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## PHYSIOLOGY & REHABILITATION | RESEARCH ARTICLE

# Enabling collaboration and building trust among health science students attending an interprofessional educational project

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**Abstract:** Establishing trust is a central element in a context that supports learning about collaborative relationships. The goal of interprofessional education is that personal trust developed in student groups can be transferred and generalised to representatives of corresponding professional groups when the students begin their professional practice. There seems however to be a research gap in identifying how interprofessional education might contribute to building trust. We explored how students' reflective journals in an interprofessional education project indicate how different types of trust can be built in the group of health science students attending practice in four intermediate care units. Using a hermeneutic approach to the text, we analysed 40 reflective journals from 13 nursing students, 7 physiotherapist students and 4 occupational students. We found that a clinical programme encouraging the development of trust and confidence might be conceivable. The bachelor programme should give the students' time and possibilities to put into words and reflect on their own expectations to build trust, warranting for learning that interprofessional cooperation could help in gaining trust in the competence of their own and other professions.

**Subjects:** Education; Health and Social Care; Medicine, Dentistry, Nursing & Allied Health

**Keywords:** Interprofessional education; interprofessional collaboration; trust; reflective journals; qualitative

### ABOUT THE AUTHOR

Line Nortvedt is Associate Professor at the Oslo Metropolitan University, Department of Nursing and Health Promotion. Her research interest include Nurses' Meaning and Experiences of Compassion, Older adults and immigrant women living with chronic musculoskeletal pain, and immigrants and their working life in Norway.

The research reported in this paper relates to a wider project about qualifications of health science students for interprofessional practice, and development of a model for interprofessional collaboration learning in practice.

### PUBLIC INTEREST STATEMENT

Establishing trust is crucial when the goal is to learn about inter-professional collaboration in a healthcare practice. When health professionals develop trust in one another in the study program, it can be transferred to professional groups when students begin their professional practice. By studying 40 reflective journals written by three different groups of students from health sciences, we found that a clinical program that encourages the development of trust and confidence is possible. Health science students in Bachelor programs should, however, be given time and opportunities to put words and reflect on their own expectations to build trust. In this way, one can ensure that they learn to gain confidence in one's own and other professional's competence.

## 1. Introduction

Interprofessional collaboration is a prerequisite for effective healthcare and/or the rehabilitation of patients, which implies quality of care and patient safety. Specific competencies are needed for a collaborative practice to enhance positive patient outcomes, to understand other health professionals' roles and expertise and to ensure effective communication (Friberg, Husebo, Olsen, & Saetre Hansen, 2016; Oxelmark, Nordahl Amoroe, Carlzon, & Rystedt, 2017). Interprofessional collaborative learning is a learning form where students from different professions work together and gain insight into each other's skills. Role understanding and the ability to interact are key goals that the students will learn from and with each other (Barr, Koppel, Reeves, Hammick, & Freeth, 2005). Interprofessional education (IPE) is defined as a collaborative educational approach whereby two or more health or social care professionals learn interactively together with the goal of improving the quality of care (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013).

Established trust is a foundation for building a longer-term relationship, and it is essential for good interprofessional cooperation in the health and social sectors (Endresen, 2016). Trust is a complex and multi-layered concept, generally understood as "the optimistic acceptance of a vulnerable situation in which the trustor believes the trustee will care for the trustor's interests" (Hall, Dugan, Zheng, & Mishra, 2001, p. 615). Okello and Gilson (2015) suggested that trust is a relational notion or psychological state that influences individuals' willingness to act based on the words, motives, intentions, actions and decisions of others under conditions of uncertainty, risk or vulnerability. Trust is also essential for patients, who assume that health care personnel are sufficiently competent and working in their best interests (Okello & Gilson, 2015).

In the IPE setting, the mentioned definition might help us to consider trust a relational notion, with expectations of abilities and competence combined with value orientation (honesty, confidentiality, caring and respect) (Gilson, 2006; Hall et al., 2001). Moreover, according to Gilson (2006), trust assessments are confronted with uncertainty about the motivations of others, which means that they involve a degree of vulnerability and risk. Meanwhile, confidence in others indicates a situation of relative stability and safety, where assessments are based on what is expected, involving little risk (Gilson, 2006).

