seems to be nurtured by research collaboration of the community. This insight may be explained by the fact that communities usually develop a shared identity around a common area of learning (Vrieling et al., 2016; Wenger et al., 2011). In this case, the area of learning concerned collaborative research, and members' previous expectations were often related to this area. It is likely that when members operate from a common area of learning with corresponding expectations, the emerged impact will align more closely to the community objective, which, in this community, was related to using research competencies and providing possibilities to engage in research.

Future Research

Because this study was conducted in a single community, it would be worthwhile to investigate how other communities, during the clinical placements of nursing students, contribute to scientific insights on community learning and professional development of nurses in health care organizations. Further research is needed to explore how health care organizations can facilitate community learning, considering the influencing factors identified by participants. For example, action research is suggested for communities to experiment with contributing factors and evaluate the influence of perceived barriers. Finally, the study findings were obtained using parts of the value creation framework of Wenger et al. (2011). Future research that takes the whole framework into account is recommended to examine communities in nursing practice more generally.

Implications for Learning and Development

The findings articulated in this article contribute to the body of knowledge of community learning that is useful in encouraging clinical nurses, nursing students, and other professionals to use collaborative research. Further, community learning in collaboration with nursing students may help clinical nurses in developing research competencies, collaborative learning, and new partnerships. Community learning in nursing practice might bring difficulties because of influencing factors. Therefore, it is important to consider such difficulties as part of the learning process and not as evidence of failure. Careful preparation with stakeholders and a supportive environment in which clinical nurses and their students receive time, opportunities, and responsibilities to address difficulties and learn from them are essential.

Strengths

One strength of this study is its participatory approach, which enabled researchers to enter the research field as community members. Although such approaches can be a time-consuming way of obtaining access, they also offer an opportunity for researchers to become familiar with the participants and vice versa (Flick, 2018). Moreover, this approach makes it possible to engage the participants directly, both inside and outside the community, and facilitates the collection of multiple data in the field. Other strengths are the prolonged engagement in the research field and the triangulation of data and researchers, which strengthens the credibility of the research (Lincoln & Guba, 1985).

Limitations

This study also has some limitations that should be taken into account. First, although data were predominantly collected face-to-face, 10 interviews were conducted by telephone because of the coronavirus disease 2019 (COVID-19) pandemic (data collection between the end of March and June 2020). This approach may have distorted the data because facial expressions and body language were not part of the communication process during the telephone interviews. However, the lack of visual cues can also force researchers to listen even more effectively and offers them the opportunity to discreetly write follow-up questions while respondents are speaking (Farooq & de Villiers, 2017), which was also experienced by the researcher who conducted the telephone interviews during this study. Second, the involved lecturer researchers participated not only in collecting and analyzing the data but also in experiencing this type of community learning and assessing the students during their research process. This approach may create issues regarding the level of influence on the "student researchers" or bias in the interpretation of the findings when research is also used for its own ends (Banks et al., 2013). Nevertheless, most students did not experience the assessment role of lecturer researchers as a barrier, and transparency of the study was reinforced by the involvement of external researchers (C.W., J.B.) and the recurring moments of the researchers' reflexivity. Third, only the participants who were directly or indirectly involved were interviewed during this study. However, the stories of these participants suggested that the impact extended beyond the boundaries of this population (e.g., in lecturer teams or other health care organizations). Because these target groups were not interviewed and these data were obtained secondhand, the actual level of impact according to these groups was not verified. Nonetheless, the findings are based on triangulated data obtained from various participants inside and outside the community, which contributed to a comprehensive description of the impact of community learning in this specific research context.

CONCLUSION

This study shows an impact of community learning that is experienced within the community and extends beyond community boundaries. Conducting joint practice-oriented research within a community triggers collaboration and an improvement of individual and group performance. Participants within and outside of the community are challenged to contribute or become involved in research activities and the related process. With this type of learning, participants are able to restructure their thinking about topics they consider important and revise their own strategies. It is important to take influencing factors into account to build on effective practices. Given the results, community learning in nursing practice can be considered as a suitable approach to foster collaboration in research and continue learning.

