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Interprofessional Collaboration in Health Care: Education and Practice

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To those who truly work together for better care and health of others.

"What everyone is really talking about is learning and working together"

(Harker et al. 2004, p 180)

"True interprofessional collaboration may be said to exist when members of the health care team function as acknowledged equals who bring different knowledge and expertise to the achievement of shared clinical goals"

(McMillan, 2012, p 412)

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ABSTRACT

Background: Interprofessional collaboration is of global interest for addressing to the complex health care needs and improving patient safety in health care. Professionals have to develop collaborative skills and the ability to share knowledge. Interprofessional education describes learning activities where students learn with, from and about each other to improve collaboration. The dimension of interprofessional collaboration is complex and includes different collaborative competencies to bring about the best for the patients. To become a professional, often understood as someone exerting expertise within a specific field of practice, involves a learning process that challenges the boundaries of the professions. Boundaries are not only barriers, but also places that increase learning. There is a complexity to studying the phenomenon of interprofessional collaboration and learning regarding how it occurs in education and health care practice. By using a sociomaterial perspective on practice, it is possible to more robustly explore the collaborative context.

Aim: The overarching aim of the thesis has been to explore interprofessional collaboration and learning in health care education and in interprofessional health care practice. More specifically, the research questions in the thesis were answered in two studies regarding how professional knowledge is developed and shared in interprofessional undergraduate health care education and in interprofessional health care practice.

Methods: A questionnaire was distributed to students from a medicine, nursing, physiotherapy and occupational therapy programme who participated in a two-week period of practice at an Interprofessional Training Ward in Linköping. The data was analysed quantitatively to explore how female and male students experienced their professional identity formation. The open-ended responses were analysed using a sociomaterial perspective on practice. An ethnographic study was conducted in a hospital setting during a period of one year, during which two interprofessional teams were observed. A theory-driven analysis was made using a socio-material perspective on practice, and this provided a lens through which the nature of interprofessional collaboration and knowledge sharing could be observed.

Findings: The main findings from the questionnaire showed that the practice architectures of the Interprofessional Training Ward, prefigured practices where different professional responsibilities were enacted in ways that were reproducing expected and unexpected roles in a traditional health care practice. That disrupted the students' practical and general understandings of professional responsibilities and the nature of professional work including their professional identity formation.

The findings from the ethnographic study showed different patterns of how knowledge was shared among professionals in their daily work practice as it unfolded, like chains of actions. The patterns arose through activities where collaboration between professionals was planned beforehand, and at other times it arose in more spontaneous or responsive ways. Due to the way the activities were arranged, the nursing assistants were totally or partially excluded from the collaborative practices.

Conclusions: The way that educational and health care practices were arranged had an influence on the patterns of interactions between the students as well as the professionals. The arrangement at the Interprofessional Training Ward enabled and constrained the possibilities for students to learn professional and interprofessional competencies. Professional practices in health care hung together through chains of actions that influenced interprofessional collaboration and learning. The relations between human actors, material objects and artifacts are of importance for understanding interprofessional practices.

SVENSK SAMMANFATTNING

Interprofessionellt samarbete inom hälso-och sjukvård, diskuteras som betydelsefullt både internationellt och nationellt. Ett komplext och delvis förändrat sjukvårdsbehov för olika grupper i samhället, förändringar i organisationer samt kravet på patientsäkert arbete utmanar vården att utveckla flexibla och alternativa arbetssätt för att tillgodose behoven.

För att kunna optimera och ta tillvara den kunskap som finns inom hälso-och sjukvården efterfrågas ett interprofessionellt samarbete där man etablerar en delad kunskapsbas och bättre förståelse för egen såväl som andras professionella kunskap. Argument för att uppnå detta har genom åren varit att låta studenter lära med, från och om varandra redan under sin grundutbildning inom medicin och hälso-och sjukvårdsprogrammen. Interprofessionell utbildning har också som syfte att motverka fördomar och okunskap mellan hälso-och sjukvårdsprofessioner.

För att förstå utmaningen med att arbeta interprofessionellt behövs en förståelse för det professionella perspektivet. Professionellt lärande är en iterativ och livslång läroprocess som börjar under grundutbildningen. Lärandet sker i interaktion mellan den som lär och den kontext man befinner sig i, är relationell och innebär förändring. Varje profession förfogar över sin egen identitet, kultur och tradition och det påverkar studenternas professionella utveckling. Att lära och arbeta tillsammans kan utmana olika professioner i de gränsområden som finns i form av normer, kunskap och maktstrukturer. Samtidigt kan ett samarbete inom gränsområdena stimulera nya sätt att utveckla sin kunskap i relation till andras kunskap.

Att använda teoretiska perspektiv i forskningen för att ytterligare fördjupa kunskapen om hur interprofessionellt samarbete och lärande går till efterfrågas i allt högre grad. Att använda teoretiska perspektiv för att studera utbildningens praktik såväl som hälso-och sjukvårdens praktik, kan öka förståelsen för komplexiteten i dessa praktiker. I denna avhandling har ett sociomateriellt perspektiv på praktik använts för att förklara hur mänsklig handling hänger samman och uttrycks via språk, via handlingar och genom relationer mellan individer. Varje praktik äger rum i ett materiellt sammanhang där arrangemang av objekt, artefakter och teknik är viktig för utformningen av praktiken och handlingarna som ingår i den. Praktiken kan

förstås som kulturellt-diskursiva, socio-politiska och materiellt-ekonomiska ordningar, som skapar såväl möjligheter som hinder för praktiken.

Det övergripande syftet med avhandlingen har varit att undersöka interprofessionellt lärande och samarbete inom hälso-och sjukvårdsutbildning och i hälso-och sjukvårdens praktik. Mer specifikt, avhandlingens forskningsfrågor har besvarats genom två delstudier. En delstudie har haft till syfte att utforska hur professionell kunskap utvecklas och delas i interprofessionell utbildning. Den andra delstudien har syftat till att utforska hur professionell kunskap utvecklas och delas i en interprofessionell hälso-och sjukvårdspraktik.

I delstudie 1 fick studenter från Arbetsterapeutprogrammet, Fysioterapeutprogrammet, Läkarprogrammet och Sjuksköterskeprogrammet som genomfört en praktikperiod på en klinisk undervisningsavdelning (KUA) i Linköping besvara en enkät. Enkäten innehöll frågor med öppna och slutna svarsalternativ angående hur studenterna uppfattat att de utvecklat sin professionella och interprofessionella kompetens samt deras uppfattning om möjligheter och hinder för lärandet. Två olika analyser gjordes av enkätsvaren. Studenternas skriftliga utsagor i de öppna frågorna i enkäten analyserades med en kvalitativ ansats utifrån ett sociomateriellt perspektiv på praktik (paper I). Data från de slutna frågorna analyserades för att undersöka eventuella skillnader hur kvinnliga och manliga studenter upplevde att KUA påverkade deras professionella identitetsformation (paper II).

I delstudie 2 utfördes under ett år en etnografisk studie på en slutenvårdsavdelning. Observationer och informella samtal genomfördes med två olika teamkonstellationer av vad som sades och gjordes i deras dagliga arbete med patienterna. I dataanalysen, som var iterativ, identifierades initialt olika professionella och interprofessionella aktiviteter. De interprofessionella aktiviteterna analyserades vidare utifrån ett sociomateriellt perspektiv. Den första analysen hade fokus på *hur* de interprofessionella aktiviteterna hängde samman likt kedjor av aktioner och hur dessa kedjor kunde underlätta delandet av kunskap mellan professionerna (paper III). Den andra analysen hade fokus på undersköterskans möjlighet att interagera och därmed vara inkluderad i teamets arbete när det gällde att dela med sig av sin kunskap och få ta del av andras kunskap (paper IV).

Resultaten har tolkats utifrån ett sociomateriellt perspektiv på praktik, i utbildning och inom hälso-och sjukvård. I båda delstudierna påverkade de

sociala och materiella arrangemangen lärandet och möjligheten att utveckla och dela sin kunskap.

Resultatet för delstudie 1 visade att studenterna generellt var nöjda efter en praktikperiod på KUA. Arrangemangen på KUA prefigurerade studenternas aktiviteter som förväntade eller oväntade att genomföra utifrån deras framtida professionella roll. Analysen visade också att praktikarrangemangen prefigurerade studenternas möjlighet att arbeta nära varandra vilket medförde ett öppet arbetsklimat för ständiga interprofessionella diskussioner och reflektioner kring dagens arbete. Det gavs tillfälle för studenterna att berika kunskapen kring patienternas problematik i och med att man delade med sig av sin professionella kunskap.

Det fanns en signifikant skillnad mellan manliga och kvinnliga studenter avseende synen på hur de hade utvecklat sin förståelse för sin professionella roll och förmågan att samarbeta med andra studenter. Jämförelsen mellan kvinnliga läkarstudenter och övriga kvinnliga studenter visade att läkarstudenterna var mindre nöjda med KUA som en lärpraktik för att utveckla sin professionella roll och identitet. Att erhålla legitimitet i sin framtida profession kan förmodas påverkas av den rådande genusordning som finns inom hälso-och sjukvårdens praktik.

Delstudie 2 visade vad hälso-och sjukvårdspersonal faktiskt gjorde i sin professionella praktik. Olika exempel framträdde på professionella praktiker som kan förklaras som aktionskedjor. Dessa aktioner motverkade isolerade och fragmenterade aktiviteter och uppmuntrade istället samarbete där kunskap kunde delas och lärande kunde ske. De sociala och materiella arrangemangen möjliggjorde och hindrade interprofessionellt samarbete avseende hur undersköterskan kunde bidra med sin kunskap till övriga kollegor och själv få ta del av andras kunskap. Inom interprofessionella praktiker där interaktion är av vikt när man arbetar tillsammans, kan status och maktstrukturer spela en viktig roll för hur interaktionen blir.

Det är komplext att studera fenomenet interprofessionellt samarbete och lärande i såväl utbildningskontext som vårdkontext. Att använda ett socio-materiellt perspektiv på praktik har gjort det möjligt att länka resultatet till diskursen om komplexitet och de kontextuella faktorer som anses vara av vikt inom interprofessionell utbildning och interprofessionell hälso-och sjukvård.

Följande slutsatser kan dras i avhandlingen:

- Det sätt som interprofessionella utbildningspraktiker är arrangerade kan både möjliggöra och hindra studenterna att lära sig professionella och interprofessionella kompetenser.
- Att betrakta professionell utbildning som en praktik istället för en utbildning som förbereder för praktik kan hjälpa till att identifiera de sociala och materiella arrangemang som krävs för att främja interprofessionellt lärande.
- Professionella praktiker i hälso-och sjukvården hänger samman genom karaktäristiska aktionskedjor som främjar eller hindrar interprofessionellt samarbete och lärande.
- Relationerna mellan mänskliga aktörer och mellan mänskliga aktörer, materiella objekt och artefakter är viktiga för att förstå interprofessionellt samarbete.

LIST OF PAPERS

The thesis is based on the following papers.

- I. Lindh Falk, A., Hult, H., Hammar, M., Hopwood, N., Abrandt Dahlgren, M. (2013). One Site fits all? A student ward as a learning practice for interprofessional development. *Journal of Interprofessional Care*, 27, 476-481. doi: 10.3109/13561820.2013.807224

- II. Lindh Falk, A., Hammar, M., Nyström, S. (2015). Does gender matter? Differences between students at an interprofessional training ward. *Journal of Interprofessional Care*, 29, 616-621. doi: 10.3109/13561820.2015.1047491

- III. Lindh Falk, A., Hopwood, N., Abrandt Dahlgren, M. (2016). Unfolding practices: A sociomaterial view of interprofessional collaboration in health care. *Professions & Professionalism* (accepted Nov, 2016).

- IV. Lindh Falk, A., Hult, H., Hammar, M., Hopwood, N., Abrandt Dahlgren, M. (2016). Nursing assistants matters- an ethnographic study of knowledge sharing in interprofessional practice. *Nursing Inquiry* (under revision Nov, 2016).

ABBREVIATIONS

CAIPE	Centre for the Advancement of Interprofessional Education
FMHS	Faculty of Medicine and Health Sciences
IPC	Interprofessional collaboration
IPE	Interprofessional education
IPL	Interprofessional learning
IPTW	Interprofessional Training Ward
OT	Occupational Therapist
PT	Physiotherapist
WHO	World Health Organization

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Finally, it is time to finish my doctoral studies, and I would like to take a moment to thank those who have helped and supported me in different ways over the years. I have to admit that conducting the research studies and writing the thesis have been great fun, but I promise, hard work! This research process has required curiosity, creativity, a good mood and a lot of energy.