International research shows that IPE schemes have been implemented for both short and long periods in the last three decades. Linköping University has had IPE training units since 1996 (Wahlström & Sandén, 1998), a study programme that has been extended to several places of education in both England (Freeth et al., 2001), Sweden (Carlson, Pilhammar, & Wann-Hansspn, 2011), Denmark (Jacobsen, Fink, Marcussen, Larsen, & Bk Hansen, 2009) and Germany (Mihaljevic et al., 2018). Furthermore, a review of six randomised and comparative studies on student programmes with IPE shows that it can have positive effects on the working environment, collaboration and patient satisfaction, as well as on quality, leading to fewer deviations (Reeves et al., 2011). Other studies reveal that interprofessional teams working with patients increases the understanding of the practice problem, widens the understanding of interventions and creates a holistic perspective for patient care (Moyers, Finch Guthrie, Swan, & Sathe, 2014).

Although educational institutions for health care personnel in Norway are increasingly conducting IPE, it is mainly organised as projects with voluntary and limited student participation. A few campuses have established IPE schemes as a compulsory activity for all their health students, and they are working on developing such learning activities. In several places, they work however purposely to make it happen, including such projects as TVEPS in Bergen (<http://www.uib.no/tveps>), INTERACT (<https://interact.hioa.no/>) and "Qualification of health science students for interprofessional practice" (Taaßen, Norenberg, Hagstrøm, & Nortvedt, 2018) at OsloMet.

### 1.1. Background

Lack of trust is one reason why many interprofessional projects fail (Caruso & Rhoten, 2001). According to Clark (2016), establishing trust is, in other words, a central element in the design of a context that supports learning about collaborative relationships. If the collaborating parties do

not feel that they are respected and considered equal, they will also feel unsafe in the collaborative relationship to continue exposing themselves to the risks that cooperation may present (Clark, 2016). Likewise, assuming for example that nurses do not believe that physiotherapists have the prerequisites for exercising adequate professional work with different patient groups, trust between professional groups will be difficult to establish in relation to the work with patients (Endresen, 2016). Conversely, when health science students trust each other's accountability, participants will probably interact to determine and assess the problem and measures for the individual patient (Hagland & Solvang, 2017).

According to Grimen (2009), trust can be termed as society's glue, lubricant and foundation. Additionally, those who trust each other cooperate more and are more tolerant, risky, creative and happy than others (Grimen, 2009). In light of interprofessional cooperation, trust makes it easier and makes it possible to build on each other's work, without having to control everything again (Grimen, 2009).

In IPE, Hean (2016) affirms that there are two forms of trust, depending on whether a person has previous personal knowledge of the others. Meanwhile, trusting in persons with no prior knowledge can be termed as generalised or transferred trust. The goal of IPE is that personal trust developed in student groups can be transferred and generalised to representatives of corresponding professional groups when the students begin their professional practice (Hean, 2016).

Dolva et al. (2017) revealed in their qualitative IPE study that students made new discoveries about their own and others' expertise by mapping the common patients' resources and needs, besides writing joint assessment reports. This made them discuss different perspectives, approaches and foci. Knowledge through shared reflection and discussion gave them confidence, as they gained trust in and dared to challenge each other (Dolva et al., 2017). The importance of trust among interprofessional students is underlined in other research papers. One study followed 19 nursing, occupational therapist, physiotherapist and social worker students who gained increased respect and trust in each other, changing their views of the other professional groups along the way, and they were challenged to cross professional boundaries (Kristensen, Flo, & Fagerström, 2014). Another study with 30 physiotherapist, occupational therapy and nursing students revealed that common experiences of the team qualify co-workers to have trust in each other's capability to judge and to recognise each other's strengths and weaknesses (Fougner & Horntvedt, 2011). Moreover, a Canadian mixed methods study showed that learning from other students was characterised by trust, respect and confidence in others' knowledge base and expertise (Bainbridge & Wood, 2012). To the best of our knowledge, there seems however to be a research gap in identifying how IPE might contribute to building trust.