REFERENCES

Aglen, B. (2016). Pedagogical strategies to teach bachelor students evidence-based practice: A systematic review. *Nurse Education Today, 36,* 255-263. https://doi.org/10.1016/j.nedt. 2015.08.025

American Association of Colleges of Nursing. (2021). *The essentials: Core competencies for professional nursing education.* https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf

Banks, S., Armstrong, A., Carter, K., Graham, H., Hayward, P., Henry, A., Holland, T., Holmes, C., Lee, A., McNulty, A., Moore, N., Nayling, N., Stokoe, A., & Strachan, A. (2013). Everyday ethics in community-based participatory research. *Contemporary Social Science, 8*(3), 263–277. https://doi.org/10.1080/21582041.2013.769618

Beishuizen, J. (2008). Does a community of learners foster self-regulated learning? *Technology, Pedagogy and Education, 17*(3), 183–193. https://doi.org/10.1080/14759390802383769

Bergold, J., & Thomas, S. (2012). Participatory research methods: A methodological approach in motion. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, 13*(1). Advance online publication. https://doi.org/10.17169/fqs-13.1.1801

Berthelsen, C. B., & Hølge-Hazelton, B. (2015). Orthopaedic nurses' attitudes towards clinical nursing research: A cross-sectional survey. *International Journal of Orthopaedic and Trauma Nursing, 19*(2), 74–84. https://doi.org/10.1016/j.ijotn.2014.10.004 PMID:25846220

Bertram, R., Culver, D. M., & Gilbert, W. (2017). A university sport coach community of practice: Using a value creation framework to explore learning and social interactions. *International Journal of Sports Science & Coaching, 12*(3), 287–302. https://doi.org/10.1177/1747954117710503

Booth, S. E., & Kellogg, S. B. (2015). Value creation in online communities for educators. *British Journal of Educational Technology, 46*(4), 684–698. https://doi.org/10.1111/bjet.12168

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners.* SAGE Publications.

Breimaier, H. E., Halfens, R. J., & Lohrmann, C. (2011). Nurses' wishes, knowledge, attitudes and perceived barriers on implementing research findings into practice among graduate nurses in Austria. *Journal of Clinical Nursing, 20*(11-12), 1744–1756. https://doi.org/10.1111/j.1365-2702.2010.03491.x PMID:21362075

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Sciences, 2*(2), 141–178. https://doi.org/10.1207/s15327809jls0202_2

Brown, A. L. (1994). The advancement of learning. *Educational Researcher, 23*(8), 4–12. https://doi.org/10.3102/0013189X023008004

Carter, E. J., Cato, K. D., Rivera, R. R., Kulage, K. M., Liu, J., Vose, C., & Larson, E. (2020). Programmatic details and outcomes of an academic-practice research fellowship for clinical nurses. *Applied Nursing Research, 55,* 151296. https://doi.org/10.1016/j.apnr.2020

Centre for Social Justice and Community Action, Durham University. (2012). National Co-ordinating Centre for Public Engagement. *Community-based participatory research: A guide to ethical principles and practice.* https://www.publicengagement.ac.uk/sites/default/files/publication/cbpr_ethics_guide_web_november_2012.pdf

Chien, W. T., Bai, Q., Wong, W. K., Wang, H., & Lu, X. (2013). Nurses' perceived barriers to and facilitators of research utilization in mainland China: A cross-sectional survey. *The Open Nursing Journal, 7,* 96–106. https://doi.org/10.2174/1874434601307010096 PMID:23919099

Chlan, L. L., Johnson, P. O., Peterson, P. E., Striegel, L., Au, G., Fritsche, A., Bursiek, A., Engelmann, A., & Tofthagen, C. (2020). Strategies to promote nurses' engagement in clinical research: Description of two nurse scholar programs. *Journal of Professional Nursing, 36*(3), 111–115. https://doi.org/10.1016/j.profnurs.2019.11.001 PMID:32527631

Christakis, N. A., & Fowler, J. H. (2009). *Connected: The surprising power of our social networks and how they shape our lives.* Little, Brown and Company.

Dingyloudi, F., & Strijbos, J.-W. (2015). Examining value creation in a community of learning practice: Methodological reflections on storytelling and story-reading. *Seminar.Net, 11*(3), 209-222. https://doi.org/10.7577/seminar.2348

Dingyloudi, F., Strijbos, J.-W., & de Laat, M. F. (2019). Value creation: What matters most in communities of learning practice in higher education. *Studies in Educational Evaluation, 62,* 209–223. https://doi.org/10.1016/j.stueduc.2019.05.006

Evans, G., Duggan, R., & Boldy, D. (2014). An exploration of nursing research perceptions of registered nurses engaging in research activities at a metropolitan hospital in Western Australia. *Collegian (Royal College of Nursing, Australia), 21*(3), 225–232. https://doi.org/10.1016/j.colegn.2013.04.006 PMID:25632717

Farooq, M. B., & de Villiers, C. (2017). Telephonic qualitative research interviews: When to consider them and how to do them *Meditari Accountancy Research, 25*(2), 291–316. https://doi.org/10.1108/MEDAR-10-2016-0083

Fingrut, W., Beck, L. A., & Lo, D. (2018). Building an oncology community of practice to improve cancer care. *Current Oncology, 25*(6), 371–377. https://doi.org/10.3747/co.25.4087 PMID:30607111

Flick, U. (2018). *An introduction to qualitative research* (6th ed.). SAGE Publications.