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Finally, I want to express my great thankfulness to my nearest family and especially to my beloved husband Peter, who has, with a lot of love and patience, always served me nice food and wine.

As Mark Twain said:

"Too much of anything is bad, but too much champagne is just right."

It is time for a great family dinner!

And above all, Josefine and Joakim, my dearest loves on earth. Always close, even if you are on the other side of the globe, far, far away from your mother. Luckily we have had possibilities over the years to meet in different places around the world and that always give me so much energy and love (and lots of luggage to carry!). Thank you, my darlings!

INTRODUCTION

This thesis addresses interprofessional collaboration in health care education and practice. More specifically, the thesis focuses on how professional knowledge can be developed and shared in the context of undergraduate health care education and interprofessional health care practice. There has been an increased global interest during the last decades in *why* and *how* interprofessional collaboration in health care should occur. The issue regarding how to prepare health care students for collaborative practice in their future work has also been researched and discussed. Professional knowledge has been considered over the years from many perspectives.

My interest regarding interprofessional collaboration started long ago. For many years, first as an occupational therapist (OT) and then as a university lecturer at Linköping University, I have had the opportunity to meet many students and professionals from the area of health care. While working as an OT, I worked with colleagues from other professions in different ways, which could be understood as interprofessional collaboration, but then my knowledge about interprofessional collaboration was limited.

I worked as an OT supervisor at the Interprofessional training ward (IPTW), which started in 1996 at Linköping University and was the first student training ward in health care in the world. This experience gave me a sense of excitement about how to work with others and share knowledge to achieve high quality in health care practice. The experience also gave me the idea that it is important to give the students the opportunity to prepare themselves for interprofessional collaboration. In the light of my past experience, I am curious about how professional practice and learning in an interprofessional context really works in the today's context of education and practice. In 2009, I had the privilege to be accepted as a PhD student and start the journey to write my doctoral thesis and to satisfy my curiosity about the issues of interprofessional collaboration.



BACKGROUND

This chapter provides an overview of the current discussion and debate regarding interprofessional collaboration (IPC) in health care and interprofessional education (IPE) for undergraduate health care and medical students. The phenomenon of IPC is scrutinized in the light of its position in health care education and practice. Previous research on IPC as well as IPE in health care is reviewed.

The call for action for interprofessional collaboration

There has been a global interest during the last few decades, regarding *why* and *how* IPC should occur in health care, so the area is not new or uncharted. But even more today, when we have a change in demography with a population with complex health needs, the health care organisations have to work more cost-effectively and flexibly to meet the health care needs of both individuals and from certain groups in the society. Strategies for how to utilize the existing health workforce optimally are needed. Interprofessional collaboration has been emphasized as a strong and important force because high quality health care outcomes require actions that are more than the sum of the separate professional parts. (McPherson, Headrick, & Moss, 2001; Wilcock, Janes, & Chambers, 2009). Interprofessional collaboration is also acknowledged to avoid clinical error and improve the quality and safety of patient care (Batalden & Davidoff, 2007; Reeves, Tassone, Parker, Wagner, & Simmons, 2012).

The World Health Organization (WHO) has stated in policy documents, that IPC will play an important role as a strategy to manage the global health workforce crisis (World Health Organization, 1988, 2010). Collaborative processes in health care have been developed with two purposes in mind; firstly to serve the needs of clients as well as for professionals, and secondly to provide the opportunity to strengthen the health care systems and improve health outcomes. (D'Amour & Oandasan, 2005).

There seems to be an agreement about the argument to provide a high quality collaborative practice, professionals have to develop and establish a shared knowledge base and a better understanding of other professionals

as well as their own professional knowledge. To meet this need, several authors have argued that interprofessional learning activities should be arranged during undergraduate education.

The call for interprofessional education

Interprofessional education (IPE) describes learning activities where students from different programmes learn together. The ideas of IPE dates back to the 1960s, and since then have been reinforced through several WHO policy reports: *Learning Together to Work Together for Health* (WHO, 1988) and *Framework for Action on Interprofessional Education and Collaborative Practice* (WHO, 2010). There are mainly two arguments that are prominent. Firstly, IPE will prepare students to work together, which results in better IPC. Secondly, as mentioned earlier, working in an interprofessional practice will lead to better health outcomes and better safe health care delivery for patients. Barr, Koppel, Reeves, Hammick, and Freeth (2005), comment, that IPE was also conceived as a means to overcome ignorance and prejudice among health and social care professions.

In 2010, The Lancet commission published a shared vision and a common strategy for IPE for the future. They proposed a competency-based curriculum to respond to the rapid changes in health care with cross-cutting generic competencies in interprofessional educational activities. Their basic argument was that professional health care programmes needed to be adapted to improve collaboration and security in health care (Frenk et al., 2010).

In line with these calls regarding both IPC and IPE, several countries have developed frameworks for interprofessional collaboration to identify and clarify the key competencies for collaboration in health care work. To prepare students for interprofessional practice, the learning outcomes for interprofessional education need to be in line with these frameworks. Table 1 summarises the four different frameworks developed (Rogers et al., 2016, in press).

Table 1. Thematic frameworks regarding interprofessional competencies, as summarised in Rogers et al. (2016).

Framework	Reference	Terminology	Domains
UK (2004) Interprofessional Capability Framework	(CIULU 2006)	Capability	Knowledge in practice Ethical practice Interprofessional working Reflection (learning)
Canada (2010) National Interprofessional Competency Framework	(CIHC 2010)	Competence	Interprofessional communication Patient-/client-centred care Role clarification Team functioning Collaborative leadership Interprofessional conflict resolution
USA (2011, updated 2016) Core Competencies for Interprofessional Collaborative Practice	(Interprofes- sional Educat- ion Collabora- tive 2016)	Competence	Values and ethics Roles and responsibilities Interprofessional communication Teamwork and team-based care
Australia (2010) Interprofessional Capability Framework	(Curtin Uni- versity 2010)	Capability	Communication Team function Role clarification Conflict resolution Reflection

To summarize, there is a strong pressure globally for the need of collaborative practice and interprofessional education to build effective health care systems that improve the outcomes for clients. Still, there are traditional educational organisations where students learn separately in professional silos, which do not stimulate interprofessional learning. To develop collaborative skills that can bring down professional boundaries, students must have opportunities to spend time together, to learn, and to practice together in meaningful ways.

The working relationship between health care professionals has been described in many ways which makes it difficult to really get a unified picture

of *what* IPC is and *how* it really works. The next section will dig deeper into the collaborative practice that occurs in health care practice.

Dimensions of collaboration

The phenomenon of interprofessional collaboration, which is of interest in this thesis, can be defined in several ways which may be conceptually confusing. A variety of terminologies have been used in the literature, many of them interchangeably (Thylefors, Persson, & Hellström, 2005; Zwarenstein, Goldman, & Reeves, 2009).

Starting with the degree of interaction among team members and their responsibility for patients, this can be stretched over a continuum from “multi” through “inter” to “trans” (Hall & Weaver, 2001; Kvarnström, 2008). The expected interaction of “inter” contrasts with the more passive “multi”, which denotes learning and working side by side without interaction (Brooks & Thistlethwaite, 2012).

There are also differences in the use of “professional” and “disciplinary”, sometimes used interchangeably together with the prefix mentioned above. One distinction between these two terms is that “discipline” differs from the term “profession” in the sense that disciplines may be regarded as academic disciplines as well as sub-specialties within professions (Barr et al., 2005).

Multidisciplinary or interdisciplinary team has been used for many years as a term for describing the relationship between health care professionals, but today has fallen into less favour. The use of “disciplinary” is problematic, because single professions such as medicine have a number of disciplines in their professional group (e.g. cardiovascular or orthopaedic) and there can be misunderstandings if this term is used to describe different professional groups working together. A *Multidisciplinary* team is often described as a team with a hierarchy and where the professional identities of the members in the team are more important than the team membership (Youngwerth & Twaddle, 2011). The team members often make autonomous decisions and act in parallel paths, often with a lack of meeting spaces (Crawford & Price, 2003; Engel & Prentice, 2013; Satin, 1994). *Interdisciplinary* teams tend to work more closely together in a structured way,

based on the integrated knowledge and expertise of each professional (Mariano, 1989; Youngwerth & Twaddle, 2011).

Nowadays, the term *interprofessional* is more common in the literature, and indicates that practitioners from different professions engage in interaction together and make common decisions, which is an important distinction from multidisciplinary (Engel & Prentice, 2013).

The term *collaboration* conveys the idea of *sharing* and thereby implies collective actions towards common goals, equality, and shared resources and accountability, particularly in the context of health care. (D`Amour & Oandasan, 2005; Thylefors et al., 2005). However, important in this idea is that it is not enough just to bring different professionals together to achieve collaboration. The professionals have to trust each other and establish a collaborative process for developing high quality care. Moreover, collaboration can occur within as well as between organisations. Ödegård, Hagtvet and Björkly (2008) point out that interprofessional collaboration can vary across internal and external contexts where internal collaboration refers to collaboration with professionals from one's own organisation, whereas external collaboration concerns collaboration with professionals from other services. Collaboration with clients and relatives is strongly related to interprofessional working. Clients may be counted as a team member but can contribute to educational activities as well (Barr et al., 2005).

Interprofessional collaboration (IPC) has been described by Barr and colleagues (2005) as involving different health and social care professions who regularly come together to negotiate and agree on how to solve complex care problems or provide services. It differs from *interprofessional teamwork*, as colleagues do not share a team identity and work together in a less integrated and interdependent manner.

In this thesis, *interprofessional collaboration* will be mainly used to explain situations when health care workers from different professional backgrounds work together in an effort to deliver the highest quality of care.

To sum up this section, a central point in definitions of IPC is that practitioners from different professions work together with mutual respect regardless of what kind of knowledge and experience each brings to the team.

The most important is what is best for the patients. Interesting aspects in this context are: What constitutes a profession? Who are the professionals included in a team? And, what are the opportunities and challenges when working and learning in collaborative professional practice in health care?

Professions and professionals

The core term “profession” has been strongly associated over the years with occupational categories such as medicine and law as the “real professions” (Markauskaite & Goodyear, 2014; Carr, 2014). New arenas of occupations have then rallied behind, like nurses, physiotherapists and teachers, which traditionally have been called by sociologists as “semi-professions” (Greenwood, 1957; Abbott, 1988). Still though, there are occupations in the health care that are not included in the general category of professions, e.g. nursing assistants. However, it no longer seems so important to draw a sharp line between professions and occupations, because today both concepts have similar forms which share common characteristics (Scuilli, 2005).

Traditionally, a *professional* is often understood as someone exerting expertise within a specific field of practice and who meets the expectations within its specific knowledge domain, codes of ethics and profession-specific skills (Friedson, 2001; Edwards, 2010; Carr, 2014). In health care, professionals have different practical and academic approaches to delivering service, depending on their roles and responsibilities. Often the professionals bring their own personal and professional culture and competence to the work setting (Hofseth Almås & Ödegård, 2010), meaning the health care professions include a wide range of knowledge and competencies. In this thesis, all different practitioners involved in the work with the patients are included when discussing interprofessional collaboration, regardless of educational and academic level.

In order to create a profession, borders have to be arranged between professions selecting the professions’ expertise and ideology. Health care professions have struggled to define their boundaries regarding values, their unique practical skills, and their role in health care. Therefore health care professionals still tend to work within their own professional silos to ensure their common tools, languages and approaches and cope with boundaries between different perspectives and practices. (Hall, 2005). The boundaries are caused by norms, knowledge, and power but are interesting because

they can be crossed both by people and by objects (Akkerman & Bakker, 2011).

McNair (2005) argues, that all the efforts needed for having control over a distinct body of knowledge can create a significant barrier to effective relationships with other professionals and with patients. One example is the ambiguity between nursing assistants and registered nurses regarding their roles and tasks (Munn, Tufanaru, & Aromataris, 2013). Today, many health care professionals are required to widen their scope of practice. Therefore, one can argue that becoming a professional, to construct a work identity, seems to imply a collective understanding about the profession and practice, but also social expectations about how to be as individual and behave in order to acquire legitimacy into the profession (Kirpal, 2004).