### **1.2. Purpose**

The purpose of this study was to explore health science students' experiences of participating in the IPE project. Students' reflective journals were studied to identify what and how they learnt by attending an IPE project. The research question was:

*How can students' reflective journals in the IPE project indicate how different types of trust can be built in the group of health science students attending practice?*

### **2. Methods**

The research team was interdisciplinary, consisting of two nurses, a physiotherapist and an occupational therapist, all of whom had research experience. Our key questions were how the health science students learned from, with and about each other. The empirical sample was students' written reflective journals during clinical studies in four intermediate care (IC) units when enrolled in nursing, occupational therapy and physiotherapist education in their first, second or third academic year. Forty journals about the phenomenon of interprofessional collaboration were subjected to qualitative hermeneutic analysis.

Eighty students were divided into two practice periods at four different practice sites during the autumn term 2016 and the spring term 2017. Forty of the students were invited to write a reflective journal about interprofessional collaboration during their 6–8 weeks in the IC units. The different professions were situated in different locations in each IC unit, and the students collaborated with both professionals and students from their own profession, as well as with professionals and students from other occupations. Of the 40 journals, we chose 24 reflective journals written by 13 nursing students (first, second year) and seven physiotherapist students (third year) from the spring term. As the occupational students only had their clinical period during the autumn term, four occupational therapy students' (second year) reflective journals were included from the autumn term. The reasons for choosing most reflective journals from the spring term was that based on feedback from the students in the autumn-group, we modified and expanded the learning activities for the spring group. Twenty of the students were female and four were male. The students were supposed to plan, implement and reflect on at least two interprofessional learning activities with patients. The activities could for example be assisted movements, activities of daily living (ADL), assisted eating, writing journal notes, home visits and networking. This was part of the clinical studies and their daily tasks. The students were asked to write a one-page reflective journal independently after the learning activity, and they were introduced to reflection as a method for developing new understanding. Furthermore, the students were taught that reflection could help bring out and evaluate several possible solutions, take well-founded choices and learn from experiences (Ødegård & Willumsen, 2018). Before writing the reflective journals, the students got hints about using key questions based on the mentioned introduction about reflection, such as: What did I contribute? What skills did I use? What did I learn from others? What could we have done differently? Was there something I did not fully understand?

### **2.1. Reflective journals**

The facilitation of experience learning within cross-professional practice is meant to create room for reflection. By articulating one's understanding, professional insights and actions are affected (Haug, 2016). Bachelor students in Norway are, according to the National Qualification Framework for Lifelong Learning, expected to be able to reflect on their own professional competence as the basis for further choices (Kunnskapsdepartementet, 2011). An educational tool, used in physiotherapy, occupational therapy and nursing education, is to write reflection journals during practical studies to encourage students' ability to reflect. According to research, seeking knowledge and creating room for reflection can help educate professionals who are able to reflect on local practice and thereby contribute to personal development, professional growth, clinical learning and innovation processes (Dahl & Eriksen, 2016; Mahlanze & Sibiya, 2017). Studies have explored whether and to what extent reflection occurs in the students' journals (Dahl & Eriksen, 2016; Ziebart & MacDermid, 2019), and they conclude that the facilitation of reflective thought processes in writing journals is more or less effective to enhance the critical thinking skills of students.

### **2.2. Data analysis**

After the clinical studies were completed, the students' names were blinded, and the project leader merged the texts from the journals into one document from the autumn term and one document from the spring term.

The analysis and interpretation of the reflective journals were performed using a hermeneutic approach to the text. The research goal was to interpret how different types of trust can be built in the group of health science students, and hermeneutics is an interpretive approach that is useful for studying texts about professional practice. Knowledge is constructed through dialogue: meaning emerges through a dialogue or hermeneutic conversation between the text and the inquirer (Koch, 1999). A "unique characteristic of hermeneutics is its openly dialogical nature: the returning to the object of inquiry again and again, each time with an increased understanding and a more complete interpretive account" (Packer, 1985, p. 1091).

