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**Feeling ready and always more to learn  
– students' journeys towards becoming a  
professional nurse**

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Cover illustration: Nursing students experiences in higher education, Susanne Lundell Rudberg

# Feeling ready and always more to learn

– students' journeys towards becoming a professional nurse

## Thesis for Doctoral Degree (Ph.D.)

By

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*"We know what we are, but know not what we may be."*

William Shakespeare (1564-1616)

*"There is always something more to learn.*

*Even for a master."*

Master Oogway

To my father Hans, who always encouraged and supported me, guided by his faith:

*"Let not your hearts be troubled.*

*Believe in God; believe also in me."*

Joh 14:1



## Popular science summary of the thesis

A professional nurse needs theoretical knowledge and practical skills learned during the nursing program. Learning is affected by several factors, for example, motivation, learning environment and experienced emotions. To explore students' journeys through education and their development to become professional nurses, students' experiences were followed throughout the three-year program. From Aug 2015 to Jan 2020 a total of 2,947 questionnaires were collected, and 286 interviews were conducted.

On entering nursing education, students were driven by a wish to make an impact on people's life and society. Students anticipated nursing to be a rewarding practical hands-on work. The practical preferences were also apparent in the students' self-assessment of their individual learning styles, where two-thirds of the students indicated to prefer concrete, practical learning activities.

Students' professional development progressed gradually, from a naive understanding of the profession to feeling ready to join the workforce. The first year of theoretical education was described as an important foundation when entering internship. Students' perceptions and expectations often matched the theories they are theoretically taught but their experiences of the clinical reality did not align with what they have learned at university. The first training in clinical environments described as a reality-shock by many students. Additionally, students testified to having occasionally used a reversed learning strategy, they used their experiences as examples of what they should not do themselves.

When learning different emotions affect the learning process. An optimal experience, or so-called flow, occurs in learning when performing a task feeling sufficiently challenged and competent at the same time. When experiencing flow, the task is the focus, and the commitment could lead to losing track of time and space. A third of the students experienced flow when writing their bachelor's thesis and during clinical practice in the last semester. Furthermore, the results suggested that over a third of the students experienced boredom during most of the previous internships. Additionally, during the demanding academic courses approximately two fifths of the students rated feeling low competence and high challenge, which could be described as anxiety.

Teamwork was emphasized right from the start as a successful way of working, and the findings revealed that the nursing students had a positive attitude towards inter-professional learning. Moreover, when speaking about cooperation in teams, the students requested several learning activities where students from different professions learned together. When comparing learning styles and attitudes to interprofessional learning no significant relationships were found.

The journey towards becoming a professional nurse, starting off at the nursing program, was found to have its ups and downs and the journey will never be fully completed. At time of graduation students expressed feeling ready to start working as professional nurses, and that there is always more to learn in the nursing profession.



# Abstract

**Background:** Well-educated competent professional nurses are needed to ensure sustainable healthcare systems and reduce health inequalities. Nursing is a global profession, and the requirements and competences vary between regions regarding both education and professional requirements. The Swedish nursing program contains both theoretical education and practical training, to prepare the students for working life. The learning process is affected by several factors, for example, learning environment, learning activities and feelings, so called academic emotions. Since students' experiences vary in relation to different learning activities and over time data was collected longitudinally to follow their development throughout the whole nursing program.

**Aim:** The aim of this thesis was to contribute to a deeper knowledge and understanding about nursing students' experiences of learning activities and the process of developing professional identity during higher education in the field of nursing.

**Methods:** All students (n=459) starting the nursing program from August 2015 to January 2017 were invited to participate. The data collection started in August 2015 and was completed in January 2020. Data was collected via interviews at four occasions (n=286), and at 42 measurement (n=2,947) points using Contextual Activity Sampling System, CASS (Lachmann et al., 2012; Muukkonen et al., 2008). **Study I** was a mixed methods study including 126 semi-structured individual interviews and 158 CASS-questionnaires collected at the start of the program. The interviews were analysed using qualitative content analysis and the questionnaires with descriptive statistics. **Study II** was a longitudinal qualitative study using 136 semi-structured individual interviews performed at four stages, analysed using longitudinal content analysis. **Study III** was a longitudinal prospective study using 2,947 CASS-questionnaires collected throughout the program, analysed with descriptive statistics. In this study, the students' academic positive emotions (determination; enthusiasm; interest), negative emotions (irritation; nervousness; anxiety) and their perceived challenge and competence related to their current learning activity were analysed. **Study IV** was a parallel mixed method study including 68 RIPLS questionnaires and 34 semi-structured individual interviews analysed with descriptive statistics, paired sample T-test, and qualitative content.

**Results:** In **Study I** the findings from the interviews were summarized in the overarching theme: Making a difference if managing to become a professional nurse, from the seven main categories in the three domains Conceptions; Expectations; and Doubts. The self-rated questionnaires revealed emotions of high ambition and motivation. The ratings of negative emotions correlated with the fears and worries about uncertainty expressed in interviews. In **Study II** the overarching theme: Ready but not fully trained was summarized from the four main categories: Anticipation; Prepared for internship; Deepened understanding; and Insight. The students deemed that working as a professional nurse requires

continuously learning and improvement and underlined in the final interview that there will always be more to learn. **Study III** revealed that the students experienced high positive academic emotions combined with low negative emotions when first entering clinical practice in the third semester, upon completion of clinical practice in the fourth semester and while writing their bachelor thesis in the fifth semester. Optimal experience during clinical practice was reported by 21 percent in semester three to five, and by 34 percent in semester six. The students' reported low positive emotions and high negative emotions during theoretical courses in medical science and in research methodology preparing for writing their thesis. The negative emotions reported during the thesis preparation period shifted to more positive emotions during the time of writing it. While when writing the bachelor thesis, 29 percent experienced flow compared to 13 percent during the preparatory course. In **Study IV** the students' reported learning styles and their attitudes to interprofessional collaboration were analysed. The findings indicated that 64.7 percent had a predominantly concrete learning style while 35.3 percent were predominantly reflective. No significant results were found regarding relationships between learning styles and attitudes to interprofessional learning. The theme Well-functioning teams improve patients' outcome and working environment was summarized from the four main categories: Amazing when it's functional; Deepened insight of care; Increased quality of care; and Understanding own profession.

**Conclusion:** During the education, emotions experienced by students varied during the various learning activities. They started their education with a vision of making a difference. In the first academic year they developed a solid theoretical basis and were eager to enter internship to transform their knowledge into practice and to gain clinical experience. When entering clinical practice, students witnessed of a reality that did not always correspond with what they had been taught. At the time of graduation, students felt ready to join the workforce and stressed that there is always more to learn. These findings reveal a gap between theoretical and practical education that needs to be addressed.

## List of scientific papers

- I. Lundell Rudberg, S., Westerbotn, M., Scheja, M., Lachmann, H. (2022). Views on education and upcoming profession among newly admitted students at a Swedish baccalaureate nursing program: A descriptive mixed method study. *Nurse Education in Practice* 63, 103393. <https://doi.org/10.1016/j.nepr.2022.103393>
- II. Lundell Rudberg, S., Westerbotn, M., Sormunen, T., Scheja, M., & Lachmann, H. (2022). Undergraduate nursing students' experiences of becoming a professional nurse: A longitudinal study. *BMC Nursing*, 21(1), 219. <https://doi.org/10.1186/s12912-022-01002-0>
- III. Lundell Rudberg, S., Sormunen, T., Scheja, M., Lachmann, H., & Westerbotn, M. Nursing students experienced academic emotions during education – a longitudinal descriptive study from a nursing baccalaureate program in Sweden. *Submitted*
- IV. Lundell Rudberg, S., Lachmann, H., Sormunen, T., Scheja, M., & Westerbotn, M. (2023). The impact of learning styles on attitudes to interprofessional learning among nursing students: a longitudinal mixed methods study. *BMC Nursing*, 22(1), 68. <https://doi.org/10.1186/s12912-023-01225-9>



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STUDY I-IV

## List of abbreviations

BFI	Big Five Inventory
CASS	Contextual Activity Sampling System
ECTS	European Credit Transfer and Accumulation System
ELT	Experimental Learning Theory
HE	Higher Education
ICN	International Council of Nurses
IPC	Interprofessional Cooperation
IPE	Interprofessional Education
IPL	Interprofessional Learning
LSI	Learning Scale Inventory
QSEN	Quality and Safety Education for Nurses
RIPLS	Readiness for Interprofessional Learning Scale
RN	Registered Nurse
WHO	World Health Organization





