

EMPIRICAL RESEARCH QUALITATIVE

Nurses' perspective on team learning in interprofessional teams

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Abstract

Aim: The aim of this study is to find out what learning activities in interprofessional teams and what influencing factors for team learning activities in interprofessional teams can be described by nurses working in interprofessional teams.

Design: We conducted a descriptive interview study.

Methods: We used a semi-structured interview guideline and interviewed 10 nurses ($N = 10$) working in interprofessional teams. We analyzed our data using a qualitative content analysis.

Results: Nurses describe team learning activities of knowledge sharing, team reflection, and storing and retrieving. Furthermore, our results show that team stability is important for interprofessional teams.

Patient or Public Contribution: Our results can be helpful for hospitals to improve organizational structures that help interprofessional teams to work together. Furthermore, vocational education and training for nurses should offer possibilities for nursing students to learn together with students of other fields

KEYWORDS

team learning activities, interprofessional teams, knowledge sharing, reflection, storing and retrieving

1 | INTRODUCTION

Healthcare systems all over the world are facing new challenges, such as the COVID-19 pandemic (Blumenthal et al., 2020). Besides of this, nursing and healthcare delivery, in general, are becoming “increasingly complex and fragmented” (Goldsberry, 2018, p. 3). Interprofessional practice in health care and effective teamwork among health professionals are seen as important for handling new challenges and providing safe and effective care (Kvarnström, 2008). Research indicates that “effective collaboration and communication in interprofessional teams are key to high quality and safety in healthcare delivery” (Schmidt et al., 2021, p. 2).

Interprofessional teams in nursing are characterized by the collaborative work of professionals from different fields to give comprehensive services and deliver the highest quality of care across diverse settings (Morgan et al., 2019). Working together in an interprofessional team can be defined as a “partnership between people from diverse backgrounds with distinctive professional cultures and possibly representing different organizations or sectors, who work together to solve problems or provide services” (Morgan et al., 2015, p. 1218).

Research on interprofessional teams and their work mostly focuses on two different topics. On the one hand, many studies focus on educational training programs that aim to improve nursing

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students', nurses' or physicians' skills for working in interprofessional teams (Almendingen et al., 2021; Liaw et al., 2019). Results indicate that training can improve, for instance, communication practices (Schmidt et al., 2021). On the other hand, a broad body of research explores the results of effective interprofessional work and their influence on patient care (Hustoft et al., 2018).

Besides the fact that interprofessional work in nursing is important for improving patient care, less is known about how these positive results can be achieved. Team learning theories give insight into how members of a team are connected with each other and their environment (Decuyper et al., 2010). While working together in teams, members share knowledge or reflect on past events. Such learning activities can lead to "a relatively change in a team's collective level of knowledge and skills produced by the shared experience of the team members" (Ellis et al., 2003, p. 822).

Studies showed that nurses have a key role in interprofessional teams. For instance, Baik and Zierler (2019) found out that interprofessional teams need nurses as "the cornerstones to improve care delivery, nursing outcomes and quality of patient care" (p.430). Nurses are not only the largest professional group in health care systems, but they are also most frequently involved in interprofessional teams (Schot et al., 2020), and this is in different clinical settings, such as acute care, primary care or long-time care (Boyle et al., 2019).

Therefore, this study seeks to gain insight into how nurses describe team learning activities occurring in interprofessional work teams in nursing and what influencing factors they can describe. A descriptive interview study with nurses who work in interprofessional teams was conducted, focusing on the following research questions:

- Do nurses of interprofessional teams describe team learning activities of knowledge sharing, reflection, storing and retrieving, and boundary crossing as a part of their professional work in interprofessional teams?
- What influencing factors on the individual, team and organizational levels on team learning activities of knowledge sharing, reflection, storing and retrieving, and boundary crossing in interprofessional teams do nurses describe?

2 | BACKGROUND

2.1 | Interprofessional teams in nursing

Interprofessional healthcare teams consist of members of different fields who work together "to help identify and intervene upon social, system, and patient-level factors that facilitate or impede care, with the end goal of improving population health outcomes" (Powell et al., 2016, p. 2). Therefore, interprofessional healthcare teams "have the responsibility to optimise members' skills, share care management, and deliver high-quality health services, and outcomes, to patients and communities" (Parker-Tomlin et al., 2017, p.1). Theories on collaboration in interprofessional teams often focus on

fostering a collaborative cognition (Brennan & Enns, 2015) or collective mind (Tollefsen, 2006) and therefore strive for the product of collaboration in the form of an intersubjective understanding (Parker-Tomlin et al., 2017). Less is known about how these forms of collective understanding are achieved. Theories on team learning in nursing give insight into how teams share knowledge and reflect on work situations to achieve a common understanding (Anselmann & Mulder, 2020).