The analysis steps were conducted based on Wiklund, Lindholm, and Lindström (2002), where the four researchers read the empirical material several times to achieve what Ricoeur refers to as “a naive understanding of the text” (Ricoeur, 1981). Then, a structural analysis was carried out, which meant classifying and articulating sub-themes and themes by identifying meanings that appeared in different parts of the text (Table 1). During the analysis, the research question, our understanding, a critical reflection of the naive understanding and the results of the structural analysis were considered. The last step was a common holistic understanding of the text by reading the text again as part and as a whole. Creating the texts initially, we entered the hermeneutic spiral by clarifying our pre-judgments concerning specific terms: What did the term interprofessional collaboration and practice mean to us? How had we experienced it? Recognizing that our horizons would evolve through the research, this was the first attempt to understand the phenomenon by seeking to interpret the horizons we had created for ourselves through past learning, research, and experience. We reflected upon potential sources of interpretations from others and constructed two text sets based upon: a review of the literature to produce a text containing existing concepts and ways of understanding the elements of the subject under consideration. Essentially, we clarified what the texts were saying in relation to our research purpose and phenomenon. A researcher’s journal was kept throughout the research to track the emerging ideas and themes.

### 2.3. Trustworthiness

In an attempt to ensure credibility, the selection of reflective journals, data collection, and data analyses are presented as thoroughly as possible (Houghton, Casey, Shaw, & Murphy, 2013) in this paper. To warrant for the rigor of the findings and the categories and subcategories described, all authors read the final version of the analysis

(Wiklund et al., 2002). To maintain ethical behavior, we emphasized the social context, in which subjective meanings and actions described by the students are faithfully reproduced and presented (Fossey, Harvey, McDermott, & Davidson, 2002)

**Table 1. Overview of meaning units, sub-themes and themes.**

Student	Meaning unit	Sub-theme	Theme
Nursing Student 8	I got to show what to assess in relation to wounds and signs of infection ... I became more aware of the areas of competence of a nurse, although we are generalists.	Aware of own competency	Trust in their own professional knowledge
Physiotherapy student 6	I experienced this very valuable because we gained a common understanding of what is needed for a patient to reach their goal and what each profession can contribute to reaching the goal.	Common understanding in professional teamwork	Understanding and trusting the significance of interprofessional cooperation
Occupational therapy student 3	During the conversation with the patient, I observed and learned a lot from seeing how the other two approached the patient and what types of questions they asked to get the answers they wanted.	Learning from and about other students	Realizing trust in learning from and about each other

#### **2.4. Ethical considerations**

According to the Ministry of Education and Research, new guidelines for 2018 instruct health education in Norway to facilitate interaction and interprofessional collaboration among health science students (Kunnskapsdepartementet, 2018). Therefore, we saw it as an obligation and an opportunity to explore how common interprofessional learning activities are experienced. The students were informed that we would use their depersonalised reflective journals as a dataset for a research paper, and they gave their verbal permission to have their journals analysed as part of the study. The students also learnt that it was voluntary to provide a reflection note, because findings from the depersonalised notes might be published. When having meetings with the students, we problematized the potential power difference concerning first- and third-year students on such levels as having different amounts of experience and professional knowledge.

#### **3. Findings**

The analysis of the reflective journals revealed three themes: “Students’ trust in their own professional knowledge”, “Understanding and trusting the significance of interprofessional cooperation” and “Realising trust in learning from and about each other”.

In the following subsections, the findings will be presented according to these categories and exemplified with quotes from the reflective journals. To give a reflexive and trustworthy reproduction of the quotations, the numbers in brackets give information about to which professional education each quotation belongs.

##### **3.1. Students’ trust in their own professional knowledge**

Some of the students stated that it was crucial to have confidence in themselves and their own professional knowledge so that others would trust them during the interprofessional interaction. Being able to both collaborate around the patient and learn from each other meant that each student had something to contribute to the others. A nursing student wrote, “*I got to show what to assess in relation to wounds and signs of infection ... I became more aware of the areas of competence of a nurse, although we are generalists*” (Nursing student 8).

When being more conscious of his/her own capabilities and even able to show them in front of his/her co-students, he/she gained confidence in him/herself as a future nurse. Moreover, an occupational therapy student experienced that by collaborating with other students, he/she learned to “*... observe the approaches and questions of others ...*”, while at the same time consciously contributing to a clinical interview: “*I contributed with the perspectives and questions of an occupational therapist. I asked about previous function, aids, housing and I initiated a movement assessment*” (Occupational therapy student 4).