Furthermore, classical studies on professions in general and health care professions in particular, have shown a rigid professional status hierarchy as well as a status difference between women and men (Davis, 1996; Porter, 1992; Witz, 1992). These inequalities of professional culture and stereotypes have been highlighted in more recent research regarding the education of medical and nursing students, as affecting how students look upon themselves, their future profession, collaboration and professional practice (Wilhelmsson, Ponzer, Dahlgren, Timpka, & Faresjö, 2011). The same principles though are expected also to apply to other health care professionals (Bell, Michalec & Arenson, 2014). Hofseth et al. (2010), have argued that professional cultures seem to reflect social class, power and gender issues. These issues have been factors in the struggles between health professions until the present day (Hall, 2005). A study made by Baker, Egan-Lee, Martinianakis and Reeves (2011), gives one example of the challenges related to power and IPE, when representatives from physicians saw IPE as a potential threat to their professional status. Nonmedical professionals, as nurses, occupational therapists and social workers, saw it instead as an opportunity to improve their positions within the health professions.

In contexts such as IPC, where interactions is of importance when professionals work together, status attributes play a central role in shaping how individuals relate to each other. In the case of gender issues, individuals can have stereotypical presumptions about how women and men will act in a group (Bell et al., 2014). Beyond individuals, organisations can also be gendered, which means that gender inequality is built into the structures of the work place (Acker, 1999; Martin, 2006). These gendered processes

clarify the positions, different professional practices and understanding of what constitutes a professional (Acker, 1999; Nyström, 2010). In health care, where collaborative practice occurs, the gender status and performance expectations of team members will be of significance (Ridgeway, 2009).

Introducing IPE from the start of undergraduate health care education could be an important way to prevent the formation of negative interprofessional attitudes (Carpenter, 1995; Hammick, Freeth, Koppel, Reeves, & Barr, 2007). Regarding students, they tend to identify themselves with their future profession on the basis of prior knowledge and experiences at the beginning of their undergraduate health care and medical education (Reid, Bruce, Allstaff & McLernon, 2006; Wilhelmsson et al., 2011).

Professional identity formation can be seen as a learning process where individuals are formed by their social interactions, but also by their reflections on themselves (Billett, 2006; Wenger, 1998). Scanlon (2011) has used the concepts of becoming in the discussion regarding professional formation and has argued for the distinction between “becoming” and “being” a professional. To “become a professional”, is an iterative process through working life and is contiguous to lifelong learning. The notion of “becoming” points towards movements, emergence and processes. “Being a professional” is more about arriving at a static point of expertise. In the modern knowledge society, professionals must continually adjust to new knowledge, so final expertise is unachievable (Scanlon, 2011).

As a summary, practitioners are required to work with others who bring other forms of expert knowledge to the collaborative practice. That challenges the boundaries of the professions as expert domains, but at the same time stimulates new ways of positioning the practitioners’ specific area of expertise in the collaborative work. In relation to learning, boundaries are not only barriers, but also places where learning can increase.

Professional and interprofessional learning

Starting with the idea of *how* professional learning actually happens, professional learning can be described using different metaphors (Hager & Hodkinson, 2011). The *acquisition and transfer metaphor* suggests some kind of standardization and can mislead us into an understanding of learning as a “thing” located inside one’s head and contained within the learner.

The transfer metaphor can lead us to think that we move the knowledge from one situation to another, which is too simplistic. The metaphor of acquisition and transfer of learning is problematic both for students and practitioners.

Another metaphor for learning is the *construction metaphor*, where the identity and the change of identity is of importance, while the surrounding context is not so important and remains the same, more like an external container. Learning involves transformation and (re)construction of what is already known by the learner and is built onto existing understanding. Learning is continually changing as the learner constructs their own understanding of it. Donald Schön's work on "reflective practitioners" can be seen as similar to this metaphor of construction as such practitioners continually construct and reconstruct themselves in practice (Schön, 1983).

Learning can also be described through a *participation metaphor*, which Lave and Wenger (1991) referred to as "situated learning". Learning is then understood as contextual and inseparable from the sociocultural setting in which it occurs, different from the construction metaphor. Professional learning, as well as the professional, changes as the context changes and is a complex, ongoing process.

As a criticism of the metaphors mentioned above, Hodkinson, Biesta and James (2008) suggested a metaphor of learning as *becoming*. Learning as becoming is in a way a blend of these metaphors and can be summarised as follows: professional learning takes place in the interactions between the learner and the situation, it entails changes, it is relational, and it is influenced by many forces and factors. The metaphor of learning as becoming also reminds us that learning is an inherent part of living (Hodkinson et al., 2008). The becoming metaphor can help guide the support for professional learning both in education and health care practice. Professional learning is a non-linear process of becoming, with no end point.

The concept of "becoming" can also relate to the "practice turn" which has changed knowledge to knowing (Gherardi & Perrotta, 2014). To treat knowledge as knowing - a verb - highlights performative aspects and does not treat knowledge as a stable entity residing in individual practitioners' heads. Instead, knowledge is something that is emergent, a property of re-

relationships between professionals. Within this perspective, learning between professionals can then be seen as a part of knowing-in-practice (Rooney et al., 2012). This perspective on knowledge and learning is of interest when investigating interprofessional education and collaboration in health care.

There is a challenge to achieving a balance between the unique professional knowledge and the relationship to other professionals' knowledge in the team. Interprofessional learning (IPL) has been defined as learning *with, from and about each other* to improve collaboration and the quality of care and services. (Centre for the Advancement of Interprofessional Education, 2002). In this definition, "professionals" refers to both pre-qualification students and professionals in academic and work-based environments.

Learning together *with*, means that a working group establishes a shared knowledge base for common action. To learn *about others* is to develop a better understanding of other professionals' beliefs and values, knowledge and actions. To learn *from others*, is partly to deepen one's own professional knowledge by meeting the professional knowledge of others, and to broaden one's own knowledge and perspectives, and thereby create new knowledge. All dimensions of learning must be present for the "inter" in IPL to apply, but simply bringing different professional groups and students together to learn in the same setting is not enough (Thistlethwaite, 2012). However, just to read the phrase alone does not provide details of *how* professionals really integrate together in successful interprofessional teams in practice (Hovey & Craig, 2011). It is important to underline that learning that occurs in interprofessional practice is not to learn how to do the work of others, but to obtain insight and interact in the same spaces, with the same overall purposes of enabling collaboration and ensuring best practice for the patient.

Previous research in IPC and IPE

This section will critically review existing research regarding IPC and IPE and discuss the important issues of interprofessional collaboration as it appears in health care education and practice.

Research related to patient outcomes and interprofessional collaboration

Even if it is important to implement interprofessional practice in health care regarding patient safety, the area of research about IPC and the effect on patient outcomes and safety is limited, though growing. A systematic review of randomised controlled trials of practice-based IPC interventions suggested that IPC interventions are important to improve health care outcomes. But the small number of studies, the heterogeneity of interventions and settings, and problems with measuring collaboration make it difficult to draw generalizable conclusions about key elements of IPC and its effectiveness (Zwarenstein et al., 2009).

As some examples, one study, conducted by Boulton et al. (2001), showed promising results regarding increased functional ability of geriatric patients who received care from an interdisciplinary primary care team than did the control group which not received care from an interdisciplinary primary care team. Strasser et al. (2008) evaluated the impact of IPC on the rehabilitation process for stroke patients. A team training programme, provided to learn practical skills about teamwork, increased awareness of the significance of communication and coordinating the work to maximise effects on patient outcomes. The authors found that patients treated by rehabilitation staff who participated in a team training program, developed better motor function than patients treated by staff who had been prepared only by receiving information before starting the rehabilitation process.

Research related to interprofessional collaboration and learning

Research about outcomes related to the collaborative work and learning itself is also of significance. Both external and internal factors are important for IPC to succeed. Aspects such as understanding and respecting team members' roles, and the professional trust seem to be important for working effectively (Jones & Jones, 2011; McDonald et al., 2009; Sargeant, Loney, and Murphy, 2008; Suter et al., 2009) but also the value of professional autonomy in the team (Jones & Jones, 2001). Communication was found to be another important factor affecting the success of interprofessional collaboration, both *how* to communicate and *where* the communication happens (Sargeant et al., 2008; Seneviratne, Mather, & Then, 2009;

Suter et al., 2009). Kvarnström (2008) found in a study of interprofessional teams in Sweden that if health care professionals identified that problems with IPC occurred, it could have a negative impact on patient care and service.

Previous research on IPC has used a variety of learning theories, roughly divided into approaches such as behaviourism with focus on outcomes of learning expressed as behaviour, and constructivism focusing on the process of learning (Hean, Craddock, & Hammick, 2009). Bleakely (2006), has stated that sociocultural theories about learning are more powerful than those oriented to individual cognition when it comes to explaining how learning occurs in health care practice. More research in the area of interprofessional collaborative health care is needed that better informs the complex and contextual factors in health care practice.

To avoid the challenges that arise when working together, there seems to be a common view that it is important to develop and establish a shared knowledge base and a better understanding of other professionals as well as one's own professional knowledge, preferably during undergraduate education (D'Eon, 2004; Thistlethwaite, 2012). This strategy can probably prevent the tendency to stereotype other professions in a negative way and can influence attitudinal change (Pelling, Kalen, Hammar, & Wahlström, 2011). The question is then how to design an adequate undergraduate education for health care and medical students.

Research related to interprofessional education

There has been some criticism over the years regarding IPE. McNair (2005) mentioned the lack of conceptual clarity about IPE and the limited space in the curriculum for profession-specific content as risks for IPE to be removed from curriculum content. The research evidence for IPE has evolved in the last decade, but the complexity of IPE is not fully understood. Different review studies have been conducted which have provided some insights into the impact of IPE. Some examples are described below.

Hammick et al. (2007) evaluated forms of IPE activities published between 1981-2005. The review included 21 different research studies. Key messages from this review study were as follows: interprofessional learning has

to occur in real contexts; learning has to be framed in a manner which is appropriate for an adult learner; and it is important for staff to have competence as facilitators for successful interprofessional education.

Thistlethwaite and Moran (2010) conducted a literature review study regarding learning outcomes related to interprofessional learning and collaboration. The most commonly defined learning outcome was related to knowledge and skills regarding teamwork including team dynamics and power relationships. Understanding of different roles and responsibilities was another prominent learning outcome, and also the competence to communicate with others. The important message from this study is that there is a need for a critical discussion about learning outcomes to form a consensus regarding IPE.

Abu-Rish et al. (2012) reported key characteristics in IPE activities from 83 studies. They found a great diversity of educational approaches for undergraduate health care students, from IPE as a one-time activity for the students to multiple occasions of IPE during the course of the programmes. Educational strategies such as small group discussions about patient cases, large group lectures and simulations were reported as the most common. Unfortunately, the lack of detail and heterogeneity in outcome measures make it difficult to compare between different IPE programmes and to establish the best practice.

A systematic review of the effectiveness of IPE was made by Lapkin, Levett-Jones, and Gilligan (2013). The aim was to appraise and synthesize the best available evidence by analysing Randomized Controlled Trials (RCT) and quasi-experimental studies. Nine papers were included and the results indicate that students' attitudes towards interprofessional collaboration may be enhanced through interprofessional education. The ability in clinical decision-making was increased.

To summarise, there have been an infinite number of initiatives to create learning activities to encourage interprofessional learning in undergraduate health care education. An educational activity becoming increasingly widespread throughout the world is the arrangement of Interprofessional training wards (IPTW).

Interprofessional training wards as a learning activity for collaborative practice

Interprofessional training wards (IPTW) are one of many educational activities, which have been implemented in health care and medical education over the last decade to facilitate interprofessional education and learning. Many institutions around the world have established these wards (Brewer & Stewart-Wynne, 2013; Wilhelmsson et al., 2009; Jacobsen, Fink, Marcussen, Larsen, & Hansen, 2009; Lidskog, Löfmark, & Ahlström, 2007; Ponzer et al., 2004; Wahlström, Sanden & Hammar, 1997). Generally described, an IPTW is often a hospital ward where students from different fields of health care and medical education work together for two to three weeks, with the support of supervisors. Often this period of practice is arranged in the last year of education. The main characteristic of an IPTW as a learning environment is to support the students to take full responsibility for the medical treatment, care and rehabilitation of the patients.

The purpose of the IPTW has been formulated in different ways but to summarise, the students should practice collaboration and thereby develop a greater understanding of their professional and interprofessional competencies in the team. The educational design of the IPTW is specially aimed at providing opportunities for the students to become aware of and scrutinize the different professional cultures within the team.