# Preface

Developing professionalism is a process influenced by personal values, the nature of the assignment and the purposes of the organization. In healthcare, you meet people at their most vulnerable and in their happiest moments. It is therefore of utmost importance to be able to meet, support and provide care in an appropriate way to obtain the best result. I started my own journey as a trainee in health care already in junior high school. Then and there, I was taught how to act and perform by those employed at the clinic and I also had the opportunity to try clinical work myself. It was the beginning of a long journey through many different care contexts with varying degrees of competence and professionalism. My journey of teaching began with supervising students and new employees in clinical settings and then continuing as a teacher at a university. The interest in teaching and learning is based on my experiences to improve both my own performance and the overall outcome of events, both in clinical work and at the university. The role of a clinical supervisor or of a university lecturer includes being questioned and thereby given the opportunity to reassess one's own knowledge and skills, something that I have always appreciated. My own belief is that you can always improve, an opinion that Florence Nightingale (1820 – 1910) expressed already in the 19th century:

*“Let us never consider ourselves finished nurses.... we must be learning all of our lives.”*

In 2015, I had the opportunity to be part of a project to study the development of nursing students during their education, resulting in the present thesis. Working as a teacher at the program includes certain challenges. It provides advantages in obtaining access to the research field, for example knowledge of the structure, environment and the conditions offered to the students. Furthermore, the possibility to recruit and have contact with participants via the university's learning platform facilitated the data collection. However, being familiar and professionally involved are connected to a risk of overlooking the important aspects during the research process. A good researcher always reflects on the research process and collected data and makes judgements about it, but reflection is not sufficient. In good research it is essential to use reflexivity, which is not the same thing as reflection. Reflexivity takes the process further where the researcher actively questions own values and pre-understanding. During this process I have intended constantly to question and evaluate my own perceptions and values since I cannot see the process from the outside. The triangulation carried out in the research group has also been a tool to limit individual interpretations.

## Outline of the thesis

This thesis focuses on nursing students' experiences during a nursing program in Sweden and consists of four substudies. In the Background section nursing education, learning, professionalism, and competence are presented based on previous research. Experienced emotions during ongoing learning activities are essential for this thesis and, in order to help the reader to understand the concept, a description and previous research on of academic emotions is included in the Background section. In the Methodology section the data collection, the research process, and the design of the studies, including and data analysis, are described. The main findings of the four studies are presented in the Findings section. In the Discussion section the findings are discussed in relation to theoretical concepts, previous research, and ongoing discussions about nursing education. Further, conclusions and implications for practice are then presented, hopefully to inspire various stakeholders engaged in the education and training of nursing students.

# 1 Background

The International Council of Nurses' (2002) short definition of nursing is: "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups, and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles." The ability to provide evidence-based and safe care is a part of nurses professional values and is required to work as a professional nurse; as it is stated in the nurses' code of ethics (International Council of Nurses, 2021). The demand for nurses is increasing and there is a need for action to reduce health inequalities and ensure sustainable healthcare systems (Drennan & Ross, 2019). Tomorrow's nurses need a complex professional competence together with increased and specific knowledge since healthcare is becoming more specialized and advanced (Catton, 2020; Ellenbecker, 2010; Hudspeth, 2016). Therefore, it is essential that nursing students have acquired skills, attitudes, and competencies specific to nursing, and the ability to collaborate with other professions in healthcare to ensure patient safety (Hofler & Thomas, 2016). Nursing is a global profession, but requirements and competences vary between regions, both in terms of education and professional requirements (National Council of State Boards of Nursing, 2020).

## 1.1 Becoming a registered nurse

### 1.1.1 Nursing education

A balanced proportion of bedside professional nurses is associated with a better outcome for patients (Aiken et al., 2017; Brooks Carthon et al., 2019). Regulations and the governing of the practice of nursing and nurse education vary worldwide (National Council of State Boards of Nursing, 2020). Consequently, there is considerable diversity in the level and standard of nursing education both within and across countries (Baker et al., 2021). In Sweden, nursing education is a six semester, 180 European Credit Transfer and Accumulation System [ECTS], baccalaureate program, nationally regulated by the The Higher Education Ordinance (1993). The first-cycle study programs aim to develop the student's ability to make independent and critical assessments, formulate and solve problems autonomously and develop preparedness to deal with changes in working life. Furthermore, students shall furthermore develop the ability to gather and interpret information at a scholarly level, stay abreast of the development of knowledge, and communicate their knowledge to others (The Swedish Higher Education Act, 1992). Nursing education focuses on practical as well as academic skills, in order to train competent nurses who are additionally capable of adapting to unfamiliar circumstances

in unfamiliar contexts (Råholm et al., 2010; Watson, 2006). Nursing education must also provide students with the ability to deal with the complexity of contemporary health care provision (Hudspeth, 2016). Swedish nursing education is currently facing new challenges regarding European Union [EU] requirements about clinical practice during the program (Henriksen et al., 2020a).

### **1.1.2 Choosing a career in nursing**

Altruism and a desire to help people are the mostly common reasons to become a nurse, the same since ancient times (Alkaya et al., 2018; Cho et al., 2010; Duffield et al., 2004; Emeghebo, 2012; Jirwe & Rudman, 2012; Sand-Jecklin & Schaffer, 2006; Wilkes et al., 2015). The public view on the nursing profession can be described as rather diverse due to, among other things, misconceptions and stereotypes communicated in different media (ten Hoeve et al., 2014). The picture of the profession in the media may have a negative influence on the image of nursing, nevertheless, some educational and recruitment value can be recognized (Weaver et al., 2013). Nonetheless, the picture displayed in the media of the nursing profession seems to have little influence on presumptive students' choice of nursing as a career (Mooney et al., 2008). For example, high-school students perceive nurses as hard workers, performing many arduous tasks, not academically challenged, with limited opportunity for leadership and autonomy, and earning less money than they would want in an ideal career (Degazon et al., 2015). There are both personal and career related reasons for entering nursing programs, the personal being more dominant (Wilkes et al., 2015). Professional status and qualities, as well as job security, also have an impact on students' plans of a career in nursing (Alkaya et al., 2018; Wilkes et al., 2015; Yilmaz et al., 2016). The reason to select nursing as a career can also be linked to personal and environmental characteristics (ten Hoeve et al., 2016). It has been found that the choice of undergraduate education is influenced by several factors, including, among other things, social heritage, and status (Brooks, 2003). To have family members involved in a healthcare profession can influence the choice of nursing due to emotional and instrumental support (Beaty et al., 2005; McLaughlin et al., 2010; Mooney et al., 2008). According to statistics, 13 percent of nursing students in Sweden aged 30-34 years, have at least one parent that is an RN (Peterson, 2016).

### **1.1.3 Motivation**

When entering the program, students' expectations, perceptions, and anxiety are based on previous experiences and knowledge (Porteous & Machin, 2018), together with the general picture of nursing in society. Based on the fact that students have applied to and started the program, there is some kind of motivation to become a nurse (Elmgren &

Henriksson, 2018). Maslow's Hierarchy of Need Theory has often been used as an example of motivational theories (Maslow, 1954). According to this theory, motivation is one class of determinants of behaviour, almost always biologically, culturally, and situationally determined as well as almost always motivated (Maslow, 1943). Since then, several theoretical models of motivation had been developed, and no one encompasses all the potentially impacting factors since there have been different focuses depending on the purpose of performed motivational research (Kroth, 2007). Motivation can be defined as something which makes a person want to move forward, to develop and get the job done, in other words achieve a goal (Pintrich, 2000). Furthermore, motivation is affected by several factors, both intrinsic and extrinsic, additionally self-efficacy plays an important part. Regarding motivation, the level of self-efficacy is important since it affects the amount of effort the individual is willing to put into accomplishing a task, personal persistence, and the difficulty of the goal the individual is willing to attempt (Kroth, 2007). In terms of studying motivation can be seen as a complex interplay between the nature of a student's aims, attitudes and purposes for studying (Beatty et al., 2005). Students have different orientations to learning, vocational, academic, personal, and social (Biggs & Tang, 2011). Consequently, these learning orientations affect students study patterns and their experience of learning. When entering higher education [HE] students have various aims, affected by their own aspirations as well as expectations of family and society.