For this student, being able to contribute his/her professional knowledge gave him/her confidence in his/her own qualifications. Moreover, a physiotherapist student pointed out that the collaboration with other professions during the last clinical period helped to raise awareness and to strengthen his/her own role and core competence:

*I think it has been fun to be able to contribute with my assessments of the patients, that others trust me and that I can help decide what’s going to happen further on. Becoming responsible and being independent in my work is very important to me now as I approach the end of the study* (Physiotherapist student 1).

This quotation may indicate how the student, during the clinical period of his/her last year in the bachelor programme, uses interprofessional collaboration to become self-reliant in his/her own professional role and to be ready for working life. Some first-year nursing students were less confident in their knowledge sharing, as they were unsure of whether they could contribute to improve the knowledge of their fellow students. Meanwhile, other students at all levels of the bachelor programme were aware of their contribution to their associated students from other professions and



different contexts. Teaching or demonstrating their own abilities for others made the students more confident in and attentive to their own tasks as a nurse. A physiotherapist student was aware of his/her contribution within the rehabilitation process, and many of the students saw it as important and meaningful to supplement each other in the team meetings, which again made it possible for them to trust their own professional knowledge. Furthermore, an occupational therapy student thought that one could learn about both his/her own and other professions during the interprofessional clinical interviews: *“In such a situation, you become more aware of your own and other health professions, as you often focus on different areas. It is therefore important to work interprofessionally and to learn from one another”* (Occupational therapist student 2).

During the clinical interviews and other clinical activities, it seemed important for the students to bring their own professional roles, perspectives and competence to make it clear for themselves and for the rest of the group what their specific topics were. Some however gave the impression that it was challenging to see clearly their own role in light of others.

### **3.2. Understanding and trusting the significance of interprofessional cooperation**

The students were aware that the interprofessional cooperation could lead to extended knowledge of patients' needs, aims, challenges and resources, thereby entailing effective and comprehensive rehabilitation for the patients. Many of the students were conscious of how cooperation with other health science students could lead to improvement in their learning outcomes in terms of interprofessional cooperation. They pointed out some positive effects of this cooperation as a shared understanding of patients, of interprofessional collaboration as an incorporated routine and of the fact that their knowledge could be complementary to others. A nursing student was concerned with how the use of his/her own professional knowledge, along with the other interprofessional inputs, could provide optimal treatment for the patient:

*Where the nurse registered something about the patient, the physiotherapist saw something different, and in this way, they could complement each other with thoughts about the best possible nursing care and medical treatment and plan for a further comprehensive rehabilitation of the patient* (Nursing student 5).

A physiotherapy student, who invited two nursing students to participate in a patient examination and training, emphasised some positive aspects of interprofessional collaboration around the patient: *“I experienced this as very valuable because we gained a common understanding of what is needed for a patient to reach their goal and what each profession can contribute to reaching the goal”* (Physiotherapy student 6).

Another student believed that one gains a deeper insight into the rehabilitation field by bringing in other professions when caring for the patient:

*The physiotherapy student showed me relevant exercises I could show the patient so that the training became appropriate. I experienced it very instructive and helpful, it helped me to facilitate training and, for example, give the patient simple exercises that he could use. This again had a bearing on the solid situation, gave me new tools for further follow-up of the patient ..., and was very significant in relation to his health and motivation”* (Nursing student 4).

A physiotherapy student was also aware of the more profound understanding one can develop in interprofessional cooperation: *“Working together to uncover all the challenges and resources the patient has”* (Physiotherapy student 1).

At the same time, this student stated that he/she has learned interprofessional collaboration during previous clinical periods; hence, the last clinical period in the third year of the bachelor programme dealt with what they had already learned. In this way, interprofessional collaboration had played a complementary role in his/her earlier clinical periods. This shows the importance of

emphasising interprofessional cooperation throughout education, enabling students to gain confidence in each other's professions. Another physiotherapist student emphasised that the information from other health care professionals may be crucial for their own interventions with patients: *"The nursing students gave information on how medication can affect the patient's general condition during a workout session"* (Physiotherapy student 7).

This student indicated a kind of dependency on each other to be able to do a good job when dealing with patients. It also seemed that the students knew they could complement each other to get a complete picture of the patient. A nursing student correspondingly felt fortunate to learn in an interprofessional environment and understood the value this could bring for the patient:

*I find that there is a focus on interprofessional cooperation in the working environment, where it is clear which roles are played and the importance of interaction ... I experience being lucky to have my practice in an IC unit where working interprofessionally is crucial to the holistic care* (Nursing student 4).