2.2 | Team learning activities in nursing teams

Work teams consist of two or more people who form a connection with each other to fulfil their work tasks and, as a result, share norms, values and goals (Salas et al., 2008; Decuyper et al., 2010). Decuyper et al. (2010) define team learning as "a compilation of team-level processes that circularly generate change or improvement, primarily at the level of the team, and secondarily at the level of individuals or the organisation" (p. 28). Team learning can be seen as a process "of reflection and action, characterized by asking questions, seeking feedback, experimenting, reflecting on results, and discussing errors or unexpected outcomes of actions" (Edmondson, 1999, p. 353). Team learning concerns developing and managing knowledge through sharing, storing and retrieving information, participation with regard to a boundary crossing, and reflexivity and creation through construction and constructive conflict (Decuyper et al., 2010).

Based on these theoretical assumptions and the results of preceding studies on team learning in nursing (Anselmann & Mulder, 2020), we assume that team learning processes in nursing teams consist of the activities of knowledge sharing, reflection, storing and retrieving, and boundary crossing.

Knowledge sharing is a team learning activity that describes the communication of information, meanings and opinions within the team (Decuyper et al., 2010) with the goal of exploring work-related issues. Therefore, it can be seen as a basic learning activity that can lead to team reflection. Reflection within a team can be defined as questioning and planning and reviewing past events. Through reflection, teams can become aware of their objectives and strategies (Schippers et al., 2015). Reflection can be operationalized with regard to three different aspects: reflection can be performed individually and socially shared, it can vary with regard to depth (critical and deep reflection) and it can be conceptualized with regard to the content of reflection (Leicher & Mulder, 2016). Storing and retrieving information in teams is necessary to gain a knowledge basement for the team. Especially in nursing, information and data gathering and documentation of treatments and nursing interventions is part of daily work. Storing and retrieving information is so important for working together in teams because it can foster the team's performance (van Offenbeek, 2001). Boundary crossing includes activities that aim towards connection and contact with other individuals or teams outside the team or organization (Raes et al., 2015).

3 | METHODS

3.1 | Design

We conducted a descriptive interview study with nurses working in hospitals in Germany. The design was chosen because it was the goal to “to prepare the ground for generalizations in the sense of collecting specific observations as basis for discovering similarities or rules.” (Mayring, 2007; p.4). Furthermore, we wanted to “explore different contexts” and therefore asked nurses working in different settings (Mayring, 2007; p.4). Using semi-structured interviews is based for two reasons: first, the study is based on a specific theoretical model and therefore in the interviews it is necessary to focus on the activities explained in the theoretical model. Second, we are focusing on participants’ everyday phenomena and want to gain insights in participants’ “diverse perceptions” (Kallio et al., 2016; p. 2961) with regard to this phenomenon (Kallio et al., 2016).

3.2 | Data collection

We used a purposive sampling strategy and by this “selecting research participants that “can speak to the research aims and who have knowledge and experience of the phenomenon under scrutiny.” (Doyle et al., 2020; p. 446). Participants were contacted via email. The criterion for the selection of participants was that they work in an interprofessional team. Furthermore, we wanted participants that work in different wards. The interviews were conducted via Zoom or telephone and took, on average, about 25 min ($M = 25$, $SD = 5.33$ minutes). In the interviews, participants were informed about voluntary and anonymous data collection.

Interviews were conducted until the saturation point was reached (Guest et al., 2006). Therefore, we took code saturation and meaning saturation into account (Hennink et al., 2017). Code saturation is defined as “as the point when no additional issues are identified” (Hennink et al., 2017; p. 594). In our study, code saturation was reached when participants offered answers to all activities described in our theoretical model of team learning. Meaning saturation is described as the “as the point when we fully understand issues, and when no further dimensions, nuances, or insights of issues can be found.” (Hennink et al., 2017; p. 594). We determined meaning saturation in the phase of analyzing our data when we analyzing our data did not lead to introducing new categories or sub-categories.

3.3 | Ethical Considerations

Research Ethics Committee approval was obtained from the ethics committee of the University of Education Schwäbisch Gmünd.

3.4 | Interview guideline

A semi-structured guideline was used for the interviews. With regard to background information, we asked participants to fill in a short questionnaire and give information about their gender, work experience, duration as a member of an interprofessional team and working area (medical discipline).