The most important and interesting findings from the field of research about IPTW regarding students' experiences of learning have shown that:

- Students thought they had great opportunities for practicing decision-making related to the care of patients (Freeth et al., 2001; Morphet et al., 2014).
- Students appreciated the “real life” clinical experience (Fallsberg & Wijma, 1999; Freeth et al., 2001; Morphet et al., 2014).
- Students reported that an IPTW period had a positive impact on the development of their
 - professional role and identity (Brewer & Stewart-Wynne, 2013; Hylin, Nyholm, Mattiasson, & Ponzer, 2007; Ponzer et al., 2004; Reeves, Freeth, McCrorie, & Perry, 2002)
 - independence and self-esteem, (Hylin et al., 2007; Reeves et al., 2002)

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- understanding of other professional roles (McGettigan & McKendree, 2015; Morphet et al., 2014; Ponzer et al., 2004)
 - their ability to work in a team with other professions (Brewer et al., 2013; Hylin et al., 2007; Jacobsen et al., 2009; Pelling et al., 2011; Morphet et al., 2014; Reeves et al., 2002; Wilhelms-son, et al., 2009)
 - communication capabilities (Brewer & Stewart-Wynne, 2013; Morphet et al., 2014; Ponzer et al., 2004)
- Students acquired increased knowledge of client-centred care (Brewer & Stewart-Wynne, 2013; Reeves et al., 2002)
 - Students reported a positive change in their knowledge of, trust in and attitude towards each other (Hallin & Kiessling, 2016).

Summarising this section regarding research in IPC and IPE, there is accumulating evidence of the need for IPC among health care providers due to the call for action to increase the quality and safety for patients. Over the years, IPE initiatives have been developed and implemented in undergraduate education and health care practice, grounded on an expanding evidence base. Despite this call for action and the significant benefits offered by IPC, there is still some resistance regarding the implementation of IPC and IPE actions.

Economical and organisational factors have been discussed as reasons for the difficulties in implementing interprofessional actions in general (Pecukonis, Doyle & Leigh Bliss, 2008). Bell et al., (2014), have argued that factors such as rigid occupational status hierarchy but also status differences between men and women hinder the achievement of IPC. There are only a few research studies that report on the role of power and gender issues regarding educational activities in general (Wilhemsson et al., 2011) and IPTWs specifically.

There is a complexity in studying the phenomenon of interprofessional collaboration and learning regarding how it occurs in education and health care practice. There is an ongoing discussion regarding the use of theories in research in relation both to interprofessional education and practice.

Systematic reviews have highlighted that few studies refer directly to a particular theoretical framework for IPE (Cooper et al., 2001; Freeth et al., 2001; Barr et al., 2005). Using theoretical perspectives on practice, highlights key aspects of professional learning that might better inform the complex and contextual factors in health care practice and education (Fenwick, 2014).

Rationale for the Thesis

My interest in how knowledge is developed and shared in interprofessional collaboration, whether among health care professionals who are managing patients' health issues or undergraduate students training in different learning contexts, has guided this thesis. Existing research regarding the phenomenon of IPC has focused on outcomes and success factors for collaborative health care and different initiatives taken regarding educational activities. However, researchers have argued that in researching interprofessional practice and learning, there is a need to use theories and frameworks applicable to practice to more robustly explore the collaborative context (Barr, 2013; Bleakley, 2006; Paradis & Reeves, 2013; Reeves et al., 2011; Thistlethwaite, 2012).

The dynamic and relational understanding of learning associated with sociomaterial perspectives has started to inform health care education and practice (Bleakley, 2006; Fenwick, 2014). Understanding practice knowledge and how it is developed and unfolds is of vital importance to the quality and effectiveness of professional practice in a changing world. In research about professional learning, the practice itself has often been taken for granted (Reich & Hager, 2014) and as an alternative to highlight the perspective on practice, practice-oriented approaches on professional learning are advocated (Hager, Lee & Reich, 2012). Focusing on arrangements of professional and interprofessional practice allows a deeper understanding of the relational and contextual aspects of interprofessional learning and collaboration.

Sociomaterial approaches can be seen as an umbrella term used for theories that move beyond individual acquisition, and knowledge transfer. Instead the approaches emphasize how learning is embodied in dynamic relationships among people and their physical contexts and are associated with questions regarding knowledge (Gherardi, 2009). Professionals must not only apply knowledge; they also have to participate in producing and sharing new knowledge (Rooney, et al., 2012). Professional knowledge and knowledge strategies are complex and are changing in the area of professional practice and work because of shifts in arrangements and responsibilities between professionals (Fenwick, Nerland & Jensen, 2012). The empirical interest of this thesis is directed towards collaborative processes as they occur in education and health care and will be further explored.

AIM OF THE THESIS

The overarching aim of this thesis is to explore interprofessional collaboration in health care education and in interprofessional health care practice. More specifically, two research questions will be answered in two different research studies:

How is professional knowledge developed and shared in interprofessional undergraduate health care education?

How is professional knowledge developed and shared in interprofessional health care practice?

The specific aims of the four different papers are:

Paper I: To assess how the students' experiences of collaboration and learning in an IPTW can be understood through the theoretical lens of practice theory, thereby gaining a better understanding of IPTW learning and practice.

Paper II: To explore how female and male students from different programmes within the health care education system, i.e. medicine, nursing, occupational therapy and physiotherapy programmes, experience an IPTW as a part of their professional identity formation.

Paper III: To investigate how knowledge can be shared and emerges between different professionals in health care practice.

Paper IV: To explore how the nursing assistants' knowledge can be shared in an interprofessional team at a spinal cord injury rehabilitation unit.

THEORETICAL FRAMEWORK

In this thesis, I draw on Theodore Schatzki's (2002, 2012), and Stephen Kemmis' (2009) theories on the sociomaterial perspective on practice.

The general assumptions and features of sociomaterial approaches in relation to professional education and practices bring together all the factors that are directly involved in learning activities. The factors include the networks of the people involved, other living organisms, artefacts and things through which teaching and learning are translated and enacted (Green, 2009; Green & Hopwood, 2015; Hager et al., 2012; Schatzki, 2002). Sociomaterial approaches have taken on more prominence in the workplace and professional learning literature as a result of the work of Fenwick et al. (2012).

Sociomaterial perspectives on practice have been taken up in a range of contexts to explore links between practice, knowledge and learning. The perspectives tend to examine the whole system by tracing interactions among human as well as non-human parts of the system. A range of conceptions and methodologies can be described as sociomaterial, with slightly different foci, some more socio-cultural and some more material-focused (see examples in Edwards, Daniels, Gallagher, Leadbetter & Warmington, 2009; Engeström, 2001; Lave & Wenger, 1991; Schatzki, 2002). One common viewpoint is that material as well as social forces are mutually involved in everyday activities.

From a sociomaterial perspective, a practice is not only what single persons do, rather practices are organised connections between individuals and between individuals and physical spaces and things (Kemmis, 2009). How the practices are arranged, both socially and materially, then form individuals' actions. Schatzki (2012) understood practices as occurring in "practice arrangement bundles" in which practices are prefigured, but not determined, by the arrangements amidst which they occur. Practices can be organised and "hang together" in dynamic relationships between different professionals, like "chains of action" which can be understood using Schatzki's concepts of commonality and orchestration (Schatzki, 2002). Commonality refers to activities and/or practices being determined and structured by the same understandings, rules, intentions and purposes while orchestration refers to instances where these structures differ but

there is a dependent relationship between one activity and another (Schatzki, 2002).

A practice is always embodied and situated. Professional practices are constituted by the cultures, discourses and words ('sayings') which make the practice, in this thesis the health care practice and the education practice, understandable and comprehensible. Practice also has a material-economical dimension which enables and constrains how people can act and interact in physical and material space ('doings'). Finally, practice includes a social-political dimension which can be described as the relationships between people and the belonging to different groups ('relatings') (Kemmis, 2009). What make complex practices like education and health care distinctive is how the content of the cultural-discursive, material-economic and social-political dimensions mentioned above are bundled together in certain ways. That specific arrangement creates what Kemmis (2009) and Kemmis et al. (2012) have described as a practice architecture that constructs, enables and constrains work and knowledge sharing.

Through the formation of each unique professional practice, the practice architecture prefigures actions performed within each practice. At the same time, each practice architecture can be changed and developed by the practitioners involved. A practice requires people to engage in multiple activities spread over time and space, and the social and material dimensions cannot be separated. The material dimension refers to tools, technologies, bodies and objects. Materiality shapes what it makes sense to do and makes certain actions seem more intelligible than others.

Theories of practice and learning are neither prescriptive, nor do they inform about how empirical work should be performed (Moring & Lloyd, 2013). The theoretical perspective instead provides a lens from which we can observe the world. In this thesis, the lens is used to provide a novel understanding about how knowledge can be developed and shared in inter-professional education and health care practice. This means that the focus is directed to a relational view on what people do and say and the things that are involved in the practice.

DESIGN AND METHODS

This section describes the research design and methods of the two different studies included in the thesis. The methods for data collection as well as the analysis process are described. Finally, there is a section in which ethical considerations in relation to the different studies are discussed.

A summary of key characteristics of the two different studies is given in table 2.

A theoretical informed analysis has been used which helped the researcher to explain the phenomenon more deeply, enabling more in-depth description, interpretation and explanation (Kelly, 2010, Raply, 2011).

Research method in study A

Study A in the thesis, with the overall purpose of exploring how professional knowledge is developed and shared in undergraduate health care education, was conducted at three different IPTWs.

Various methods have been used in this study to investigate the perspective of students in IPE, specifically at IPTWs. The questionnaire used in this study, was developed in cooperation with teachers and researchers involved in IPE, inspired by a standard student evaluation form previously used for many years at the IPTW in Linköping. A number of questions for the overall evaluation of the IPTW were reformulated and new questions were added to answer the overall research question with relevance to inter-professional education and collaboration. The questionnaire was finally designed with 26 questions, based on a Likert scale from 1 to 6 (where 1 indicated the most negative and 6 the most positive alternative). Such scale is by definition a Semantic Differential Scale but is commonly referred to as Likert scale (Likert, 1932). The questionnaire also included 12 open-ended questions to assess the students' knowledge and understanding about the IPTW period (appendix A).

The face validity of the questionnaire was tested by discussing the questions with teachers, supervisors and seven students after their two weeks of practice at the IPTW. After making a number of changes regarding the content and focus of the questions, a test–retest validation was performed.

Twenty students were asked to fill in the questionnaire after their placement at the ward and again after two weeks. Nine students answered the questionnaire twice and the majority of the included questions were answered identically by all students the first and second time. Four of the nine students changed one step of the Likert scale in two questions (median change =0) and two of nine students changed two steps of the Likert scale in two different questions. No student changed his or her opinion from the positive to the negative side of the Likert scale and the questionnaire was not changed.

A selection of the data from the questionnaire in relation to the research question was analysed both from a quantitative research approach (paper II) as well as from a qualitative research approach with a theoretically driven analysis drawing on a sociomaterial perspective. (paper I).

Research method in study B

In Study B, an ethnographic approach was adopted, which suited the aim of exploring how professional knowledge is developed and shared in inter-professional health care practice.

In line with anthropological traditions, ethnography has a focus on understanding social processes – the actions and cultures that occur in different contexts (Hammersley & Atkinson, 2007), and for this specific study, the knowledge work for health care professionals. An ethnographic approach usually comprises a range of methods combining qualitative and quantitative data. Participant observation is often portrayed as the primary mode of data collection, and this entails prolonged fieldwork. However, in literature there have been diverse arguments about whether the concepts of participant observation and ethnography can be used interchangeably (Agar, 1980). In this ethnographic study, data was collected by the method of participant observations, informal conversations and by reading medical record documentation for the two involved patients. In ethnography, the design often evolves throughout the study and focuses on the meanings of individuals' actions and explanations.

Ethnography has been applied as a research approach to health care practice in numerous ways as a way to identify beliefs and practices, and allowing these to be viewed in the context in which they occur (Bunniss & Kelly,

2010). Reeves et al. (2009) have argued that an ethnographic approach is a proper method while researching interprofessional collaboration in health care practices to deepen the knowledge of professionals' views of their collaborative work. Schatzki (2012) and Hopwood, Day and Edwards (2016) have argued that ethnography is essential as a research method for acquiring knowledge about how practices and arrangements hang together and about the contexts in which activities and knowledge sharing can take place.