### **3.3. Realising trust in learning from and about each other**

The students gained confidence because they saw that they could learn from each other and that it was useful to work together with patients, driving towards the same aims. Learning about how collaboration with other professions might give insight into methods of assessing patients' needs concerning the provision of basic nursing care, communicating with, training and stimulating the patients helped build trust among the students. Some nursing students expressed that by observing and working together with a physiotherapist student, they learned different ways of caring for patients, as well as ensuring and providing safety for the patient. A physiotherapist student described it as *"... a great resource to be able to talk to other healthcare professionals and read their assessment of the patient"* (Physiotherapy student 1). Meanwhile, an occupational therapy student emphasised his/her fellow students' communication with a new patient: *"During the conversation with the patient, I observed and learned a lot from seeing how the other two approached the patient and what types of questions they asked to get the answers they wanted"* (Occupational therapy student 3).

Moreover, a nursing student who assisted an occupational therapy student in an ADL activity observed how the co-student at the same time helped the patient with simple movements. The nursing student described gaining trust in and learning about how the occupational therapy student thought as he/she demonstrated practical knowledge during their work with the patient. Another nursing student in his/her first year of the bachelor programme asserted that the most important thing that he/she learned from the interprofessional team during a patient meeting was *"... to ensure that patients receive a comprehensive treatment plan"* (Nursing Student 5).

A comment from an occupational therapy student may summarise how most of the students experienced learning from each other, thus emphasising the fact that learning from each other was important and implying that trusting the other students enabled their ability and willingness to perform the patient interview appropriately: *"... I would like to learn more and I realise that it is good to have an interprofessional interview with a patient in this way"* (Occupational therapy student 1).

When observing other health science students, as well as communicating and training with the patients together, they stated that they gained insight into the knowledge they did not possess. To be acquainted with and thereby know more about other health professions' backgrounds seemed, in other words, to make it even more interesting for the students to attend clinical studies. Gaining insight into each other's competencies and different ways of assessing the patients' needs, communicating with them, motivating them and assisting with the exercise programmes facilitated building confidence in each other's knowledge and skills. A physiotherapy student was aware of and described what a nursing student emphasised in an interview with a patient. This knowledge contributed to enhancing his/her trust in other healthcare professionals, as each has their specific competencies: *"... The nursing student put more emphasis on care, circulation, respiration and medication"* (Physiotherapist student 4).



By learning about the other healthcare students' ways of working and what is important for their professions, it seemed that all the health science students built up extended insight about patient rehabilitation.

#### **4. Discussion**

Our findings show that interprofessional collaboration during the clinical periods in the IC units contributed to building trust among the students. It seemed essential for them to trust themselves and their own professional knowledge so that others would trust them, as it stimulated them to become responsible, independent and self-reliant in their own professional role. Some however were unsure of whether they could contribute to improving the other students' knowledge. They experienced that own vulnerability became visible. Some realised it was challenging to see clearly the importance of one's own contribution to students from other professions. The fact that the other healthcare professionals could see additional aspects of the patients' situation and thereby create broader and more complete images of the patient led to a greater trust in the interprofessional collaboration. The interprofessional collaboration contributed to enhancing trust in other healthcare professionals, as each has their specific competencies. In the following discussion, we will elucidate our research question, which was: how can students' reflective journals in the IPE project indicate how different types of trust can be built in the group of health science students attending practice?

##### **4.1. Complexity, coherence and trust**

Our findings show that the cooperation between health science students made their own role and expertise clearer for themselves. However, research disclosed barriers towards IPE as negative stereotypes of other disciplines and scepticism about introducing IPE in the early phases of education (Michalec, 2013; Oandasan & Reeves, 2005). One well-known argument is that students have to develop their own professional identity before dealing with other professions. This is in line with the suggestions of Hagland and Solvang (2017) that IPE and learning occur in clinical practice, where the development of a double identity as a professional practitioner and welfare worker take place. On the other hand, professional education is characterised by complexity (Hatlevik & Havnes, 2017); therefore, the bachelor programmes need to support the students in coping with this intricacy by making it as coherent as possible.