The interview guideline comprises three different topics. First, we asked questions that were necessary to ensure that the nurses worked in interprofessional teams. These questions included whether they worked with others and with whom they worked, and how they feel about their interprofessional work.

The questions in the second part focused on team learning activities. We asked nurses to describe their work in their interprofessional team with regard to reflection, knowledge sharing, storing and retrieving, and boundary crossing. The questions were based on the theoretical model of team learning laid out by Decuyper et al. (2010).

The third part focused on the influencing factors. Therefore, we asked nurses to describe what individual, team-based and organizational aspects can influence team learning in the interprofessional team.

3.5 | Analyses

The interviews were recorded and transcribed. For analyzing the data, we used qualitative data analysis and a deductive strategy (Mayring, 2021). “Systematic, qualitative oriented text analysis” (Mayring, 2021; p. 154) allows a “stepwise theory based course of analysis” (Mayring, 2021; p. 154). In the analysis of our data, we followed the “basic content analytical process model” of Mayring (2021; p. 157). We used a descriptive design that means “working through the texts with a deductively formulated category system.” (Mayring, 2014; p. 12). In the first step we determined the material we wanted to analyze. Analyzing our data means analyzing the transcripts of the interviews. In the transcripts, no non-verbal information was included. In the analysis, we focused on the content of the texts. In the following step, we developed our category system as “the central instrument of analysis” (Mayring, 2021; p. 155). The category system is based on our aforementioned theoretical framework. Table 1 shows the category system. In the next step, we defined “content analytical units” (Mayring, 2021; p. 155). We used a deductive category assignment and therefore assign sentences or paragraphs to the previously developed category system. Every category was defined by using the theoretical model. Based on the text material, we introduced sub-categories in the category system. This procedure was applied to all interviews. In the last step, we accounted for the reliability of our analysis. We ensured intra-code agreement by analysing material again and discussing text passages that could not be clearly determined with a second rater (Mayring, 2014).

TABLE 1 Category system

Category	Subcategory	Sub-subcategory
Working in the interprofessional team	Member of the interprofessional team	
	Advantages working in interprofessional teams	Quality of patient care Professional development Job satisfaction
Team learning activities	Reflection	Within the interprofessional team Within the own profession
	Knowledge sharing	Interprofessional trainings Formal meetings
	Storing and retrieving	
	Boundary Crossing	Working together with other units Hierarchy
Influencing factors	Individual level	Confidence
	Team level	Team stability
	Organizational level	Structural aspects
		Leadership

TABLE 2 Characteristics of the sample

Job title	Professional experience	Length team work	Working area
Intensive care nurse	More than 10 years	5–10 years	Intensive care unit
Nurse	5–10 years	<5 years	Psychiatry
Paediatric nurse	<5 years	<5 years	Paediatric oncology
Nurse	More than 10 years	More than 10 years	Neurology
Nurse	More than 10 years	<5 years	Neurology
Nurse	5–10 years	<5 years	Surgical ward
Nurse	<5 years	<5 years	Intensive care unit
Nurse	<5 years	<5 years	Paediatric Neurosurgery
Paediatric nurse	5–10 years	5–10 years	Child and Youth Psychiatry
Intensive care nurse	More than 10 years	More than 10 years	Intensive care unit

4 | RESULTS

4.1 | Sample

The sample consisted of 10 nurses ($N = 10$) working in hospitals within interprofessional teams. Eight nurses were female, two nurses were male. Most of them had worked in their job for 5–10 years. They worked in different wards, such as the intensive care unit, neurology, the surgical ward or psychiatry. Most of them had worked in an interprofessional team for <5 years. Table 2 shows the characteristics of the sample.

4.2 | Team learning in the interprofessional team

4.2.1 | Working in an interprofessional team

With regard to questions on the composition of the interprofessional teams, interviewees described that most of them worked together

with physicians, occupational and physical therapists, social workers and psychologists.

One participant stated the following:

The members of my interprofessional team are nurses, paediatric nurses, physicians, social workers, and one is a psychologist. One member is a preschool teacher, and one is a teacher. Furthermore, one member is a physiotherapist. Physiotherapists do come in regular intervals or on request. We also do have a speech therapist. And we work together with cleaning staff and ward assistants. They are responsible for the management of care products. And we do have a secretary. She is responsible for office work.

Interviewees described the advantages of working in an interprofessional team with regard to improving patient care and treatment quality, and fostering their own professional development and job satisfaction.

One of the participants stated,

Every profession has its own expertise, and this could be applied in patient care. And therefore, patient care – quality of patient care – is improving.