This study has adopted ethnography as an iterative-inductive research methodology, which means that the design evolves through the study process, responding to events and circumstances as they come up (O'Reilly, 2009; Srivastava & Hopwood, 2009). This design enables observations of many informal situations which is important to take into account in an ethnographic study (Polit & Beck, 2012). Savage (2000) notes that ethnography is not used for drawing generalized conclusions but rather for studying a specific group of people regarding a specific topic and drawing conclusions only about what was studied.

Table 2. Summary of the key characteristics of the two different research studies.

	Study A		Study B	
Research questions	How is professional knowledge developed and shared in undergraduate health care education?		How is professional knowledge developed and shared in interprofessional health care practice?	
	Paper I	Paper II	Paper III	Paper IV
Specific aims	To assess how the students' experiences of collaboration and learning in an IPTW can be understood through the theoretical lens of practice theory thereby gaining a better understanding of IPTW learning and practice	To explore how female and male students from different programmes within the health care education system, i.e. medicine, nursing, occupational therapy and physiotherapy programmes, experience an IPTW as a part of their professional identity formation.	To investigate how knowledge can be shared and emerges between different professionals in a health care practice.	To explore how the nursing assistant's knowledge can be shared in interprofessional team practice in health care.
Research methods	Questionnaire		Ethnographic study including field observations, informal interviews and document from medical records	
Study settings	3 different IPTWs at FMHS		Spinal cord injury rehabilitation unit	
Study participants	Students from FMHS, i.e. medicine, nursing, occupational therapy and physiotherapy programmes, participating at an IPTW		2 interprofessional teams (10-12 persons in each team)	
Characteristics of data	Likert scale responses and open-ended responses		Field notes from observations, informal interviews. Document from medical records	
Data analysis	Qualitative theory driven analysis of open-ended responses	Quantitative analysis of data. Selected cross-tabulations (chi-squared test)	Inductive analysis of data and theoretical analysis using sociomaterial perspective on practice and knowledge	
Theoretical framework	Sociomaterial perspectives on practice	Gender perspective	Sociomaterial perspectives on practice	

Study settings and participants

The research project started with study A with the overall aim of investigating how professional knowledge is developed and shared in undergraduate health care education (papers I and II). The research site was three inter-professional training wards at FMHS and County Council. Two of the IPTWs were orthopaedic wards and one was a geriatric ward.

Students from the medicine, nursing, physiotherapy and occupational therapy programme who had served a two-week period at one of the IPTWs during the autumn term of 2010 and the spring term of 2011 were the target population in this study (table 3).

Table 3. Response patterns (gender, programmes) regarding students who participated in IPTW. (Percentage in brackets).

	Medicine	Nursing	Occupational therapy	Physiotherapy	Total
Total number of students	120 (24.6)	253 (51.8)	47 (9.7)	68 (13.9)	488 (100)
Responders*	113 (24.9)	234 (51.5)	42 (9.3)	65 (14.3)	454 (100)
- male**	60 (53.1)	17 (7.3)	5 (11.9)	22 (33.8)	104 (22.9)
- female**	53 (46.9)	215 (92.7)	37 (88.1)	43 (66.2)	348 (76.7)
Missing data					2 (0.4)

*percentage of all students, **percentage per programme

Study B (papers III and IV), with the overall aim to investigate how professional knowledge is developed and shared in interprofessional health care practice, was conducted at a spinal cord injury rehabilitation unit at a university hospital in southern Sweden. The site was chosen based on the author's prior knowledge of the existence of interprofessional collaboration at this site. The author followed two different patients at the ward, and the group of professionals that built up around these patients. Each team around the patients consisted of 1-2 physicians, 4-5 nurses, 4-5 nursing assistants, one occupational therapist, one physiotherapist and one rehabili-

tation assistant (10-12 people in total). Thus, the team was not then specified in advance but reflected the actual practice of working with the patients based on the patient's needs.

Data collection

For study A, the same data collection was used for both paper I and II. The questionnaire included questions from three different areas:

- Conditions for learning, and opportunities for supervision and collaboration with other students
- Professional development
- Student's general experience of the IPTW

During a concluding seminar after every two-week period at the IPTW, all the participating students from the medicine, nursing, occupational therapy and physiotherapy programmes were asked to answer the questionnaire while sitting in the room.

In paper I, the students' answers to the open-ended questions were used for the qualitative analysis. Most of the students wrote down comments in all 12 open-ended questions (table 4).

Table 4. The open-ended questions in the questionnaire.

1. If you experienced time constraints, give examples of tasks that suffered.
2. If you experienced stress, give examples of what was causing the stress.
3. Give examples of how you have developed your ability to solve problems in the practical daily work.
4. Give examples of how you have developed your ability to collaborate with other professions.
5. Give examples of how you have developed your ability to deal with ethical situations.
6. Give examples of how you have developed your ability to respond to patients and their families.

7. Give examples of how you have developed your ability to lead a group in the practical daily work.
8. Which situations during your time at IPTW have supported your learning process?
9. Which situations during your time at IPTW have hinder your learning process?
10. Every day there is a team reflection. How important do you think it is for your learning process?
11. How well prepared do you think you were before the practice at IPTW?
12. Finally, how do you value the practice period at IPTW?

In paper II, five of the Likert scale questions relevant for the aim, were used for quantitative analysis (table 5).

Table 5. Likert scale questions from the questionnaire in Study A.

To what extent have...
1. ...you developed an understanding of your own professional role?
2. ...you developed an understanding of other professional roles?
3. ...you developed your ability to collaborate with students representing other professions?
4. ...you developed an understanding of the value of working in teams?
5. ...IPTW worked as a learning place for practicing team work?

Study B (papers III and IV) had an ethnographic design. The data collection was conducted over three periods from January to November 2012. Each period was around two months. The study had a longitudinal approach to the collection of data which allowed the study to generate a detailed description of professional practice at the unit. It also helped the clinical staff and patients to become accustomed to the observer’s presence over time. In the iterative-inductive research methodology the design evolves through the study process, responding to events and circumstances as they come up. The participant observations and conversations involved direct and sustained contact with the different professionals as they went about their

everyday practice, observing what happened and listening to what was said in different activities.

To obtain a rich understanding of interprofessional collaboration, observations took place at different times of day and covered a range of activities reflecting work shifts and staff rotation schedules. Night shift was excluded. Most observations involved shadowing health care professionals when working in patients' rooms or in shared work spaces to observe both scheduled and more unforeseen activities between the team members. Observations of scheduled activities included in total: 12 interprofessional rounds (20 hours), six team meetings including the patients and relatives (10 hours), nine record reviews - handover, when nurses and nursing assistants reporting to each other and reading the medical record together (10 hours), and five meetings with OTs and PTs while planning the work together with nursing assistants (7 hours). In total, that provide a large amount of different cases. Conversations with participants during shadowing were added to clarify and complement the observations.

Field notes and informal conversations on the ward were jotted down in notebooks and transcribed into a lengthier account in electronic documents directly after the observation sessions by the observer to produce reconstructions of events observed and discussed (Hammersley & Atkinson, 1995).

Data analysis

The first purpose of Study A was to investigate how the students' experiences of collaboration and learning in an IPTW can be understood through the theoretical lens of practice theory, gaining a better understanding of IPTW learning and practice (paper I). To achieve the purpose an analysis of the answers to the open-ended questions was made as it was these data that provide the richest basis for a theoretical informed analysis. This followed the approach described by Sristava and Hopwood (2009), of combining thematic inductive elements, with a theoretically driven analysis drawing on practice theory.

The analysis was carried out in different steps. First an inductive analysis was performed to identify practical situations and activities mentioned by

students as critical to their learning process. Then the data was further analysed divided in respectively programme in relation to what kind of situations were specific critical for their professional and interprofessional learning and collaboration. These situations were categorised into three different themes regarding collaborative actions and roles. Finally, these three themes were subjected to a theoretical analysis, using a sociomaterial perspective on practice, focusing specifically on the concepts of practical and general understandings, and practice architectures (Schatzki, 2002).

The second purpose of Study A was to explore how female and male students from different programmes experience an IPTW as a part of their professional identity formation (paper II). First, the quantitative data from the five Likert scale questions chosen for the analysis were dichotomised (where 1–3 and 4–6, respectively, were summarised), and selected cross-tabulations (chi-squared test) were used to analyse possible differences between the different student groups (gender and programme). The findings were then analysed from a gender perspective on identity formation. The statistical software SPSS version 19 for Windows was used (SPSS Inc., 2010).

The data analysis for Study B was a continuous process that started during the period of data collection. The first phase of the analysis was the same for both papers III and IV, including individual reading the data from the observations and conversation notes (ALF), first visit-by-visit, identifying several activities and different workplaces derived from the site itself. Preliminary interpretations was made by the research group and was also discussed in data workshops at research seminars in Medical Education.

For paper III, the next phase involved identifying different kinds of collaborative activities between professionals. In the further analysis the focus was on *how* these collaborative activities were connected and how the connections could facilitate knowledge sharing. A sociomaterial lens on practice was then used to understand how knowledge sharing took place and hung together in different ways that were referred to as commonality and orchestration.

In paper IV, the analysis focused on planned activities (interprofessional rounds, team meetings including the patients and relatives, and medical record review sessions). In the second layer of these planned activities, a

descriptively categorizing to what extent the knowledge from the nursing assistants was included in the work of the others in the team. In the further interpretation and theorization of these categories, a sociomaterial perspective of practice was used to elucidate how the practice architectures (Kemmis, 2009) shaped the practices but also how the practice architectures were shaped by the practices for the nursing assistants' knowledge sharing.

Ethical considerations

Permission to conduct the studies was given by The Regional Research and Ethics Committee in Linköping (2010/152-31, 2011/454-31).

In Study A, the voluntary participation was mentioned in an information letter given to the students together with the questionnaire. Verbal information was also given to the students at the same time. Students were told that participating in the survey would have no impact on their overall education and they were free to decide to respond or not. We considered the answered questionnaire to represent informed consent. Students put their completed questionnaire in an envelope for further handover. An external unit was used for optical reading and transferring the data into Excel and SPSS, which enabled anonymity.

One difficult step in ethnography is to gain access to a setting. In study B, contact with the hospital unit was made early and several information sessions were used to introduce the study to the different professionals at the ward. The professionals gave their informed consent to participate in the study. Further verbal consent was requested before observations started. No professional declined to participate. Patients were initially asked to participate by one of the head nurses. They were also given an information sheet describing the purpose of the study, and were asked for their oral and written consent. Field relations are central to any ethnographic study and the quality of the data depends crucially on the quality of the relationships established. In this particular study, I did not want to participate in the daily work at the unit as this would perhaps have aligned me with certain occupational groups and restricted my access to others.



FINDINGS

This section presents the main findings from the two empirical studies. First the findings of the questionnaire study are presented (papers I and II). Then, the findings of the ethnographic study are presented (papers III and IV). The complete findings for all studies are presented in the papers appended in the last section of the thesis.

Main findings from Study A

This study investigated how professional knowledge was developed and shared in undergraduate health care education.

In paper I, the students' experiences of collaboration and learning in an IPTW were investigated through a theoretical lens taking a sociomaterial perspective on practice (Schatzki, 2002).

The themes generated from the analysis of the students' responses were; i) enactment of "expected" professional responsibilities, ii) conflicting understandings in enactments of caring work, and iii) proximity creating opportunities for negotiations and boundary work (table 6).

The students mentioned that they were engaged in many practical activities during the training period as different learning activities.

Table 6. Themes emerged from the analysis of students' written answers in the questionnaire.

Themes	Activities	Theoretical analysis
Enactment of expected professional responsibilities	Round meeting led mostly by a medical student	The practice architecture was established through shared general understandings about certain activities. The different interactions described as 'doings' (sitting at the table at the round, working with patients), 'sayings' (specific medical expertise, working together with patients) and 'relatings' (sharing the awareness of others).
	Organisation and administrative planning of the daily work at the ward for the nursing students	
	The one representative of a particular area of competence for OT and PT students	
Dealing with the 'unexpected': conflicting understandings in enactments of caring work	Directly involved in patient care instead of professional tasks for all student groups	Clash between the practical understanding of the professional responsibilities ('sayings') and general understanding of the tasks and roles at IPTW. The practice architecture requires all students to be present at the ward during the day ('doings').
	Being present at the ward during the work shift for the medical students	
Proximity creating opportunities for negotiations and boundary work	Sharing the daily duties for patients among all student groups. Opportunities for decision-making about specific cases	Creation of practice architectures that are similarly interprofessional, common work together ('doings').