#### **1.1.4 Professionalism and competencies in nursing**

The term 'Professionalism' is used globally to describe many professions with a non-specific focus, but when applied to nursing, it alludes to nurses' behaviours, such as a belief in public service, autonomy and self-regulation, and a sense of vocation (Wynd, 2003), and additionally, accountability (Carryer et al., 2007). Understanding of professional values among nurses is based on experiential learning events, both inside and outside the institution, and RNs cannot specify a time when they were able to put their professional values into practice (Kelly et al., 2022). It has been suggested that collectively leveraging professionalism may be beneficial to patient care, since professionals displaying higher levels of professional attitudes also seem to behave more professionally (Lombarts et al., 2014). Furthermore, when investigating effects of attitudes to professionalism on collaboration among nurses, findings revealed that nurses attitudes to professionalism had little effect on nurse-nurse collaboration (Çalışkan Alkan & Çelik Durmuş, 2022).

All healthcare professionals are expected to possess basic core competencies. These core competencies mean being able to: Provide patient-centred care, take individual differences and needs into consideration; Work in interdisciplinary teams, collaborate, in teams to ensure that care is continuous and reliable; Employ evidence-based practice,

incorporate best research with clinical expertise and patient values for optimal care; Apply quality improvement, identify risks and continually develop quality of care in terms of structure with the objective of improving quality; Utilize informatics; communicate, manage knowledge, mitigate error, and support decision making using information technology. (Summit et al., 2003). Furthermore, a professional nurse should be able to manage nurse competencies, learned during education (Dolansky & Moore, 2013). For a nursing student it is essential to obtain personal, social, and professional competencies achieved through practice and experience during education (Nabizadeh-Gharghozar et al., 2021). Definitions of nurse competency, its domains and its levels vary by profession and country, and are also time specific and related to context (Alexander & Runciman, 2003; Garside & Nhemachena, 2013; Liu & Aunguroch, 2018; National Council of State Boards of Nursing, 2020; Nehrir et al., 2016). In order to increase international consistency and reduce diversity regarding standards and levels for nursing education, an international framework has been developed. This framework includes the underpinning assumption that nurses will be prepared at a baccalaureate level and three pillars of global expectations targeting: a) learning outcomes for graduating preservice nursing students; b) standards for nursing programs, and c) standards for educational institutions delivering nursing programs (Baker et al., 2021). The Quality and Safety Education for Nurses [QSEN] developed a framework comprising six core competencies; person-centered care, evidence-based practice, teamwork and collaboration, safety, quality improvement and informatics (Dolansky & Moore, 2013). These core competencies have been adopted into the Swedish Description of competencies required of registered nurse (The Swedish Society of Nursing, 2017). Nursing students in Sweden are expected to develop nursing knowledge and skills during a three year nationally regulated program to become competent professional nurses (The Higher Education Ordinance, 1993). The perspective of nursing started to change in the late 20th century, from being natural carers, to a professional approach at a bachelors' level with possibilities of nursing studies at a doctoral level (Råholm et al., 2010). Consequently, a use of a holistic view has become more common when defining nurse competencies, including behaviour statements reflecting the skills, knowledge, attitudes, and judgment required for effective performance in the nursing profession (Aydin & Hiçdurmaz, 2019; Liu & Aunguroch, 2018). Further, nurses' professional development continues throughout their professional career. However, goals, motivation and needs vary according to their age and position (Vázquez-Calatayud et al., 2021).

### **1.1.5 Educational environments in nursing education**

During the nursing program, students undergo different types of learning activities in various types of learning environments (Alshawish et al., 2021). The learning environment strongly affect students' learning process and their experiences during internship are

essential (Albloushi et al., 2019). In these various settings students are affected by the academic atmosphere including academic emotions, organization of the course, academic and social self-perception (Cerón et al., 2016). Further, a crisis, such as a pandemic, also affects the students' learning environment both on campus and in the clinic, and if these challenges are not experienced as overwhelming, they may be an important driver of learning (Boman et al., 2022).

Traditionally, teaching for nursing students has taken place on campus and in clinical settings. On campus the students commonly attend learning activities physically, convened by teachers. However, present technologies allow students and teachers to interact from different locations, a so-called blended learning via distance (Bliuc et al., 2007). Blended learning can impact student achievement positively when delivered purposefully, especially when used to manage and support distance learning (Jowsey et al., 2020). These opportunities come with challenges, requiring teachers to design and reflect on their design and apply pedagogical strategies and solutions to maximize learning, community building and student experiences (Bower et al., 2015). During the campus-based education simulations are used to teach about situations that may not occur in the practical settings. It is known that simulations can provide a relevant learning, but technical problems, group compositions and insufficient facilitation from teachers might impact negatively on the learning experience (Johnsen et al., 2021).

In clinical education, students are supported by clinical supervisors and, in some cases, peer-students, so called peer-learning (Dyar et al., 2021). Students' learning environments during internship are affected by for instance attitudes of clinical staff, motivation to learn, resources to facilitate training and workload (Panda et al., 2021). Students have their clinical placements in various clinical contexts, where some units are specialized in teaching and learning as a priority (Dyar et al., 2019). In a well-functioning learning environment, encounters between patients and students can develop into a learning relationship where the patient actively participates in students' learning (Manninen et al., 2014).

### **1.1.6 Interprofessional cooperation in nursing education**

Teamwork is one of the core competencies in health care and interprofessional teamwork is of great importance to ensure patient safety. Interprofessional education [IPE] has been recognized as essential by the World Health Organization [WHO] and its partners in preparing a collaborative practice-ready health work force that has learned and is competent, to work in interprofessional teams (WHO, 2010). Students' attitudes towards interprofessional cooperation [IPC] changes and they are at varying stages of inter-professional learning [IPL] preparedness during their training (Lachmann et al., 2014; Wilhelmsson et al., 2011; Williams & Webb, 2015). Several factors may influence

undergraduates' attitudes to IPC, such as motivation-to-learn and possible influence of institutional or academic culture on attitudes towards IPC (Vandergoot et al., 2018). Clinical supervisors express positive attitudes to IPC and are supportive of students learning together during clinical training, even though factors like resources and organisation could have a negative impact on implementation of interprofessional teamwork (O'Carroll et al., 2018).

## **1.2 Learning**

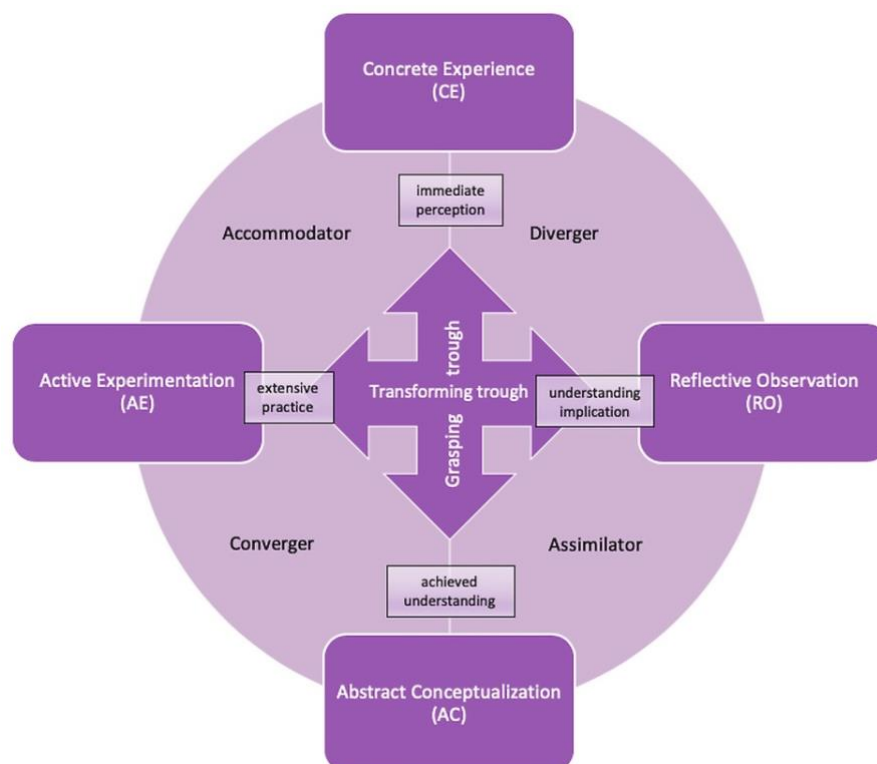
Learning has been of interest to humankind since ancient times, and over time several theories of learning have been developed (Guney & Al, 2012). There is no generally accepted definition of the concept of learning due to its complexity (Illeris, 2009). Learning is a complicated process, involving not only types, dimensions, and barriers of learning, but also different conditions for learning (Illeris, 2018). Theories of learning focus on different aspects, nevertheless, it is possible to identify three overarching paradigms of educational learning theories: behaviourism, cognitivism, and constructivism, still changing due to changes in society and new possibilities to access knowledge easily (Kay & Kibble, 2016). A simplified overview of different categories of theories of adult learning includes: Instrumental learning theories; Humanistic theories; Transformative learning theory; Social theories of learning; Motivational models; and Reflective models (Taylor & Hamdy, 2013). Additionally, changes in behaviour are not characteristic of the learning process and should instead be seen as a process where knowledge is created through the transformation of experience (Kolb, 2015). The learning process is also affected by students' approach to learning, surface or deep, that is linked to their intention to learn (Biggs & Tang, 2011). Surface learning is often the first line of learning, and sometimes used to get the task done. Deep learning does not just happen and is often characterized by a genuine interest, making meaning of the learned subject (Frey et al., 2017). Nevertheless, an initial surface approach could transfer into a deep approach as the students become aware of the nature of task (Hattie & Donoghue, 2016). Moreover, nursing students' abilities to successfully cope with new experiences and learning in HE are also affected by additional factors, for example, socioeconomic background, support from significant others and ability to find one's own place (Brooks, 2003; Entwistle & McCune, 2013).