Based on the findings from our study, the students gained valuable learning experience when confronted with differences and opposites from other professional groups in collaboration across different contexts, which corresponds with Hatlevik and Havnes (2017). Hatlevik and Havnes (2017) stated that to make complexity, tensions and contradictions comprehensible, manageable and meaningful, the actor's perspective that assumes reciprocity and respect can contribute to learning and coping. As mentioned in the introduction, trust is often connected to respect, which may mean that students realised that they gained mutual benefits from each other. Furthermore, they respected each other as skilled persons and built trust in the group. Thus, the clinical programme can contribute to coherence, instead of chaos for the health science students, as well as develop trust in other professions and confidence in themselves.

##### **4.2. Vulnerability, trust and power**

The health science students in our project demonstrated that they were confident that they had something to contribute within the interprofessional fellowship of students. At the same time, they trusted that the other professional groups had clarifying knowledge that gave a holistic picture of the patient. The findings also show that they largely dared to share their own skills and knowledge with the other students, which revealed that they had trust in the others and which indicated a lack of safety measures, a characteristic of trust (Grimen, 2008). The students seemed focused on the same aim when working in the same context around the same patients; therefore, it seemed easy to trust each other, as the horizontal trust is implicit and situated (Endresen, 2016). In a qualitative study about collaborative learning between professions within a rehabilitation context, Christiansen, Taasen, Hagstrøm, Hansen, and Norenberg (2017) found that the engagement and development of a professional community is stimulated when health professionals understand that they can share much knowledge. In this manner,

they experienced collaborative learning as they shared one another's knowledge and gained new insight about patients (Christiansen et al., 2017). In our findings, this collaborative learning became particularly clear when the health science students worked with a common patient towards the same rehabilitation goals, and this made it easier to build trust among them. Moreover, we did not find any mistrust among the students in our material, which was fortunate, as it takes a short time to tear down trust, while it takes a long time to rebuild it (Grimen, 2009).

The students in our project seemed largely willing to share their own professional knowledge, thus taking a risk and making themselves vulnerable (Grimen, 2008). Some of the students were however unsure and had difficulties regarding believing in own contribution to the other health science students. According to Grimen (2008), showing trust is to give others judgment-based decision-making over a benefit. Accordingly, confidence in professionals can be rewarded with power, which means the students made it possible for other students to degrade or choose not to believe in their competencies and skills. Nonetheless, the students were distinguished by an absence of precautions, which also, according to Grimen (2008), is the foremost characteristic of trust. This is in line with Cate et al. (2016), who state that trust implies an acceptance of being vulnerable to the one trusting in his/her actions. In the context of IPE, this can be linked to the fact that when students trust each other, they take the risk that the other will act imperfect if they do the task for the first time (Cate et al., 2016).

The health science students took part in a time-limited project, and IPE is not formulated as a permanent learning outcome in all current education programmes. Despite the lack of IPE being deeply rooted in the students' bachelor programmes in various degrees, the informants described creating and upholding trust. According to Clark (2016), establishing and maintaining trust among employees in healthcare or other businesses requires continued attentiveness and follow-up from the leadership. This is also relevant in IPE, and teachers or practice supervisors should at all times be aware of conditions, such as communication, power, recognition, shared ownership, commitment and different perceptions of goals (Clark, 2016), to ensure the growth conditions for trust.

The students took part in the established interprofessional cooperation around the patients at the different IC units, and it seems plausible to assume that the working environment was distinguished by trust. In this regard, Endresen (2016) asserts that trust and justice form the basis for an establishment's collaborative ability. Justice deals with emotions, while trust is more about expectations and reciprocity. The development potential of the social capital depends on how emotions and expectations are handled in an organisation (Endresen, 2016).

Our findings show that the health science students cooperated with both students and other health professionals, which resulted in building trust with both groups. In her doctoral thesis about health science students in two interprofessional practice settings, Hagland (2016) upholds that mutual recognition among the interprofessional staff helped make it possible to limit their tasks because they trusted each other's behaviour and knowledge of accountability for their role in the patient's care. Additionally, she maintains that when the staff and students were working together, insight into each other's fields of knowledge and work generated mutual trust, confirming that more people were creating good progress for the patients (Hagland, 2016). From this, we can learn that mutual trust in the working environment is of vital importance when building trust among interprofessional students.