The activities the students were engaged in, enabled them to develop and share their knowledge. The practice architectures of the IPTW prefigured practices in which different professional responsibilities were enacted in ways that reproduced 'expected', taken-for-granted roles and duties in a traditional health care practice. The arrangements also produced 'unexpected' responsibilities, practices that disrupted practical and general understandings of professional responsibilities and the nature of professional work.

The analysis highlighted the importance of proximity between students that was prefigured by the arrangements at the IPTW, and the need to create an open climate for ongoing interprofessional discussions and reflections about the daily work.

In paper II, the aim was to explore how female and male students from different programmes, i.e. medicine, nursing, occupational therapy and physiotherapy programmes, experienced practice at an IPTW as a part of their professional identity formation.

In general, the students from all programmes were positive with regard to their professional development including their understanding of their own and the other students' professional roles as well as their ability to collaborate and to appreciate the value of working in teams. In addition to the overall positive evaluations, the female students were significantly more positive than the male students concerning how the IPTW period had helped them to develop an understanding of their own professional role, the ability to collaborate with other professionals, as well as the value of working in teams (see table II, in paper II).

While comparing female medical students with other female students, the female medical students were less positive whether the IPTW was a good learning place for them regarding their professional development with significant differences in all five items. The male medical students were less positive than the other male students concerning how the IPTW period had helped them to develop an understanding of their own professional role and the ability to collaborate with other professionals (see table III in paper II).

Main findings from Study B

The second study had the overall aim of exploring how professional knowledge is developed and shared in interprofessional health care practice.

The findings from paper III which had the specific aim to investigate how knowledge can be shared and how it emerges between different professionals in a health care practice, gave examples of how different professionals' activities hang together during the daily practice.

Interprofessional collaboration sometimes arose through activities where collaboration between professionals was planned beforehand, and at other times it arose in more spontaneous or responsive ways. The findings showed two different patterns of how knowledge was shared among professionals in their daily work practice as it unfolded, which can be explained by using Schatzki's concept of chains of actions (Schatzki, 2002). The two different types of knowledge sharing are described in a conceptual summary in table 7 using Schatzki's concept of orchestration and commonality.

Table 7. Conceptual summary of the two different types of knowledge sharing through interprofessional collaboration using Schatzki's concept of Orchestration and Commonality (Schatzki, 2002).

Type	Origin of knowledge	How knowledge moves	Clinical consequence
A – interprofessional collaboration through Orchestration	From interaction between one professional and the patient	Chain of interactions in which knowledge becomes a common resource; interactions can be professional-professional or professional - patient	Profession-specific projects continue, now shaped by knowledge of particular significance to one professional; individual professional actions adjusted in light of other professionals' knowledge
B – interprofessional collaboration through Commonality	From interaction between one or more professional(s) (and patient)	Joint discussion of different knowledge resources (with or without the patient) resulting in shared stance and new joint projects	Professional actions now have new elements that contributes to joint project of shared significance, no longer associated with one particular profession

The activity (Type A) performed by one professional, with profession-specific practical understandings about what to do, is an example of an orchestrated activity. The activity was first performed by one professional and then connected to other professionals. That connection then influenced

how other professionals in the team applied and then adjusted their work in relation to their profession-specific knowledge.

The functional round is an example of Type B activity, where commonality exists; a practice which is structured by shared rules, structures and understandings of how the round practice should be performed, in a common space. The different professionals were well aware of the purposes, intentions and rules regarding the round meeting and brought in various aspects of profession-specific knowledge to the meeting in different orchestrated actions. Joint decision-making about the purpose of future actions and treatment for the patient was accomplished, and then led to forms of orchestration of future actions for each unique professional.

In table 8 some concrete examples of patterns are visualized by specifying the focus of the specific situation, the origin of knowledge and the movement of knowledge through orchestration and/or commonality. This table also presents the clinical significance of knowledge.

Table 8. Template with examples of patterns of how different professional practices hang together and how knowledge was shared in different projects of a practice. (A- Orchestration B- Communitality, using Schatzki's concept, 2002).

Type	Knowledge focus in certain projects	Origin of knowledge	How knowledge moves	Clinical / care consequence or significance of knowledge
A1	Correction of the patient's arm position while the patient was lying in the bed	Interaction between a physiotherapist and a patient in a bed in a ward room	The knowledge moves from the physiotherapist to the nurse and nursing assistant coming into the room, and from the physiotherapist to the patient and relatives.	The professional knowledge from the physiotherapist becomes a common resource for all involved. All profession-specific projects continue, shaped by knowledge of particular significance to one professional and adjusted in light of other professionals' knowledge
A2	Working with a solution for how to position an alarm button on patient's wheelchair for best safety and independence for the patient	Interaction between an occupational therapist, patient and the materiality of a wheelchair	The knowledge moves from the occupational therapist to a nursing assistant coming into the room, and from the occupational therapist to the patient.	The professional knowledge from the occupational therapist becomes a common resource for all involved. All profession-specific projects continue, shaped by knowledge of particular significance to one professional and adjusted in light of other professionals' knowledge
A3	A nurse is sitting in the nurse station, searching for information about a certain patient, preparing for the round session	Interaction between the nurse, the nursing assistants and later on the medical doctor and others during the round	The knowledge moves from the nursing assistants who has collected information about a certain patient, further to the nurse and then via the nurse to the medical doctor and others	The knowledge from the nursing assistants become a common resource via the nurse into the round where all the professionals more or less are influenced and adjusted their actions in the future
B1	Decision making for increased patient and family involvement	Interaction between two or more professionals in a ward round room	Different pieces of knowledge resource a joint discussion (no patient) and resulting in a shared stance and new joint projects.	Professional actions now have a new element that contributes to a joint project of shared significance, no longer associated with one particular profession
B2	Setting goals with the patient	Interaction between two or more professionals and the patient in a room for team meetings	Different pieces of knowledge from different professionals and the patient's own knowledge and experience resulting in a common decision and new joint projects.	The professionals and the patient share the new joint projects

The findings from paper IV, which had the specific aim to explore how the nursing assistants' knowledge can be shared in interprofessional team practice in health care, showed that three descriptive categories emerged from the empirical data. These categories showed, from a sociomaterial perspective on practice, how nursing assistants' knowledge was shared through varying degrees of participation in the team (table 9).

Table 9. Three descriptive categories of the nursing assistants' involvement in knowledge sharing in interprofessional collaboration.

	Nursing assistants at a distance	Nursing assistants as connection to the patient	Nursing assistants as knowledge partners
Interaction context	Interprofessional round meeting	Team meeting with patients and relatives	Medical record review
Nursing assistants' presence	Nursing assistant absent	Nursing assistant present	Nursing assistant present
Nursing assistants' contribution	Nursing assistants contribution via another professional participating on their behalf	Nursing assistants contribution focuses on knowledge of patient	Nursing assistants contribution part of collective negotiation, planning
Nursing assistants' knowledge status	Legitimised by nurse who introduces nursing assistants knowledge; can be passed on by another	Limited to nursing assistants special contact with patient; Nursing assistants knowledge publicly positioned lower in hierarchy	Recognised and taken up in collective knowledge work
Nursing assistants' knowledge form	Nurse writes notes based on talking with nursing assistants	Direct sayings by nursing assistants in contrast with other professional knowledge in notes and documentation	Nursing assistants knowledge draws on discussion of existing medical record and shapes content of future record content

The different practice architectures enabled professional activities in different ways. Cultural-discursive, material-economic and social-political arrangements, influenced how the knowledge of nursing assistants contributed to the practices of others, and the knowledge of others informed the practice of nursing assistants. The different arrangements created possibilities for the nursing assistants to become a collaborative worker.

DISCUSSION

Discussion of main findings

The overall research aim of this thesis has been to explore IPC in health care education and in interprofessional health care practice with a specific focus on how knowledge is developed and shared through work and learning in education and practice. The thesis is framed by a sociomaterial perspective on practice as the theoretical lens and approach; a perspective that hitherto has seldom been applied in the area of interprofessional education and health care practice. A sociomaterial perspective on practice has been useful to enrich the findings and link them to a broader set of discussions regarding the complex and contextual factors in interprofessional education and health care practice.

In this section the findings from both research studies will be discussed under four subheadings; *Collaboration as a practice for learning*, *Architectures of interprofessional practices - enablers and constraints*, *Fluid activities and boundary crossings in practice*, and *Interprofessional legitimacy and power*.

Collaboration as a practice for learning

In both studies, the social and material arrangements of practice influenced learning and knowledge sharing.

Study A at the IPTW showed that students' possibilities for learning were related to their expectations of the period on the ward. Both expected and unexpected responsibilities created learning situations. The proximity of the students from different programmes required negotiations and decision-making about specific cases and strengthened the relationships between the student groups through 'sayings' and 'doings' in collaboration with the patient. That produced valuable opportunities to learn from and about other student groups, and also enriched their knowledge relating to specific patient cases.

To be interprofessional is to be open to learning with other people and to improve ways of working (Hammick, et al., 2009). The sharing activities in the caring work (doings) seemed to have pedagogical potential in enriching students' general understandings of health care practice. The study emphasizes the importance of understanding the social and material arrangements of the IPTW as a practice for learning and knowledge sharing.

Previous research on IPC has provided knowledge about patient outcomes and factors that are important for the collaborative process (e.g. Boulton et al., 2001; Jones & Jones, 2011; Sargeant et al., 2008). The findings from the ethnographic study in the thesis, have shown empirical examples from the daily professional practices illustrating *what* health care professionals actually *do* in practice, which is a contribution to the research area. The professionals were constantly involved in different types of professional practices, through 'sayings', 'doings' and 'relatings' between different professionals in the team. The professionals asked questions, documented their work and much of importance, shared knowledge with each other, and that provided an opportunity to learn.

The round meeting was one example of a practice for knowledge sharing. Another example was the shared time and space in the patient's room, where it was possible for different professionals to bring in various aspects of profession-specific expertise to share with each other. These are examples of successful activities where knowledge can be shared and learning can take place. The analysis demonstrated how knowing-in-practice is enacted in chains of actions. Gherardi (2009) has introduced the concept of knowing-in-practice by looking upon knowledge as a collective and distributed 'doing', an activity situated in time and space. With the backdrop of the findings of this thesis, my interpretation is that interprofessional collaboration between professionals or students may be seen as always comprising elements of knowing-in-practice, which is a novel perspective on how learning in practice occurs. Knowledge about how knowing-in-practice can emerge among professionals or students in the daily work with patients will be crucial in the future for responding to the opportunities and challenges for health care education, and in health care practices for delivering safe and effective health care.

The analysis showed that the practices hung together through different chains of actions which prevented isolated and fragmented working approaches and instead promoted collaborative practice. These chains of actions brought professionals into different kinds of relationship with one another, which adds to the understanding of what it means to learn from and about each other; something that is argued to be an integral part of inter-professional practice and learning (CAIPE, 2002). The different types of knowledge sharing and also the arrangements of situations and activities where the knowledge sharing happened, represented important findings that contribute to the understanding of interprofessional collaboration as a practice for learning.

These studies contribute to the discourse about professional knowledge and learning by revealing empirical analyses of how the collaborative elements of students' and professionals' daily work in health care practice were constituted. Hager, Lee and Reich (2012) and Fenwick and Nerland (2014) have argued that learning is an essential part of everyday practice. The findings from these studies provide knowledge of how interprofessional collaboration as a practice is intertwined with the ongoing everyday learning in practice.

Architectures of interprofessional practices - enablers and constraints

In both studies, the practice architecture both enabled and constrained the possibilities for students and professionals to collaborate.

The practice architecture (Kemmis, 2009) of the IPTW prefigured the students' educational practices and disrupted their practical and general understandings of professional responsibilities and the nature of professional work. Also significant were the material-economical arrangements that prefigured possibilities for students to meet, discuss, and make decisions during their working days at the ward. The wardround room is an example of an arranged boundary zone (Edwards et al., 2009) for negotiations. The students appreciated both spontaneous and planned meetings in different places at the ward.