### **1.2.1 Learning styles**

Depending on individual preferences to process knowledge, students use various styles of learning to create knowledge (Andreou et al., 2014; Lilja Andersson & Edberg, 2012). Some students prefer practical training while others prefer reading on their own and some



prefer listening to lecturers (Biggs & Tang, 2011). The Experiential Learning Theory [ELT] is a holistic theory of learning based on a learning cycle that defines learning as the major process of human adaptation, driven by the resolution of the dual dialectics of action/reflection and experience/abstraction (Kolb, 2015). Learning styles can be categorised into four major approaches to adapting knowledge: concrete experience; abstract conceptualization; reflective observation; and active experimentation (Kolb, 2015) (**Figure 1**). For example, a divergent learner demonstrate a preference for concrete experience over abstract conceptualization and reflective observation over active experimentation (Kolb, 2015). Conversely, a convergent learner prefer active experimentation over reflective observation and abstract conceptualization over concrete experience (Kolb, 2015). Kolb’s Learning style Inventory [LSI] (Kolb & Kolb, 2018) comes in several versions and has been frequently used in nursing education research (Cavanagh, Hogan, & Ramgopal, Terenlall, 1995; D’Amore, James, & Mitchell, 2012; McKenna, Copnell, Butler, & Lau, 2018; Poore, Cullen, & Schaar, 2018). Looking specifically at nursing programs, students are often described as concrete thinkers oriented toward facts; preferring pictures, diagrams, flow charts; being linear thinkers; and enjoying working in groups trying things out (Gonzales et al., 2017).



**Figure 1.** Modified after Experiential Learning Cycle and Basic Learning Styles (Kolb, 2015, page 68).

### **1.2.2 Use of learning styles**

It has been argued that there are three pervasive legends in education about the nature of learners, learning, and teaching, that are not supported by scientific evidence (Kirschner & van Merriënboer, 2013). One of these three legends is the belief that learners have specific learning styles, and that education should be individualized to the extent that the pedagogy is matched to what the learners prefer (Kirschner & van Merriënboer, 2013). Despite that 90 percent of academics in UK Higher education [HE] have agreed that there is a basic conceptual flaw with Learning Styles Theory over 58 percent believe that learning styles are effective (Newton & Miah, 2017). However, only about a third actually use learning styles in their teaching. Regarding experimental learning theory, ELT, and categorisations into learning styles Kolb and Kolb state that learning styles have been mischaracterized as a static traits and not dynamic states in the learning cycle process (Kolb & Kolb, 2018). The possibility of flexible learning and full cycle learning opens when identifying learning style and thereby develops the ability to engage all modes of the learning cycle (Kolb & Kolb, 2018). Learning styles has been frequently used in the field of nursing (Andreou et al., 2014; D'Amore et al., 2012; Gonzales et al., 2017; McKenna et al., 2018). Despite the criticism of learning styles, it could be of interest to investigate students' self-assessment of their learning style when entering HE, as such self-assessments can provide a valuable basis for understanding variations in students' preferences for studying and learning.

### **1.2.3 Emotions and learning**

The phenomenon of feelings in connection with learning can include many different states of mind such as affect, mood and emotions. The term affect can be seen as a broad umbrella including mood and emotions, but also constructs such as feelings, beliefs, preferences, evaluations, and attitudes (Gray & Watson, 2007). Moods are free-floating affective states, not connected to a specific event and can last for hours, days or weeks (Keltner et al., 2019). Furthermore, emotions are associated with a specific, experienced event or moment taking place in the past, present or future (Ekkekakis, 2013). When experiencing being in control of a situation, mastering the task with sufficient competence, a feeling of exhilaration can arise, an optimal experience (Csikszentmihályi, 2008). This optimal experience, or flow, can occur during learning, when the learner experiences a high level of challenge in combination with sufficient competence (Csikszentmihályi, 2014). Students experience both positive and negative emotions of various intensity during education, some related to life outside university, however, many originate within the academic setting (Pekrun, 2014). Emotions experienced during education, academic emotions, are critically important for students engagement in academic tasks (Pekrun & Linnenbrink-Garcia, 2012). These experienced emotions have a wide-range impact on students' learning, motivation, critical thinking, identity development and life-long learning

(Li et al., 2020; Schutz & Pekrun, 2007). Furthermore, the effects of these emotions can be complex, positive emotions do not always enhance learning and negative emotions does not always hinder. However, for most students enjoyment of learning is advantageous while irritation, nervousness, and anxiety are disadvantageous (Pekrun, 2014). Students' self-efficacy and the emotions that they experience during learning, so called 'academic emotions', influence academic performance in a complex interplay (Hayat et al., 2020). Also, students who report having more positive emotions tend to use more metacognitive learning strategies resulting in better academic performances (Hayat et al., 2020).

At the start of the nursing program, students are often full of enthusiasm and eagerness to learn nursing, having a desire to develop nursing attitudes and skills (Aldridge & Hummel, 2019, 2019; Phillips et al., 2015; Sánchez-García et al., 2019). It has also been found that the level of nursing students' satisfaction reduces after entering HE and continues to decrease in the course of studying (Shakurnia et al., 2015). However, the actual learning process often occurs first after a period of adaption because students' expectations of the program are not always congruent with the actual content of the courses (Lilja Andersson & Edberg, 2012; Scheja, 2006). Some nursing students may have former experience of working in health care, affecting their self-efficacy during the first semester, but those differences cannot be found at time for graduation (Skoglund et al., 2018). However, final-year nursing students appear to be cognisant of the influence of practice scenarios and observations on their own perceptions of professionalism (Keeling & Templeman, 2013). Therefore, it can be assumed that nursing students are able to identify clearly and make sense of experiences in practice, and constructively use this knowledge to improve their practice (Keeling & Templeman, 2013). An understanding of how emotions influence various learning and transfer processes helps students to respond flexibly to different educational setting (Cleland & Durning, 2015). Moreover, this knowledge may also enable educators to plan their efforts, deliberately taking advantage of these processes (Cleland & Durning, 2015; Pekrun, 2021).

### **1.3 Theoretical stances**

Nursing theories, models and resulting frameworks provide a benchmark against which nurse researchers can investigate and measure phenomenon that may be affecting the safety and quality of nursing care and impact the future nursing workforce (Murray et al., 2019).

#### **1.3.1 From novice to expert in nursing**

The idea that expert nurses develop skills and understanding of patient care over time through a combination of educational initiatives including a multitude of different experiences was introduced by Dr Patricia Benner (Alligood, 2017). Her theory Novice to Expert is well adapted among both clinical nurses and educators in nursing (Benner, 1984a). One of her first philosophical distinctions was to differentiate between practical and theoretical knowledge (Alligood, 2017). Benner's model has its origins in the Dreyfus model that is developmental, based on situated performance and experiential learning (Dreyfus, 2004; Dreyfus & Dreyfus, 1980). It is a model of skill acquisition based on the study of chess players, air force pilots, and army tank drivers and commanders (Benner, 2004). The Dreyfus model of skill acquisition has illuminated ongoing research on skill acquisition and articulation of knowledge embedded in expert practice in nursing (Benner, 2011). The model has been used as a theoretical framework for a substantial number of studies of the development of nursing skills (Benner, 2011; Benner et al., 2009; Murray et al., 2019). It challenges educators to modify overused behaviourist pedagogies and to utilize constructivist pedagogies within experiential learning in both clinical and the classroom settings (Benner et al., 2009). According to Benner the development of knowledge in nursing is composed of the extension of practical knowledge, i.e., "know how", through research and the characterization and understanding of the "know how" of clinical experience (Altmann, 2007). Further, Benner conceptualises in her writing about nursing skills that experience is a prerequisite for becoming an expert (Murray et al., 2019).