Hagan, J., & Walden, M. (2017). Development and evaluation of the barriers to nurses' participation in research questionnaire at a large academic pediatric hospital. *Clinical Nursing Research, 26*(2), 157–175. https://doi.org/10.1177/1054773815609889 PMID:26471870

Häggman-Laitila, A., Mattila, L. R., & Melender, H. L. (2016). Educational interventions on evidence-based nursing in clinical practice: A systematic review with qualitative analysis. *Nurse Education Today, 43,* 50–59. https://doi.org/10.1016/j.nedt.2016.04.023 PMID:27286945

Hanze University of Applied Sciences Groningen. (2018). *Bachelor of nursing 2020: A future-proof programme profile 4.0.* https://www.hanze.nl/assets/academie-voor-verpleegkunde/Documents/Public/2018%20BSc%202020%20LOOV%20Engels%20for%20mail%20and%20ISSUU.pdf

Heemskerk, W. M., Dauphin, S. L. M., van Dorst, M. A., Bussemaker, M., & Wallner, C. (2021). A learning community within nursing practice: The value created by the activities and interactions during the early stage of community development. *Nurse Education in Practice, 57,* 103242. Advance online publication. https://doi.org/10.1016/j.nepr.2021.103242 PMID:34736079

Heemskerk, W. M., Warning, T. D., Brus, F., & Snoeren, M. M. W. C. (2020). The potential for learning within hospital learning communities: The interplay between nursing practice and education to support research ability. *International Journal of Nursing Education Scholarship, 17*(1):/j/ijnes.2020.17.issue-1/ijnes-2019-0114/ijnes-2019-0114.xml. Advance online publication. https://doi.org/10.1515/ijnes-2019-0114 PMID:32651982

Hines, S., Ramsbotham, J., & Coyer, F. (2015). The effectiveness of interventions for improving the research literacy of nurses: A systematic review. *Worldviews on Evidence-Based Nursing, 12*(5), 265–272. https://doi.org/10.1111/wvn.12106 PMID:26422084

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health.* National Academies Press. https://doi.org/10.17226/12956

Jack, K., Hamshire, C., & Chambers, A. (2017). The influence of role models in undergraduate nurse education. *Journal of Clinical Nursing, 26*(23-24), 4707–4715. https://doi.org/10.1111/jocn.13822 PMID:28334475

Jagosh, J., Macaulay, A. C., Pluye, P., Salsberg, J., Bush, P. L., Henderson, J., Sirett, E., Wong, G., Cargo, M., Herbert, C. P., Seifer, S. D., Green, L. W., & Greenhalgh, T. (2012). Uncovering the benefits of participatory research: Implications of a realist review for health research and practice. *The Milbank Quarterly, 90*(2), 311–346. Advance online publication. https://doi.org/10.1111/j.1468-0009.2012.00665.x PMID:22709390

Jamerson, P. A., Fish, A. F., & Frandsen, G. (2011). Nursing student research assistant program: A strategy to enhance nursing research capacity building in a Magnet status pediatric hospital. *Applied Nursing Research, 24*(2), 110–113. https://doi.org/10.1016/j.apnr.2009.08.004

Jayasekara, R., Smith, C., Hall, C., Rankin, E., Smith, M., Visvanathan, V., & Friebe, T.-R. (2018). The effectiveness of clinical education models for undergraduate nursing programs: A systematic review. *Nurse Education in Practice, 29,* 116-126. https://doi.org/10.1016/j.nepr.2017.12.006

Koster, S., Bonnema, N., Brusse-KeiZer, M., & Borghuis, M. (2018). Drempels voor zelf uitvoeren en meedoen: Verpleegkundig onderzoek. *Tijdschrift voor Ziekenverpleging, 128*(1), 36–39. https://doi.org/10.1007/s41184-018-0014-9

Landeen, J., Kirkpatrick, H., & Doyle, W. (2017). The hope research community of practice: Building advanced practice nurses' research capacity. *Canadian Journal of Nursing Research, 49*(3), 127–136. https://doi.org/10.1177/0844562117716851 PMID:28841063