The IPTW as an educational practice is designed to challenge and involve all student groups. It promotes collaboration but also helps to train the students in their future professional roles. The students also experienced the period differently, depending on whether the arrangement of the ward enabled or constrained their professional development and their ability to collaborate. The students had different experiences of being stationary at the IPTW. It was an authentic feature of practice for the nursing students but created a clash for the medical students with the practical and general understanding of their profession. The practice was not in harmony with their practical understanding of the specific tasks of a physician, nor the general understanding of physicians being mobile and connecting to several communities in different locations in the hospital during the day that has been shown in the study of Thörne, Hult, Anderson Gäre, and Abrandt Dahlgren, (2015).

In the ethnographic study, it was demonstrated how the way different practices were arranged had an influence on the patterns of interaction between the health professionals. The material arrangement of the round room, with a table in the middle, and the medical record on a screen, surrounded by the staff, prefigured the round as a collaborative practice, enabling the team to share their knowledge and experiences. But still, the nursing assistants were excluded at the round meetings, depending on how the material-economical arrangement of the daily work at the ward was designed and organized. The arrangement also relied on the cultural-discursive dimension, through the professionals' 'sayings' and ideas about the practice, which does not give an opportunity for all team members to communicate and share knowledge with each other. The social-political formed practice also gave a picture of the nursing assistants as not included.

The study about the nursing assistants add to previous research showing that they are important sources of knowledge, but their knowledge is often overlooked in the interprofessional collaboration (Dellefield, 2006; Gray et al., 2016). A close up analysis of the collaborative practice, as in this study showed how the social and material arrangements enabled and constrained the nursing assistants' contributions to the interprofessional collaboration.

Fluid activities and boundary crossings in practice

In the research study, regarding the IPTW, the findings have highlighted the importance of proximity between students' collaboration in 'doings' and 'sayings' in the daily work around the patient. This means, proximity in 'sayings' that create a fluid open climate for ongoing interprofessional discussions and reflections about the 'doings', i.e. the daily work. That includes not only 'relatings' between students, but also between the students and the material arrangement of the IPTW when they have to deal with the caring work of the patients together. To be able to learn from and about others, students need to be open to participation and interaction with other professional groups. By doing so, they can create an interprofessional professional identity, a profession-based, shared space for reasoning (Guile, 2012). The only way to do this is to abandon perceptions and boundaries around what counts as specific professional knowledge and practice. Akkerman and Bakker (2011) have used the concepts of boundary crossing and boundary objects. Boundary crossing describes a person's transitions and interactions between different zones, and boundary objects are described as artefacts that cross over and fulfill a bridging function. In the study on the IPTW, caring work was a complex example of boundary crossing. The students crossed over their usual professional responsibilities when working on the basic needs of the patient and this encouraged them to work in different relational practices. This study has shown new ideas that the practice architectures of the IPTW and proximity between students also produce informal boundary zones which open up for negotiation.

Professional knowledge sharing, described and analysed as chains of actions and presented in paper III, brought professional practices into different kinds of relationships with one another, in some cases, through commonality, and in others through orchestration. These relationships provided the basis for interactions through which knowledge could be shared between different professionals and used in practice. The findings in this study showed how the fluid movements between commonality and orchestration are enacted as crucial features of interprofessional collaboration.

Practitioners in health care are required to work with others who bring other forms of expert knowledge to the collaborative practice. This challenges the boundaries of the profession as expert domains, but at the same time stimulates new ways of positioning the professionals' specific areas of expertise in the collaborative work. The medical record review session as

an empirical example from paper IV, showed an innovative way of arranging places as boundary zones, which enabled the nurses and nursing assistants to collaborate.

The findings in this thesis connect to a research field in other professional areas considering boundaries and are in line with research regarding inter-professional collaboration conducted by Edwards et al. (2009). They emphasize that boundary zones are important places for learning and the work that occurs there gives shape to the collaboration that occurs.

The relational elements of practices from a sociomaterial perspective include individuals who work together in different practices (e.g. nurses, occupational therapists, doctors). The findings from the research in this thesis also draws attention to artefacts, such as the medical record function, as boundary objects since different professionals interact and relate their knowledge work to each other through these. These relations between human actors and the material objects and artefacts are of importance for understanding professional practices (Fenwick, 2014).

Interprofessional legitimacy and power

The findings from paper II have raised questions about how the IPTW as an educational practice supports female and male students' professional identity formation. The IPTW is arranged within a traditional clinical ward and the students are supposed to learn to work interprofessionally. That kind of practice arrangement may lead to questions on how the students perceived professional cultures and stereotypes. Previous studies have shown that educational experiences and socialisation processes during training and professional practice reinforce professional stereotypes and cultures, which then become barriers to a successful IPC (Bell et al., 2014; Hall, 2005; Mandy, Milton & Mandy, 2004).

Power relations such as age, class and gender are complex social forces that influence professional identity formation (Hofseth et al, 2010; Martin, 2006), and the aspect of gender has been the focus in paper II. When it comes to gaining legitimacy as a future professional, the aspect of how students "do gender" has to be related to the prevailing gender order in an

ordinary workplace. Different professions have their own distinct occupational cultures, and develop their own characteristic ‘sayings’ and ‘doings’ which can lead to stereotypical judgements.

Drawing on the findings from papers I and II, due to the way the IPTW was arranged, the students’ would have more possibilities to clarify their respective professional roles and practical understandings of care in relation to others. This makes it possible to assume that the gendering practices that infuse the health care practice also infuse the IPTW.

In interprofessional practices, where interactions are of importance when professionals work together, status attributes play a central role in shaping how individuals relate to each other. The culture, described as a body of learned behaviour and common developed in a certain profession, defines the means for distributing power in the work setting (Pecukonis et al, 2008). In paper IV, the focus was on how the nursing assistant as the knowledge expert regarding the patients was included in interprofessional collaborative practice. The findings showed that the practice architecture influenced the possibility for the nursing assistants to relate equally to others in the team in relation to power and work status while discussing certain things about the patients.

Gray, Shadden, Henry, Di Brezzo, Ferguson, and Fort (2016) have highlighted the importance of the nursing assistants being accepted as equal team members when it comes to what is known about the patients. The present study confirms previous research that nursing assistants are important sources of knowledge, as often they are the ones closest to the patients. By observing what really happened in the interprofessional collaborative practice, the arrangements of the daily work became visible and explained how the arrangements influenced the opportunity for a nursing assistant to be a collaborative partner.



Methodological considerations

The research process in this thesis has strengths but also a number of limitations which must be considered when interpreting the findings.

Strengths and weaknesses in Study A

In study A, a questionnaire was used to capture issues regarding students' experiences of collaboration and learning as well as their experience of the IPTW as a part of their professional identity formation. It would have been advantageous if we could have used a validated questionnaire in study A, but at the time when the study was designed in 2010, there was no proper questionnaire that could be considered a golden standard and that could be used to answer the scientific questions of the study.

The RIPLS instrument (Parsell & Bligh, 1999), which is a self-reported questionnaire that measures health care students' attitudes in order to identify their readiness for interprofessional learning, was used in previous studies of the IPTW at that time but did not suit the aim of this study. The research group therefore decided, together with the academic and clinical leaders at the IPTW, to develop a questionnaire that better suited the aims of the study, but also to include questions regarding the overall evaluation included in the previously used standard student evaluation form. A number of questions for the overall evaluation of the IPTW were reformulated and new questions were added to answer the overall research question. The decision to combine the two different purposes of the questionnaire (research and general evaluation of the ward placement) was to avoid the students completing two different questionnaire during their placement at the IPTW, which might have impacted negatively on the response rate.

The questionnaire was finally designed with 26 closed-ended questions, based on a Likert scale from 1 to 6, where some of these questions were used for the general evaluation of the IPTW. Twelve open-ended questions were also developed to capture the students' knowledge and understanding in a more narrative way. The decision to develop a questionnaire with a mix of open- and closed-ended questions was based on the intention to get a deeper view of students' experiences of the IPTW and the aforementioned lack of such a questionnaire in previous research studies. The design of the questionnaire was a strength of this specific study because it offered

a rich amount of data and there was a possibility to analyse the data in different ways.

The pre-tests that were made concerned face validity and test-retest reliability. The face validity was tested with experts from the area of IPE and students who had completed a period at the IPTW the semester before the research study started. They read the questions and gave feedback regarding the formulation of the questions, whether there were difficulties in understanding certain questions, or any risk of misinterpretations. They were also asked to explain how they interpreted each question in order to test if their interpretations agreed with what we were really looking for. After some adjustments regarding some formulations, misspellings, and the order of the questions a new version was sent to a group of students who had been at the IPTW during spring 2010 for a test-retest. The purpose of a test-retest is to assess stability (Polit & Beck, 2012). The students were asked to fill in the questionnaire after their placement at the ward and again after two weeks. Nine of 20 students answered the questionnaire twice and the absolute majority of the included questions were answered identically by all students the first and second times, which was considered as appropriate. The test-retest is an easy method but there is a risk that memory interference can influence the result. Despite the small numbers of responses it gave a picture of the stability of the questionnaire.

The strengths of using a questionnaire in this study were the possibility for the students to be anonymous, the possibility to distribute the questionnaire to a large group of students, and the low cost.

The total analysis of the close-ended questions showed similar findings as previous research regarding students' perceptions regarding the period of practice at the IPTW. These findings are not presented in the papers because they did not add new knowledge. Instead a further analysis was made regarding gender issues. The questionnaire provided important information from a great number of female and male students representing a number of different programmes within the health care sector. The data gave a basis for exploring differences and similarities in students' professional identity formation, which provided a new and interesting view of the IPTW. The open-ended responses gave the possibility to use a theory-driven analysis which provided new insights about the arrangement of the IPTW as a learning practice for students.

Overall, a limitation of this study could be lack of participatory methods of data collection, such as participant observations at the IPTW which could have further enriched the data and provided different insights about how an IPTW can be arranged in ways that enable students' learning and facilitate interprofessional collaboration in the future.

Strengths and weaknesses of Study B

In study B, the use of the ethnographic approach helped us to understand the complex nature of how knowledge can emerge and be shared in inter-professional practice by different professionals. Schatzki (2012) and Hopwood (2016) argued that ethnography is essential as a research method for acquiring knowledge about how practices and arrangements hang together, and about the contexts in which activities and knowledge sharing can take place. While first-hand perspectives and accounts of practice are important, observational approaches have a different value, particularly through their ability to trace what people do and how they relate to each other in practice.

The selection of the site as a single case was based on the author's prior knowledge of the nature of interprofessional collaboration at this site. That made it possible to spend considerable time at this site to collect data, which can be seen as a strength. Representativeness may be in doubt when choosing one site. However, Savage (2000) has stated that ethnography is not used for developing generalized conclusions but rather for studying a specific group of people regarding a specific topic. Ethnographic findings come from certain individuals and situations and from a particular place and time and often involve a large number of situations, thereby providing a substantial basis for generalization (Hammersley & Atkinson, 2007) as in this study.

To gain access to a field is both a practical matter of physical presence but also has ethical considerations (Hammersley & Atkinson, 2007, Polit & Beck, 2012). Often it involves negotiation with a "gate keeper" who has the authority to permit entry into the field. In the ethnographic study in the thesis, the contact with the head of department was important. This person helped to arrange several meetings with the professionals to introduce the study, and that became important for the future work and the ongoing process to establish relationships.

Time is an issue regarding ethnographic research (Hammersley & Atkinson, 2007). It was impossible to do fieldwork round the clock so the observations was conducted mostly during the day when there was the best chance to observe collaborative practices. The duration of the observation sessions is also crucial, as regards maintaining focus when observing and having time for writing down all the observations and reflections. The observation sessions in this study were made between 2-5 hours but there were short pauses to allow time to write down notes. Observations was first wide spread to capture the overall impression of the field but then became more and more focused.

The author followed two different patients at the ward, and the group of professionals formed around these patients. The team was not then specified in advance but reflected the actual practice of working with the patients based on the patient's needs, which increase the flexibility of the observation sessions.

The total observation period was divided into three different occasions during one year. That process was decided in relation to the possibility for the researcher to spend time at the ward but was also influenced when there was a patient who both had the capacity to and the willingness to participate in the study. The summer period was also excluded because there were fewer patients and professionals available at this time.

Field notes are often used for recording observational and interview data. In this study the field notes were written by hand during observations and after. In addition, during informal conversations with the participants, preliminary observations was confirmed and adjusted, both to clarify certain things that happened but also to validate the observable events, interpreted by the researcher. It was important to digitally transcribe the notes as soon as possible after the observations to avoid forgetting certain things that happened.