The five stages of proficiency in the novice to expert model are: novice, advanced beginner, competent, proficient, and expert (Benner, 1984a). At the initial novice stage, the individual has had no previous experience of the situation at hand. At the second stage, the advanced beginner, the individual can demonstrate marginally acceptable performance. The advanced beginner has the ability to note recurrent meaningful situational components, aspects, by either having coped with them or had them pointed out by a mentor. At the third stage, competent, the individual can base a plan on considerable conscious, abstract, analytic contemplation of the problem, in other words has gained the ability to establish a perspective. The fourth stage, the proficient, is developed in continued practice leading to experience. These experiences give knowledge of how to modify plans in response to typical events. The proficient performer

perceives situations as a whole, rather than identifying conditions in terms of aspects, and maxims guide the performance. At the fifth stage, expert nurse, the performer has an intuitive grasp of the situation and can identify the problem without wasteful consideration of a large range of unfruitful possible problem situations. Through a large background of experience, the performer no longer has to rely on an analytical principle to understand the situation and to take appropriate action. (Benner, 1984a). Three elements including knowledge, skilled practice and ethics must be fluid and flexible to produce an excellent practitioner (Benner et al., 2009). According to Benner (2011) it is necessary that studies of the professions draw on three high level apprenticeships required for all professional practice: cognitive and conceptual training to think in ways typical of and important to nursing—how to think like a nurse; a skill-based apprenticeship of practice, usually taught by a different faculty from those charged with the conceptual training; and a moral and ethical apprenticeship to the social roles and responsibilities of the profession, through which the novice is introduced to the meaning of an integrated practice of all dimensions of the profession (Benner, 2011).

#### **1.4 Rationale**

The education and training to become a professional registered nurse [RN] contains both theoretical education and practical training, and students are expected to develop the ability to transform theoretical knowledge into practice. Learning in HE in the field of nursing can be seen as a process of becoming a professional registered nurse, but the processes conducive for development is rarely described in the curriculum. A part of the process takes place through experiences in clinical environments; however, a learning experience can take place anywhere. Students' experiences differ depending on learning activity and learning context, and also over time (Entwistle et al., 2006). Students' emotions affect their professional development and therefore it is important to gain deeper insight into their experiences. When designing learning activities for nursing students it might be helpful to understand nursing students experienced emotions during both theoretical and practical learning activities ensuring that nursing students at graduation are able to provide beneficial and safe quality nursing.

Students' transition to becoming a registered nurse has previously been investigated (Fagerberg & Ekman, 1988; Hart & Swenty, 2016; Hofler & Thomas, 2016; Holland, 1999; Kaihlanen et al., 2018; Neishabouri et al., 2017). However, there are few studies describing nursing students' experiences of professional development longitudinally throughout the three-year nursing program. Questionnaires and post-course interviews are often used to investigate students' experiences concerning different learning activities. These approaches ask the respondents to generalize about their experiences in retrospect instead of reporting on learning activities as they occur. However, instant responses are

required to identify experiences of 'academic emotions' during ongoing learning activities to understand how nursing students experience learning activities at the time they take place. According to (Entwistle et al., 2006) students use different strategies to handle their emotions in relation to experienced learning activities, thus affecting their learning and development in various ways.

Nevertheless, there is a need for deeper knowledge and understanding of nursing students' experiences of professional development throughout the nursing education. However, there are few longitudinal studies describing nursing students' experiences of professional development through the entire nursing program. Therefore, in this study students' ongoing experiences has been followed longitudinally throughout their education.

## 2 Research aims

The overall aim was to contribute to a deeper knowledge and understanding about nursing students' experiences of learning activities and the process of developing professional identity during higher education in the field of nursing.

The aim of **Study I** was to investigate newly admitted nursing students' views on nursing education and their future profession.

The aim of **Study II** was to investigate nursing students' experiences of professional competence development during education.

The aim of **Study III** was to explore nursing students' academic emotions during ongoing learning activities focusing on perceived challenge and competence.

The aim of **Study IV** was to explore nursing students' experiences of professional development with a focus on the relationship between attitudes to interprofessional learning and learning styles.





## 3 Materials and methods

### 3.1 Study settings

The Swedish Nursing Program is a three-year program leading to a professional degree as RN and a bachelor's degree. This research project took place at a Swedish university in Stockholm. This nursing program was in line with the national guidelines, a three-year program (equivalent to 180 credits, according to the European Credit Transfer and Accumulation System, ECTS), of which clinical practice accounted for 60 ECTS. The main subject, nursing science, corresponded to 109 ECTS credits and medical science 71 ECTS credits (**Table 1**). At this university, the first two semesters consisted of theoretical education. Students were offered three one-day study visits in different clinical settings during the first semester, to familiarize themselves with the nursing profession. During most of third, semester the students had clinical training in elderly care and in hospitals. The fourth semester started with a focus on psychiatric conditions, including both theoretical studies and clinical training. Semester four ended with a theoretical course. The final year, starting with semester five, consisted of ten weeks of writing their bachelor thesis and ten weeks of clinical training. In the sixth and final semester students' theoretical education focused on leadership and the clinical practices were mainly spent at hospital wards, and at the end of this semester the students went through the National Clinical Final Examination for the Degree of Bachelor of Science in Nursing (NKSE, n.d.).

**Table 1.** Overview of the nursing program at the university

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Semester 1	Nursing science					Medical science					Nursing science					Medical science				
Semester 2	Nursing science																			
Semester 3	Nursing science				Clinical training elderly care				Clinical training, medical care				Clinical training, surgical care				Nursing science			
Semester 4	CPE*		Clinical training, psychiatric care			Nursing science			Research methodology			Nursing science								
Semester 5	CPE*		Clinical training Primary health care			Clinical training, palliative care			Writing bachelors thesis											
Semester 6	Leadership and pedagogics						Clinical training IPE		Clinical traing advanced surgical care			Clinical training, advanced medical care			Clinical training OR		Leadership			

\* Clinical preparatory education

### 3.2 Participants

At the start of the education the respondents were aged from 19 to 55 years, with a mean age of 27.8±8.5. Out of the participating students, were 87.3 percent female and 12.7 percent men, congruent with national statistics of health care students (Swedish higher education authority, 2019). Students' primary choice of education was the nursing program for 90.5 percent, and 42.4 percent had previously been enrolled in HE. A total of 30 percent had completed a university degree in another subject area. Having an RN as a family member was reported by 20.7 percent, while 57 percent reported having had family members working in the healthcare sector. A total of 33.5 percent stated that they

had no plans to work to earn money alongside studying, while 63.4 percent planned to work less than 15 hours/week and 3.1 percent planned to put in 16–40 hours of work.

### **3.3 Research approach**

This PhD project was designed as a prospective longitudinal study. The Contextual Activity Sampling System [CASS] was used throughout the students' three-year nursing program to capture experiences of professional development over time. When using CASS, the participants' experiences of ongoing learning activities in different contexts are followed contextually, not relying on aggregation of memories reported in a different context, by frequent and systematic reports via questionnaires completed by using mobile data technology (Lachmann et al., 2012; Muukkonen et al., 2008). CASS is a methodology inspired by ideas from the Experience Sampling Method, ESM (Csikszentmihalyi & Larson, 1987). CASS makes it possible to collect information about ongoing activities along with emotional experiences and moods, something that all together provides knowledge of changes that occur over time (Muukkonen et al., 2009). The CASS methodology facilitates the collection of detailed contextual data about how students experience learning during both theoretical education as well as clinical training. This means that, beside the individual experience, cooperation in groups of nursing students and interaction with teachers, supervisors and significant others can be explored. Previous studies have shown that students using CASS improve their clinical practice by reflecting about ongoing learning activities (Lachmann et al., 2013).

Interviews are used in order to obtain a gather rich information and draw more detailed conclusions (Rowley, 2012). An interview is an exchange of information between two individuals and is used to gain information about the respondents' everyday world to interpret the meaning of phenomes (Kvale & Brinkmann, 2009). When conducting a semi-structured interview, the researcher generally has prepared an interview guide, covering the essential topics to ensure that the same basic items are discussed in all interviews. Furthermore, a semi-structured interview allows the interviewer to tailor the questions during the interview, adjusting them to the person being interviewed and the context of the interview. Consequently, the open design of a semi-structured interview also allows new topics to be discussed (Polit & Beck, 2021).