#### **4.3. Learning and trusting as a long-term assignment**

In our project, we included both first-year nursing students, second-year occupational therapy students and third-year physiotherapist students. These differences in experience and acquired knowledge can be seen as limitations of collaboration, respect and trust among the students. Nevertheless, while they largely experienced learning from and about one another, trusted themselves and the others and had confidence in the significance of interprofessional collaboration, we recommend that IPE should be a continuous learning activity at all levels in the bachelor programme. This is also supported by Grimen

(2009), who claims that trust is often about gaining the long-term benefit of cooperation to trump the short-term gains by not cooperating. Therefore, if long-term cooperation can start even during the first year of the bachelor programme for all health science students, they might build trust in each other's professions at an early stage and develop it further at all levels of the education trajectory. Moreover, the establishment of a trusting relationship during the bachelor study might lay the foundation for trusting working relationships in interprofessional cooperation as skilled professionals. In this regard, Hagland (2016) also found in her study with interprofessional students that at one of the practice units, the students developed trust in each other as competent participants by forming mutually responsible relationships. Alternatively, as asserted by Watson et al. (2017), "Learning together helps working together" (p. 718).

Bachelor science students might also become future clinician managers who will expectantly facilitate for management that influences workplace trust. In this regard, Gilson, Palmer, and Schneider (2005) found that the influence of trust on employees in the health care setting enabled commitment to the organisation, improved teamwork and was associated with employee motivation and job satisfaction (Gilson et al., 2005). Additionally, Okello and Gilson (2015) affirm that appreciation and respect between nurses and doctors enhance workplace trust. In their systematic review, they also found that trusting relations developed through professionalism and capability to turn to co-workers when unsure of procedures or cures are important motivating factors (Okello & Gilson, 2015).

#### **4.4. Limitations**

The study was conducted in a single university with only 24 students, nonetheless representing three different educations. An overabundance of nursing students and a few occupational therapy students participated, but both men and women took part. Another limitation was that the meetings between the health sciences students were relatively short, and as the different professions were located on different floors/places in each IC unit, the students demanded that they seek out each other when they were required to collaborate. Moreover, the clinical practice period did not last long (6 weeks), so the students did not reach out to meet many times during that period.

When it comes to trustworthiness, the interprofessional composition of the four authors was an advantage in being able to analyse and assess the findings. However, one cannot rule out that the analyses have been coloured by the "experiential lenses of the researchers" (Gadamer, 2011), even though the authors were conscious of bracketing previous preconceptions.

Even if the students were not explicitly asked to write about trust in the reflective journals, the analysis revealed that it was of great importance that the students trusted their own knowledge, that they trusted the meaning of IPE and that learning from and about each other contributed to trusting professional relations.

The project was planned as a collaborative venture between the university and the clinical practice; we (the researchers) did however experience it to be more structured by the university than by the practice sites, even if they originally wished to be equal partners. Another limitation was that we invited the students to participate neither in the planning nor in the phase of analysis of the reflective journals. Greater student participation in all phases of the project might have given us more nuances for the analysis and a smoother accomplishment of the project.

#### **5. Conclusion**

Interprofessional cooperation helped to clarify the students' own professional identity. A clinical programme that can provide coherence instead of confusion for health science students, as well as that can encourage the development of trust and confidence in themselves and the other professions might be possible. Teachers and clinical instructors in the bachelor programme should put effort into giving the students time and possibilities to put into words and reflect on their emotions and other types of experiences, as well as their own expectations to build trust. We also see that despite the fact that the students represented different levels of the bachelor programme, they

learned that interprofessional cooperation could help in gaining trust in the competence of their own and other professions. However, we can conclude that it is important to start IPE at an early stage because at the start of the education, the students might not yet be segmented in their positions, but open-minded so that trust in oneself and in others can be developed. When planning and providing for the IPE project, we met some counterarguments, especially from other teachers within the health science bachelor programmes. This might imply that the teacher's trust in IPE should be further examined by considering whether and how teaching staff can influence the development of student confidence in interprofessional cooperation.

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### Author contribution

L.N., D.L.N, N.H and I.T. contributed to the study design, data collection, analysis and manuscript preparation.

### Competing Interests

The authors declare no competing interest.

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