The researcher also took some photos of the environment of the wards, to support the analysis of how the material arrangements hung together. The patients were always excluded from the photos and the professionals gave permission to use the photos beforehand.

The analysis of data was a continuing process throughout the whole period of observation. This iterative process included detailed and repeated readings of the emerging data. It was a challenge to make sense of what was going on in the patients' processes and the analytical phase took a large

amount of time. Continuous review and discussion of the emerging empirical data with the research team were carried out to reach consensus on interpretations, to establish trustworthiness, and to ensure that judgments were not clouded by familiarity discrepancies during the analysis. The emerging ideas of the first author were discussed by the other researchers and in data workshops at research seminars, which is recommended as a way of strengthening the transparency of the analysis (Polit and Beck, 2012).

Using a theoretical framework as an analytic tool

Theory for theory's sake is futile but in this study, by using a theoretical framework, there was a possibility to trace the processes and issues concerning interprofessional collaboration, knowledge, and learning in both studies.

In study A, the theoretical approach highlights the ways in which an IPTW allows development of collaborative practice, by viewing professional education as a practice instead of an education preparing for practice. In study B, the theoretical perspective provided an opportunity to empirically study the emerging interprofessional practices with a high degree of sensitivity.

Professional identity formation could be seen as a situated and relational process influenced by gendered processes and practices within health care. The theory of practice though, did not provide enough tools to immerse the analysis of the gender perspective. However, the dimension of the social - political arrangement (Kemmis, 2009), of which power relations are one aspect, helped in discussing the gender perspective in relation to practice.

Health care education and practice are fields with complexity, and are often defined by contextual factors; similarly, it relies on powerful relationships between professionals (Bunnis & Kelly, 2010). Using a sociomaterial perspective on practice, the focus could be re-directed from the cognitive aspects of knowledge, experiences, and attitudes to the social and material aspects of interprofessional practice itself.



Reflections on my research approach

During and after completing my research, I reflected on how my experiences, values and background have influenced my analysis and interpretation. My background (preconceptions) as an OT with experience in working in health care and my interest in interprofessional collaboration in health care, have influenced me to not take a novice role to the settings I have studied. There was a challenge for me to change the perspective from being a person who advocates teaching and learning in higher education, to instead developing a critical and exploratory approach to research education and practice.

My overall interest has been regarding knowledge and learning in the context of interprofessional education and collaboration. I started with an individual and social constructivist approach to knowledge and learning based on my previous assumptions about knowledge. Using what was for me a new and uncharted theoretical approach to practice and learning gave me a broader picture of the nature of how knowledge and learning really occur in practices.

In study A, my experience in the area of interprofessional education was a driving force and a source of knowledge for me, since I was familiar with the setting and could formulate proper and adequate questions while developing the questionnaire. As a researcher, I had no contact with the students at the IPTW; instead, a good relationship with the supervisors was of more importance when distributing the questionnaire to the students.

Regarding study B, reflexivity is a central element of ethnography work and is associated with the relationship the researcher has with the research area (Berger, 2015; Polit & Beck, 2012). It involves continuous self-scrutiny during the research process. This study challenged my prior knowledge about being interprofessional and working together in health care. I reflected on situations that happened at the ward, between professionals and between professionals and patients. Even though I was not a novice as regards the area of research, I was a novice ethnographer, which influenced my approach at the beginning of my field studies. The quality of data depends crucially on how well the researcher establish relationships at the site.

In this particular study, I did not want to participate in the daily work at the ward as this would perhaps have aligned me with certain occupational

groups and restricted my access to others. I wore white garments like the other professionals working there to blend into the environment.

My writing skills developed during the observation periods. I wrote more and more in detail with a thick description of the setting, describing what the study participants did and said and where I observed all the different work activities. That was important when discussing my data with the co-authors of the articles and helped to achieve confirmability and transformability. I also used peer debriefing as a strategy to enhance good quality. This was accomplished through continuous presentations to the research seminar in Medical Education in my department and at international conferences where experts in different research methods scrutinized my data set, patterns and interpretations of the data.

CONCLUSIONS AND IMPLICATIONS

This thesis address the complex nature of interprofessional collaboration in education and health care practice. Interprofessional collaboration may be necessary for the continuing development of professions and for widening the scope of practice.

The research studies have shown how knowledge sharing between different students or professionals depends on how the different arrangements prefigure a certain practice. The way the practices are arranged has an influence on the patterns of interaction between the students or health professionals.

The conclusions from the research project are:

- The way an educational practice as the IPTW is arranged enables and constrains the possibilities for students to learn professional and interprofessional competencies.
- Viewing professional education as a practice instead of education preparing for practice can help us to identify the arrangements supporting interprofessional learning.
- The professional practices in health care hang together through characteristic chains of actions that promote or constrain interprofessional collaboration and learning.
- The relations between human actors, material objects and artefacts are of importance for understanding interprofessional practices.

The implications of the study at the IPTW support the importance of asking questions about and discussing professional development and gender during the interprofessional training period to promote teamwork. These discussions fits exceptionally well in an interprofessional curriculum, since gender is done in the interplay between individual professional identity formation and the professional community in education and work.

Students should be given opportunities to practice collaborative competencies during their undergraduate education, and should spend time together to learn, reflect, and to work together in meaningful ways.

Educators have to ensure that the interprofessional agenda is deeply embedded in the curriculum, with clearly stated learning outcomes to reach interprofessional competencies.

Meeting the expectations of the students regarding the responsibility of the professional and interprofessional work is a challenge for educators in the design of learning activities. There has to be a balance between the traditional perspectives of health care and wanting students to think and act “non traditionally” sometimes. A period of practice at an IPTW enabled students to learn from, with, and about each other, benefitting from practice architectures, which facilitated development of sharing practical and general understandings of specific patient cases, and health care from a wider perspective.

The implications of the study of interprofessional collaboration in health care practices regarding how knowledge can emerge and be shared between professionals contributes to the discourse about safe and effective health care in the future. The way practices are arranged can influence the patterns of interaction between health professionals. By studying what health care professionals actually do and say in practice we can learn more about practices of interprofessional collaboration and the shared knowledge associated with those practices. Professional knowledge and knowledge strategies are complex and are changing in the area of interprofessional practice and work because of shifts in arrangements, responsibilities and relations between professionals.

FURTHER RESEARCH

Future research of the IPTW could use methods such as participant observations. Doing so could further enrich the data and provide important insights about how an IPTW as a practice for learning can be arranged in ways that enable students' learning and facilitate interprofessional collaboration in the future.

The perspective of patients as members of a team is also important to investigate. The patient as a co-producer in the health care process is of more importance today in relation to empowerment and the complexity of health care issues. "Standing in the shoes" of the patients should be of interest to observe the collaborative practice between professionals.

Further practice-oriented research studies are needed to focus on professional competencies. Empirical studies of practices provide a basis to develop instruments that not only assess attitudes and behaviours, but also competencies needed for interprofessional collaboration.

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ENKÄT

Instruktion för ifyllande av enkät.

Enkäten läses optiskt av en dator. Håll därför om möjligt kryssen innanför rutorna.

Kryssa så här: Kryssa ej så här:

Använd helst blå eller svart kulspetspenna och inte tusch eller blyerts. Röd färg fungerar inte vid optisk läsning.

Skulle du råka sätta ett kryss i en ruta som inte överensstämmer med din uppfattning, rätta till det genom att stryka över hela rutan

Sätt därefter krysset i rätt ruta.

BAKGRUNDSFRÅGOR:	HT 2010 <input type="checkbox"/>	VT 2011 <input type="checkbox"/>
AVDELNING:	KUA, avd. 30, US, Linköping	<input type="checkbox"/>
	KUA, avd 82, US, Linköping	<input type="checkbox"/>
	KUA, ViN, Norrköping	<input type="checkbox"/>
UTBILDNINGSPROGRAM:	Arbetsterapeut	<input type="checkbox"/>
	Biomed. analytiker	<input type="checkbox"/>
	Logoped	<input type="checkbox"/>
	Läkare	<input type="checkbox"/>
	Sjukgymnast	<input type="checkbox"/>
	Sjuksköterska	<input type="checkbox"/>
ÅLDER:	-25 år	<input type="checkbox"/>
	26-30 år	<input type="checkbox"/>
	31-35 år	<input type="checkbox"/>
	35 år –	<input type="checkbox"/>
KÖN:	MAN	<input type="checkbox"/>
	KVINNA	<input type="checkbox"/>
TIDIGARE YRKESERFARENHET INOM VÅRDEN	JÄ	<input type="checkbox"/>
	NEJ	<input type="checkbox"/>



INTRODUKTION

1. Deltog Du på något av introduktionstillfällena inför KUA-placeringen?

JA NEJ Varför inte?.....

Om JA besvara även fråga 2-4, om NEJ gå vidare till fråga 5a.

2. Förhandsinformationen jag fick inför placeringen/praktikperioden vid KUA var

a)

Inte alls relevant

Helt relevant

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b)

Inte alls tillräcklig

Helt tillräcklig

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Informationen jag fick vid introduktionen (första dagen) var

a)

Inte alls relevant

Helt relevant

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b)

Inte alls tillräcklig

Helt tillräcklig

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Kommentarer angående introduktionen:



STUDIEMILJÖN

5a. I vilken utsträckning fanns det möjlighet för Dig som student att hantera patienternas problem tillsammans med andra studenter under KUA-perioden?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5b. I vilken utsträckning utnyttjade Du den möjligheten?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6a. I vilken utsträckning fanns det möjlighet för Dig som student att diskutera patienternas problem med teamhandledarna (sjuksköterskan i vårdlaget)?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6b. I vilken utsträckning utnyttjade Du den möjligheten?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7a. I vilken utsträckning fanns det möjlighet för Dig som student att diskutera patienternas problem med din yrkesspecifika handledare?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7b. I vilken utsträckning utnyttjade Du den möjligheten?

I liten utsträckning

I stor utsträckning

1	2	3	4	5	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



8a. I vilken utsträckning upplevde du tidsbrist under praktikperioden på KUA?

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

8b. OM du upplevde tidsbrist, ge exempel på vilka arbetsmoment som blev lidande.

9a. I vilken utsträckning upplevde du stress under din praktikperiod på KUA?

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

9b. OM du upplevde stress, ge exempel på vad som orsakade stressen

KUNSKAP OCH LÄRANDE

10. I vilken utsträckning har du under praktikperioden på KUA utvecklat förståelse och kunskap avseende:

a. den egna professionella yrkesrollen?

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

b. andra vårdyrkens yrkesroller

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6



c. värdet av teamarbete/lagarbete

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

d. kontinuerligt förbättringsarbete

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

11. I vilken utsträckning har du under praktikperioden på KUA utvecklat din förmåga avseende:

a. att lösa problem i det praktiska vardagsarbetet

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

Ge exempel:

b. att samarbeta med andra professioner

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

Ge exempel:



c. att hantera etiskt svåra situationer

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

Ge exempel:

d. att bemöta patienter och närstående

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

Ge exempel:

e. att leda en arbetsgrupp i det praktiska vardagsarbetet

I liten utsträckning

I stor utsträckning

1

2

3

4

5

6

Ge exempel:



12. Lärandet på KUA

a. Vilka moment/aktiviteter/situationer under KUA-perioden har varit stödjande för ditt lärande?

Ge exempel:

b. Vilka moment/aktiviteter/situationer under KUA-perioden har varit hindrande för ditt lärande?

Ge exempel:

c. Varje dag genomförs en ”spegling”/reflektionsstund med vårdlaget. Hur stor betydelse har detta moment för ditt lärande?

Ingen betydelse

Mycket stor betydelse

1

2

3

4

5

6

Kommentarer: _____

d. De kunskaper som du hade med dig inför KUAperioden var

Inte alls tillräckliga

Fullt tillräckliga

1

2

3

4

5

6

Kommentarer: _____



13. Hur var dina förväntningar inför praktikperioden på KUA?

Mycket Låga

Mycket Höga

1

2

3

4

5

6

14. Hur tycker Du att KUA fungerar som utbildningsmoment för att träna lagarbete ?

Mycket dåligt

Mycket bra

1

2

3

4

5

6

15. Sammantaget efter avslutad praktikperiod på KUA, hur värderar du denna placering?

Mycket lågt

Mycket högt

1

2

3

4

5

6

Kommentarer:

16. Har du tankar som du vill dela med dig som inte har fått utrymme i enkäten?

TACK FÖR DIN MEDVERKAN!

Papers

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