### **3.4 Questionnaires**

The CASS questionnaires were distributed every three weeks during the semesters. The questionnaires could be answered via smartphone, tablet, or computer, and were available on the university's learning platform except for the final semester, starting

autumn 2019. At the start of the last semester of data collection, the university changed to another learning platform not suitable for collecting research data. Therefore, the questionnaires, copied to mimic the original as far as possible, were sent via e-mail to the respondents. All questionnaires contained the 12 CASS questions. Also, questionnaires used at the start of each semester contained additional questions about whether specific events had occurred that had had an impact on the students' studies, plus questions about interprofessional collaboration using RIPLS (Lauffs et al., 2008; Parsell & Bligh, 1999), a total of 17 questions. The questionnaire used at baseline contained the CASS questions, the RIPLS questionnaires together with additional demographic questions, a total of 50 questions. Moreover, questions about learning styles were included using the Kolb learning style inventory, [LSI] (Kolb & Kolb, 2012), and questions about personality type using the Big five inventory, [BFI] (Zakrisson, 2010). All questionnaires included ratings on a 7 graded Likert scale, multiple choice questions and free text answers.

### **3.5 Interviews**

To achieve a deeper understanding of students' experiences semi-structured interviews were conducted on four occasions. During a couple of weeks in each interview period, participating students were able to choose a time and place that suited them. A quiet room at the university was available and all participants chose to be interviewed there. Before each interview the students were again informed that their participation was voluntary. The interviews lasted half an hour on average and ended when the student had answered all the questions and declared that they had nothing more to add. The interviews were audio-recorded and transcribed verbatim as soon as possible. The first interviews took place during the first six weeks after enrolment in the program. At this university, education was strictly theoretical during the first year. To capture the students' experiences of academic education the second interview was conducted at the end of semester two. In semester three students started their clinical practice along with theoretical studies, thus the third interview was carried out in the end of semester three or the beginning of semester four. To capture the students' experiences of both the theoretical education and the practical, the fourth interview took place from mid to end of semester six. The first interview focused on students' expectations and perceptions of, and concerns for, their upcoming education and future nursing profession. The second interview focused on students' experience of their development of nursing core competencies. The third interview focused on their experiences of reflection and feedback. The fourth, and final, interview focused on students' experiences of interprofessional cooperation (**Table 2**).



### **3.7.1 Study I**

To investigate newly admitted nursing students' views on nursing education and their future profession a mixed method approach was used (Creswell, 2014; Fàbregues & Molina-Azorín, 2017; Shorten & Smith, 2017). Data generated from the first interview (n=126) and the first CASS-questionnaires (n=158) were used to capture a complete picture of students' perceptions, expectations, and concerns at starting point of the education. The selected CASS-questionnaires were collected during the first three weeks of the semester and the interviews were performed during the first six weeks of the program.

### **3.7.2 Study II**

To explore nursing students' experiences of professional competence development during education a longitudinal content analysis with manifest approach was carried out to capture students' experiences of professional development (Balmer & Richards, 2017; Calman et al., 2013). Data from the interviews with students (n=34) who had participated in all four interviews were included. This group comprised 28 women and 6 men, aged from 20 to 51 on enrolment. Fourteen students had previously attended HE, and ten had completed a university degree in another subject. Twelve reported living in a single household and eight had children of their own, whilst ten students shared a household with up to three children.

### **3.7.3 Study III**

To obtain a deeper understanding of nursing students' academic emotions during ongoing learning activities focusing on perceived challenge and competence in this a longitudinal prospective descriptive approach was used. For this study all completed CASS-questionnaires (n=2,987) were included.

### **3.7.4 Study IV**

To investigate nursing students' experiences of professional development with a focus on the relationship between attitudes to interprofessional learning and learning styles a parallel mixed method was used (Guetterman, 2017; Shorten & Smith, 2017). Data collected from the students (n=34) who completed the Readiness for Interprofessional Learning Scale [RIPLS] questionnaires twice, in the first and in the final semester, and participated in the final interview was included. At the time of the interviews this group had a mean age of  $32.9 \pm 9.1$ , ranged 22–53, and 28 were females and six men. Seven

students stated having an RN in the family while 15 had family members working in other professions in health care. In this group 16 reported having previously attended higher HE and 10 having completed a university degree in another subject area.

### 3.8 Method of analysis

Before starting the process of analysing commenced, all data was anonymized with an individual code for data from each participant. The choice of analysis method was based on the research question in the various substudies. In Studies I and III, standard scores were used to enable reliable statistical comparisons. Standard scores, or Z –scores, are expressed in terms of their relative distance from mean in standard deviation units (Polit & Yang, 2016). Z-scores transform raw into values stripped of the original measurement metrics and allows comparison of scores on different kinds of variables by standardizing the distribution. The purpose of using Z-scores in our studies was to reduce the effects of variances related to individual answering tendencies (Raykov & Marcoulides, 2011). A summary of the methods used in each sub-study can be found in **Table 2**.

**Table 2.** Overview of studies I-IV

	Research focus	Participants	Data included	Methods
(I)	Newly admitted nursing students' views on nursing education and their future profession.	158 students	126 semistructured individual interviews, 158 CASS questionnaires	Mixed method including qualitative content analysis and descriptive statistics
(II)	Nursing students' experiences of professional competence development during education.	34 students	136 semi structured individual interviews performed at four stages	Longitudinal qualitative content analysis
(III)	Nursing students' academic emotions during ongoing learning activities focusing on perceived challenge and competence.	158 students	2,947 CASS questionnaires	Longitudinal prospective quantitative analysis
(IV)	Nursing students' experiences of professional development with a focus on the relationship between attitudes to interprofessional learning and learning styles.	34 students	68 RIPLS questionnaires, 34 semistructured individual interviews	Parallel mixed method including paired sample T-test, descriptive statistics, and qualitative content analysis.

### 3.8.1 Study I

Interviews were analysed using content analysis with an inductive approach (Krippendorff, 2019). The data material was read several times to make sense of it as a whole (Sandelowski, 2004). Meaning units were coded using NVivo software (QSR International Pty Ltd., 2018). The coding resulted in 50 subcategories, that were grouped and categorized by their contextual meaning into three domains Conceptions, Expectations and Doubts. An abstraction was derived from the categorisation describing seven main categories (Krippendorff, 2019). The overarching theme: *Making a difference if managing to become a professional nurse* emerged from the seven main categories: *Nurse as a role model; Self-confidence in a new environment; Develop nursing attitudes and skills; Opportunities to impact the future; Stimulating hands-on work; Don't manage the task; and Surrounding factors prohibiting*. The material was discussed through the whole process among all the authors until consensus was reached (Patton, 2019). Results from the questionnaires were presented as descriptive statistics. For demographics percentages were calculated, for age, mean values and standard deviation were added. For each question regarding positive and negative emotions mean values and standard deviation were calculated. To determine individual scores in relation to the mean of the whole, scores for all six questions were standardized by setting the mean to 0 and the SD to 1 (Polit & Yang, 2016). Statistical analyses were performed using the SPSS (IBM Corp., 2020).

### 3.8.2 Study II

Data were analysed using qualitative content analysis with a manifest inductive approach (Elo & Kyngäs, 2008). To make sense of the content as a whole, the interview transcripts were read several times (Sandelowski, 2004). The data were divided into four datasets, numbered 1- 4, according to chronological time of interviews. Each dataset was read again when conducting open coding, using the NVivo software (QSR International Pty Ltd., 2018). The identified codes were grouped into sub-categories labelled with a phrase that described the meaning content. Sub-categories were grouped by contextual meaning, resulting in 19 generic categories. From the generic categorization, an abstraction was derived describing one main category of students' experiences from each interview (Krippendorff, 2019). The identified main themes were in chronological order: *Anticipation; Prepared for internship; Deepened understanding* and *Insight*. Further, individual patterns were analysed to identify and validate shared patterns (Calman et al., 2013). Finally, the overarching theme Ready but not fully trained development were abstracted from the main categories and shared patterns. To ensure trustworthiness data were discussed among the authors at every step of the analysis until consensus was reached (Patton, 2019).

### 3.8.3 Study III

Data were analysed using Z-scores calculated for positive and negative emotions (Raykov & Marcoulides, 2011), and for competence and challenge. The Z-scores for competence and challenge were used to determine the individual position in the four-channel model (Figure 4). The four channel-model divide states of mind into four categories: Apathy (both challenge and competence below average); Boredom (challenge below and competence above average); Anxiety (challenge above and competence below average) and optimal experience, Flow (both challenge and competence above average) (Csikszentmihalyi, 2014). Analysis of positive and negative emotions were linked to the courses in the program. For the occasions in the program where students' ratings of emotions indicated significant differences, percentages according to the four-channel model were calculated. The Statistical Package for Social Sciences (IBM Corp., 2020) and Excel (Microsoft Excel, 2022) were used for the statistical data analysis.