Another participant remarked, “Because we do have clear goal agreements with all members of different fields, patients’ length of stay in the hospital could be reduced. We can recognize that patients are leaving earlier’.

Furthermore, interviewees described that working in an interprofessional team is also helpful for their own professional development. For example, one participant said, “Working in an interprofessional team is strengthening my self-confidence. I have to discuss with members of other professions, and therefore, I must be able to express my opinions as a nurse. Furthermore, I can learn from members of other professions.”

With regard to job satisfaction, interviewees described increased job satisfaction as a result of the feeling of providing high-quality care and being supported by team members.

One nurse stated, “For me, and also for other members of my team, it is a lot about job satisfaction. This is because, on the one hand, I do have the feeling to apply a more holistic care to patients, and on the other hand, the work load is decreased. We get support, and everyone has clear, structured work tasks, and this is reliance for us. So nurses do have more time to provide care to patients.”

4.3 | Team learning activities

With regard to team learning activities, interviewees described activities of reflection, knowledge sharing, storing and retrieving, and boundary crossing.

Answers describing activities of reflection within a team are categorized into two different subcategories. Reflection activities within the interprofessional team mostly happen in formal meetings. Interviewees described that, “Especially after emergency situations, we do have meetings and talk about what went good or what went wrong.”

The interviewees said that other informal reflection activities only happen within their own profession.

One nurse remarked, “I think reflection only happens within my own profession. Unfortunately, discussions and dialogues for reflection do not happen with members of other professions. There is no possibility for it, because there is no time for it.”

When interviewees described activities of knowledge sharing, they described a formal method of knowledge sharing, for instance, in interprofessional team trainings or in structured meetings.

As an example, one interviewee said, “Interprofessional team trainings are a really good thing. Especially when they take place regularly. Members of all professions can participate. [...] Then knowledge is shared and it benefits everyone.”

Another participant explained, “Knowledge sharing within the interprofessional team only happens in our meeting or during the round. But here we mostly focus on the patient, and we do not talk about the interprofessional team. There is no time to talk about our team development.”

Furthermore, interviewees stated that knowledge-sharing activities do not happen informally.

One participant said, “[...] but in daily clinical practice, there it does not happen. [...] Members of every profession do their own thing.” Interviewees explained that they did not have the feeling of sharing knowledge but of “*transferring knowledge*” to members of other professions.

With regard to storing and retrieving, interviewees described that most storing systems in hospitals do not allow members of other professions access to information. An overarching knowledge management system would be helpful for improving knowledge sharing within the interprofessional team.

One participant explained, “But with regard to knowledge management, a lot of information gets lost. Because every profession has their own form and only members of the same profession have access.”

Another quote that summarizes the challenges related to the storing of information follows:

I think it is necessary to implement the ‘Digital file’ (overarching management system). I don’t like to fill in so many different forms with the same information. I don’t look on the information of other members. A lot of information gets lost.

With regard to boundary crossing, interviewees said that there is no cooperation between interprofessional teams or other operating areas.

One participant stated, “Communication between different wards, for example, emergency room and intensive care unit, is bad. Communication structures are lost.”

Furthermore, interviewees described a strong hierarchy in the hospital. “Especially nurses and physicians do not work as fully accepted partners. Some of the physicians do not value the long job experience of nurses and feel superior.”

4.4 | Influencing factors for team learning in the interprofessional team

With regard to the individual level, most participants said that nurses need to be confident. This goes along with expertise and social competence.

A nurse remarked, “Not until you have enough expertise and experience can you value the knowledge of others. Nurses have to be confident, because they are competent and know a lot, just like members of other professions.”

As an example of social competence, a participant stated the following:

“First of all, for working in the context of nursing, you need social competence and empathic capacity. And you need competences for communication. This is very important, because as a nurse you have to work in a team, and the whole team is responsible for patient care.”

When participants talked about influencing factors on the team level, they described team stability as an important factor.

One nurse explained, “The high fluctuation in the domain of nursing and medicine is a problem and makes it difficult to build a good relationship within the team. [...] but when there is no stability, teams can't realize what resources they have.”

On the organizational level, participants stated that it is necessary to give teams time and rooms in which to talk to each other. One participant explained, “There should be enough time for exchange.”

Another participant explained, “You need rooms. I think it would be a good idea for the members of an interprofessional team to share a room. Right at the moment, there is a huge distance between the rooms of different members of the interprofessional team.”

In particular, the leader of an interprofessional team has an important role to play in fostering team learning.