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry.* SAGE Publications. https://doi.org/10.1016/0147-1767(85)90062-8

McKellar, K. A., Pitzul, K. B., Yi, J. Y., & Cole, D. C. (2014). Evaluating communities of practice and knowledge networks: A systematic scoping review of evaluation frameworks. *EcoHealth, 11*(3), 383–399. https://doi.org/10.1007/s10393-014-0958-3 PMID:25023411

National Academies of Sciences, Engineering, and Medicine. (2021). *The future of nursing 2020–2030: Charting a path to achieve health equity.* National Academies Press. https://doi.org/10.17226/25982

Nordsteien, A., Horntvedt, M. T., & Syse, J. (2017). Use of research in undergraduate nursing students' theses: A mixed methods study. *Nurse Education Today, 56,* 23–28. https://doi.org/10.1016/j.nedt.2017.06.001 PMID:28646707

Nursing and Midwifery Council. (2018). *Future nurse: Standards of proficiency for registered nurses.* https://www.nmc.org.uk/globalassets/sitedocuments/standards-of-proficiency/nurses/future-nurse-proficiencies.pdf.

O'Byrne, L., & Smith, S. (2011). Models to enhance research capacity and capability in clinical nurses: A narrative review. *Journal of Clinical Nursing, 20*(9-10), 1365–1371. https://doi.org/10.1111/j.1365-2702.2010.03282.x PMID:21040029

Ross, J. G., & Burrell, S. A. (2019). Nursing students' attitudes toward research: An integrative review. *Nurse Education Today, 82,* 79–87. https://doi.org/10.1016/j.nedt.2019.08.006 PMID:31445467

Scala, E., Price, C., & Day, J. (2016). An integrative review of engaging clinical nurses in nursing research. *Journal of Nursing Scholarship, 48*(4), 423–430. https://doi.org/10.1111/jnu.12223 PMID:27232935

Smit, L. C., Dikken, J., Moolenaar, N. M., Schuurmans, M. J., de Wit, N. J., & Bleijenberg, N. (2021). Implementation of an interprofessional collaboration in practice program: A feasibility study using social network analysis. *Pilot and Feasibility Studies, 7*(1), 7. Advance online publication. https://doi.org/10.1186/s40814-020-00746-3 PMID:33407919

Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change, 7*(4), 221–258. https://doi.org/10.1007/s10833-006-0001-8

Triste, L., Debruyne, L., Vandenabeele, J., Marchand, F., & Lauwers, L. (2018). Communities of practice for knowledge co-creation on sustainable dairy farming: Features for value creation for farmers. *Sustainability Science, 13*(5), 1427–1442. https://doi.org/10.1007/s11625-018-0554-5

Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education, 61,* 47–59. https://doi.org/10.1016/j.tate.2016.10.001

Vrieling, E., van den Beemt, A., & de Laat, M. (2016). What's in a name: Dimensions of social learning in teacher groups. *Teachers and Teaching, 22*(3), 273-292. https://doi.org/10.1080/13540602.2015.1058588

Waltz, L. A., Munoz, L., Miller, R. A., & Weber Johnson, H. (2022). Measuring the impact of an educational intervention on evidence-based practice. *The Journal of Continuing Education in Nursing, 53*(3), 109–114. https://doi.org/10.3928/00220124-20220210-05 PMID:35244462

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge.* Harvard Business School Press.

Wenger, E., Trayner, B., & de Laat, M. (2011). *Promoting and assessing value creation in communities and networks: A conceptual framework* (Report no. 18). Ruud de Moor Centrum, Open University of the Netherlands.

Wenger-Trayner, B., Wenger-Trayner, E., Cameron, J., Eryigit-Madzwamuse, S., & Hart, A. (2019). Boundaries and boundary objects: An evaluation framework for mixed methods research. *Journal of Mixed Methods Research, 13*(3), 321–338. https://doi.org/10.1177/1558689817732225

Wilson, E., Kenny, A., & Dickson-Swift, V. (2018). Ethical challenges in community-based participatory research: A scoping review. *Qualitative Health Research, 28*(2), 189–199. https://doi.org/10.1177/1049732317690721 PMID:29235941

Zhang, J., & Cui, Q. (2018). Collaborative learning in higher nursing education: A systematic review. *Journal of Professional Nursing, 34*(5), 378–388. https://doi.org/10.1016/j.profnurs.2018.07.007 PMID:30243695