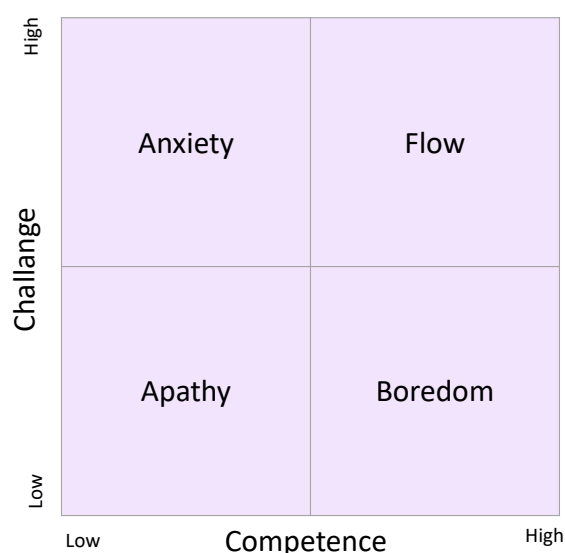


Figure 4. The four-channel model inspired by Csikszentmihalyi.

### 3.8.4 Study IV

Scores from the LSI were calculated and analysed according to the Swedish version of the LSI model (Marke & Cesarec, 2007). Sample percentages were calculated for identified learning styles. Scores from RIPLS were calculated and analysed according to the Swedish version of the RIPLS (Lauffs et al., 2008). The RIPLS scale consists of four subscales; *Teamwork and collaboration*, item 1-9; *Negative Professional identity*, item 10-12; *Positive Professional identity*, item 13-16; *Roles and responsibility*, item 17-19. Scores were calculated adhering to the convention used in RIPLS by reverse-scoring items 10, 11, and 12. Mean scores and standard deviations (SD) were calculated separately for scores



of RIPLS used at the two measurement occasions. To validate internal consistency reliability of the RIPLS four subscales Cronbach's alfa was defined. A paired T-test was used to compare the RIPLS scores from the two measurement occasions connected to learning style. A p-value lower than 0.05 was regarded as statistically significant in the present study (Pallant, 2020). Questionnaires were analysed using the Statistical Package for Social Sciences, SPSS (IBM Corp., 2020).

The interviews were analysed using qualitative content analysis with a manifest inductive approach (Elo & Kyngäs, 2008). The interview transcripts were read several times to make sense of the data as whole (Sandelowski, 2004) Identified codes were grouped into 16 sub-categories labelled with a phrase that described the meaning content. The sub-categories were grouped by contextual meaning resulting in four main categories: *Amazing when it's functional; Deepened insight of care; Increased quality of care; Understanding own profession*. The overarching theme, Well-functioning teams improve patients' outcome and working environment, was an abstraction derived from the categorization of the main themes (Elo & Kyngäs, 2008; Graneheim et al., 2017). During the analysis, the findings were discussed within the research group, until consensus was established (Krippendorff, 2019). Content analyses was performed using NVivo software (QSR International Pty Ltd., 2018). Correlations between qualitative and quantitative data were discussed in the research group to in an effort to triangulate the results.

### **3.9 Trustworthiness**

When ensuring quality and findings in research there is a wide range of criteria that can be used. Investigating emotions is challenging both methodologically and ethically, and it is problematic to achieve reliability without biases (Cleland & Durning, 2015). There is a wide range of self-report scales claiming to measure different aspects of emotions and it is important to choose a methodology appropriate for the purpose (Ekkekakis, 2013). Furthermore, a transparent description of the research processes is important to evaluate its quality. A trustworthy description of findings in qualitative research is necessary and it differs from quantitative traditions where the concepts of validity, reliability and generalizability are normally used (Polit & Beck, 2018). To achieve trustworthiness the researcher has to evaluate whether the results are believable, and have credibility, dependability, transferability and reflexivity (Elo & Kyngäs, 2008). A theoretical frame can strengthen the trustworthiness of the analysis (Malterud, 2001). In this thesis both qualitative and quantitative methods have been used and, by mixing different methods, triangulation has been used to enhance the quality.

### **3.9.1 Credibility**

Credibility starts when selecting context, participants, approach to gathering data and the necessary amount of data needed. In this project students in ongoing education were considered to have the most information about experiences of becoming a professional nurse. The decision was thus taken to follow the students throughout the whole nursing program. Credibility of research findings also deals with how well the categories cover the data (Polit & Beck, 2018). The challenge of deciding which codes and supporting quotes that are to be included in a category is a matter of dependability (Graneheim et al., 2017). To enhance credibility the findings were presented using quotes to show that they covered a wide range of variation (Graneheim & Lundman, 2004; Patton, 2019).

### **3.9.2 Transferability**

To facilitate transferability, the researcher should give a clear description of the context, selection and characteristics of participants, data collection and process of analysis (Elo & Kyngäs, 2008). In order to facilitate transferability, I have strived to provide a rich description of the context, characteristics of participants, data collection and the process of analysis together with appropriate quotations (Graneheim & Lundman, 2004). Moreover, this research could be transferred to similar contexts where individuals enter a new challenging environment of their own choice.

### **3.9.3 Confirmability**

Confirmability is often demonstrated by providing an audit trail that details each step of data analysis and shows that findings are not coloured by conscious or unconscious bias but accurately portray the participants' responses (Olmos-Vega et al., 2022). Participants' recognition of the findings can be seen as a question of confirmability (Graneheim & Lundman, 2004). Some of the students asked to read the transcripts, and in the later interviews they talked about recognizing their own previous naive understanding of the nursing profession.

### **3.9.4 Reflexivity**

A comprehensive definition of this concept is: "Reflexivity is a set of continuous, collaborative, and multifaceted practices through which researchers self-consciously critique, appraise, and evaluate how their subjectivity and context influence the research processes" (Olmos-Vega et al., 2022). Reflexivity is essential, it is important to have an awareness of one's own perspective because the preunderstanding of the researcher will

affect interpretation of data (Polit & Beck, 2018). Preconceptions do not always create a problematic bias if the researcher makes them explicit; potentially, preconceptions can even be a valuable resource for the research (Malterud, 2001). A challenge in conducting research with researcher-dependent participants is dealing with potential misconceptions such as participants feeling compelled to participate, expecting privilege, or believing they will be judged. (Hiller & Vears, 2016). Using an inductive methodology could become a problem if researchers fail to realize that their stance is unavoidably affected by theory (Malterud, 2001). As a doctoral student and teacher, I have experience and insight into students' learning and learning environment, which could be of use to facilitate interpretation of their statements but also lead to misinterpretations. During the research process I had to ask myself how my personal perspectives influenced the research and what relationships existed, and how these had influence on the research and the people involved. Since there was an unequal relationship, I clarified before each interview my role as a researcher taking an interest in their experiences during the program, not assessing their educational progress. Importantly, I did not act as the students' examiner during the interviews.

### **3.9.5 Dependability**

Dependability involves a peer evaluation process assessing whether study results are supported by all collected data, since the scrutiny from a peer provides the researcher an insider analysis and feedback (Stahl & King, 2020). Dependability is important to trustworthiness because it establishes the research study's findings as consistent and repeatable. In order to increase dependability, research colleagues have reviewed and given feedback on both the constituent papers and the comprehensive summary of this thesis before publication.

### **3.9.6 Validity**

Validity is defined as the extent to which a concept is accurately measured in a quantitative study. For example, a survey designed to explore depression, but which actually measures anxiety would not be considered valid (Heale & Twycross, 2015). To enhance validity, validated instruments have been used to collect and analyse data (Crawford & Henry, 2004; Csikszentmihalyi & Larson, 1987; Lachmann et al., 2012; Lauffs et al., 2008; Marke & Cesarec, 2007). Nevertheless, since the students self-assessed their emotions there could be several factors impacting the results, for example personal understanding and interpretations of the meaning of the words and phrases used in the questionnaires.

### **3.9.7 Reliability**

The second measure of quality in a quantitative study is reliability, or the accuracy of an instrument (Heale & Twycross, 2015). Reliability is the degree of consistency of a measure. This means that if a test is repeated under the same conditions, it will give the same result (Krippendorff, 2019). Moreover, reliability does not guarantee validity. Z-scores have been used in order to reduce the effects of variances related to individual answering tendencies (Polit & Yang, 2016).