A nurse explained, “My team leader is the first person members of other professions can contact. Therefore, the leader can foster information sharing.”

Another participant offered the following:

My leader thinks it is important that team member meet equally. When there is a conflict between team members or different groups, my leader tries to find a solution. She is the person every team member gets in contact with. Especially when things are going wrong. She tries to be neutral and get members in contact with each other again.

5 | DISCUSSION

Our results indicate that participants see advantages in working in interprofessional teams, in terms of both nursing care and their own development. Team learning activities of knowledge sharing, reflection, and storing and retrieving occur when professionals work together in interprofessional teams.

With regard to reflection, our results show that reflection activities, such as reviewing past events, happen in formal work meetings. Participants of our study described, that informal discussion about work-related topics mostly happens within the individual professions.

These results show that it is important to have formal structures for interprofessional teams in nursing. Within these meetings, participants described, that professionals talk about specific situations and topics. Beyond the official meetings, our results indicate that professionals only reflect with members of their own profession. Our results widen the theoretical assumptions about reflection in teams. Reflection can not only be differentiated by content, depth and context (social or individual), it can also be distinguished by the setting in which it occurs. Reflection in formal meetings and more informal forms of reflection can both be described as informal learning activities in the workplace. But for teams, especially when they include members of different fields, it is necessary to have more formal structures for reflection upon work-related topics. With regard to the storing and retrieving of information within the work of interprofessional teams, our results indicate that having different forms of storing information can hinder interprofessional teamwork.

The results of our study describe different influencing factors. At the individual level, nurses describe requiring self-confidence to speak up and share their opinion. These results are in line with studies on nurses' behaviour with regard to speaking up, which emphasize the importance of a safe team climate in nursing teams (O'Donovan & McAuliffe, 2020). Research shows that a safe team climate in nursing teams is also a key variable in the effectiveness of nursing teams (Anselmann & Mulder, 2020). At the team level, our results show that nurses feel that working together for a longer time is important for them. The development of trust and a deep connection between team members requires time (Appelbaum et al., 2020). At the organizational level, nurses think that it would be helpful to have more time for meetings and discussions within the team. These results are in line with studies on factors influencing interprofessional teamwork. Wei et al. (2022; p.1) showed that effective teamwork “requires organizational, teams, and individuals' combined efforts.”

Our results on team learning activities in interprofessional teams widen the understanding of interprofessional teamwork in nursing. On the one hand, studies focusing on interprofessional teams showed that nurses believe in the benefits of working in interprofessional teams (Rezaei et al., 2021). Wei et al. (2022) showed in their systematic review that effective collaboration includes building a relationship with each other to work together. Studies showed that interprofessional teamwork could foster patient safety outcomes and nurses' job satisfaction (Labrague et al., 2022). On the other hand, studies focusing on team learning showed that team learning in nursing can enhance nurses' performance (Anselmann & Mulder, 2020). This study combines the two research perspectives and gives insights into team learning activities in interprofessional teams as well into influencing factors.

When focusing on interprofessional teams, it is a challenge to decide whether to focus on members of a profession within a team or on the whole team. On the one hand, asking the whole team, for instance by using methods such as group discussions could give deeper insights into the work of the specific team. On the

other hand, focusing on members of a profession such as nurses gives comparable data of different teams (e.g. Müller et al., 2018). The goal of our descriptive interview study was to find out how nurses of different interprofessional teams describe team learning activities within the interprofessional teams and by this find out similarities between the teams. In our interview study, we focused on nurses working in interprofessional teams on different wards. We assume that including interprofessional teams with different characteristics such as stable or fluid teams could broaden the understanding of team learning activities in interprofessional teams.

6 | CONCLUSION

Studies show that interprofessional teamwork can be fostered at work for instance by providing optimal organizational circumstances for interprofessional teams. We assume that it is necessary that enough time for meetings and discussions is given to interprofessional teams to share knowledge and reflect with each other. Furthermore, interprofessional teams need routines and structure, such as weekly meetings. These structured routines foster knowledge sharing. The same is true of training for all members of the interprofessional team. Learning together in such formal learning settings could be a starting point for team members to engage in a more informal way during daily work as well.

Studies show that interprofessional teamwork can be fostered by interprofessional education in clinical settings (Mink et al., 2021) but also in educational settings (Goncalves et al., 2021). For universities and vocational colleges that train nursing students, it is important to think about programs and learning environments where students of different subjects can learn together. This might enable students to adopt different perspectives and train on how to work and learn together in an interprofessional team.

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CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could appear to have influenced the work reported in this paper.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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