### **3.10 Ethical considerations**

This project has been carried out according to the Helsinki declaration (World Medical Association, 2013) and was ethically approved by Stockholm Regional Ethical Review Board (Dnr: 2015/894-31/5). Ethical aspects were discussed in the research group during the planning phase and during the process when needed for example during analysis and manuscript writing. It is fundamental in research to obtain informed consent from participants, respect individuals, and to recognize vulnerable groups. All students starting the program were informed of the purpose of the study orally and in writing at the end of an introductory lecture at the university. The written information contained a description of what the voluntary participation would entail, that the data were disclosed, coded, and treated confidentially, and that it was possible to cancel participation without providing a reason. An additional offer to participate, including the same written information, was sent via the university's learning platform twice during the first six weeks of the first semester. All students willing to participate submitted a signed consent form before taking part in the first interview.

In the research group we discussed the dilemma of a teacher conducting studies on students since the role of a teacher entails an unequal relationship. It was decided that no interviews would be conducted during the time the students participated in courses where I oversaw examinations. Furthermore, at the start of each interview I informed about the voluntary participation and that participation in the study did not affect their study results. Occasionally students made an effort to seek the correct answer, and I had to clarify that there were no correct answers to these questions.

Since there were questions about experiences and emotions, both in questionnaires and in interview guides, there was the possibility of obtaining information about students in vulnerable positions. The study counsellor at the university was informed about the content of the study and was available in cases where the student needed special support. It was agreed that I could initiate contact on condition that the student gave consent. It was also possible to refer students to make a self-report, or in my role as a teacher make a report of concern to the Student Health Organization.

## 4 Results

In the present thesis the overall aim was to contribute to a deeper knowledge and understanding about nursing students' experiences of learning activities and the process of developing professional identity during HE in the field of nursing. In order to follow students' journeys through the program different experiences were investigated in each study. In **Study I**, students' conceptions, expectations, and doubts regarding entering the nursing program and the nursing profession were explored. In **Study II**, students' experiences of their development during the program were explored. In **Study III**, students' self-rated academic emotions during the program were explored. In **Study IV**, students' learning styles and their attitudes to interprofessional learning was explored. A summary of the main results in each study are presented in this chapter (**Figure 9**).

### 4.1 Study I

In this study the findings from the 126 interviews conducted at the start of the education and the 158 CASS questionnaires were used. The findings from the interviews were divided into three domains: *Conceptions, Expectations, and Doubts*. The analysis was summarized in an overarching theme: *Making a difference if managing to become a professional nurse*, from the main categories in the domains (**Figure 5**). The students' self-rated emotions revealed high ambition and motivation. The ratings of negative emotions correlated with the fears and worries about uncertainty expressed in interviews.

#### **Making a difference if managing to become a professional nurse**

Overall, the students' described that working as an RN was a way to influence, both individuals and society. Furthermore, the students expressed self-confidence, but they also described doubts about being able to cope with education and the profession, strongly driven by an intrinsic social orientation to learning.

"I hope that I become a good nurse, that I can inspire others, as I was inspired by those who helped me at my surgery, who in turn initiated me [to nursing], improved my life and so on, I became much more self-confident."

*Female student semester 1, age 22*

## Conceptions

Altruistic reasons and a meaningful profession were motives for choosing a career in nursing, where the professional RN was a role model. Personal interactions with health care personnel were expressed as an inspiration, even if it had been a negative experience. Negative experiences led to a desire to perform a task better themselves. Students who had family members in the nursing profession said that the choice to become a nurse was self-evident, alternatively initially inconceivable. Those who previously had decided not to work in healthcare emphasized that the changed attitude came within themselves, not influenced by family members working in health care. Some considered they were meant to be a nurse due to individual characteristics or experiencing having a professional calling. The interviews also revealed a self-confidence in a new environment. Students expressed a strong belief in their own ability, being confident in their own capabilities. Moreover, they voiced awareness of own responsibility, they had to do the work themselves based on the materials and tools provided by the university. Students who had no previous experiences of studying in HE or of the healthcare sector, described being curious to try something new.

## Expectations

Students expected to learn a lot, receive robust education, and thereby develop nursing attitudes and skills. The students viewed RNs as highly educated with high status and responsibilities, and they looked forward to achieving a similar competence. Further, they pointed out opportunities to impact the future, a bachelor's degree in nursing was seen as a guarantee of many opportunities, for example, permanent employment or working abroad. For some students, the program was considered a steppingstone to become, for instance, a deacon, a midwife, or a specialist nurse. An expectancy of Stimulating hands-on teamwork, to work practically, was frequently voiced as nursing was considered a practical profession. Students anticipated good cooperation, both during the program and after graduation.

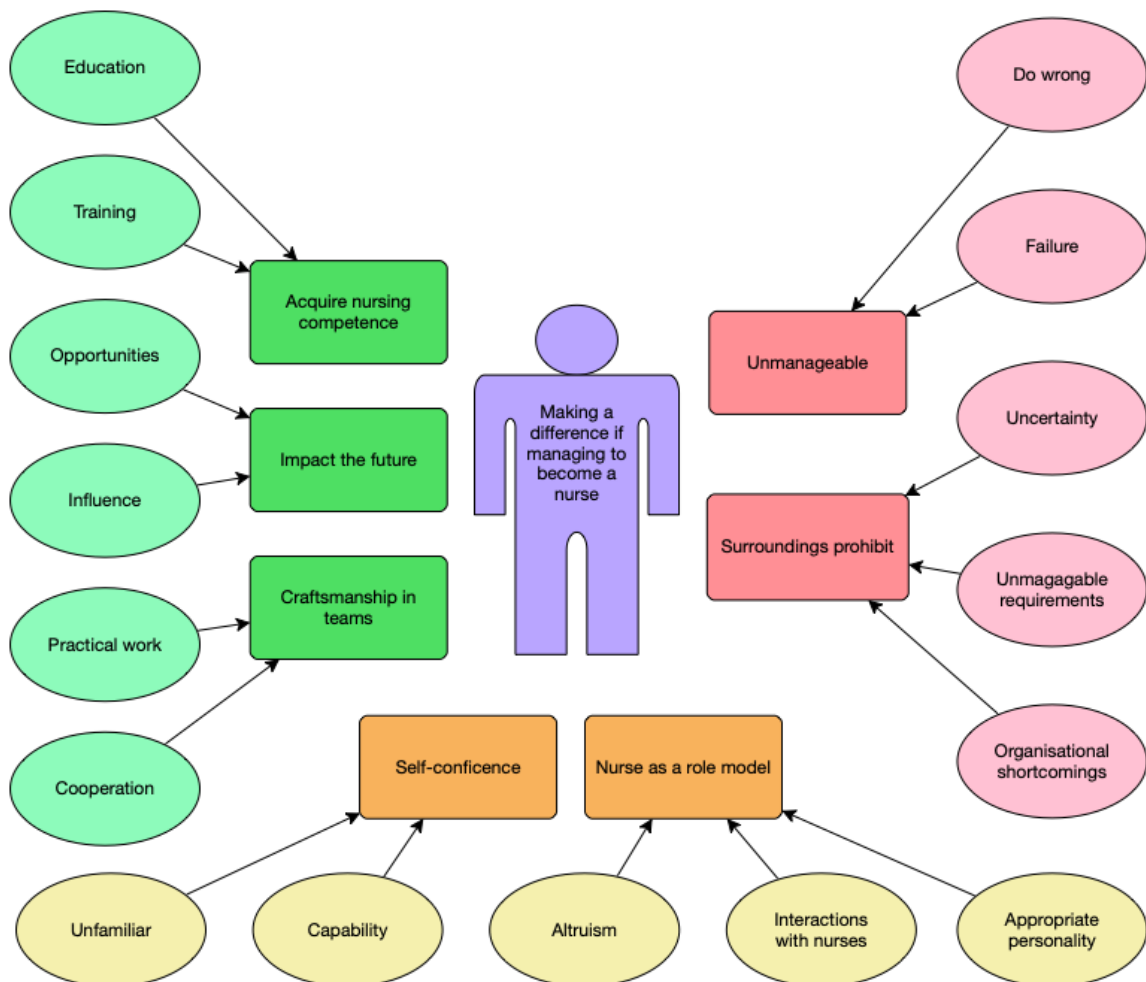
## Doubts

There was an apprehension in Don't manage the task. To do wrong and harm another human being in a clinical setting was described as horrifying. The fear of failure also included shortcomings of academic performance and was not considered quite as terrible even if it would be stressful. Concerns were also about Surrounding factors prohibiting success. Students were uncertain of how studying would impact on personal finances, family, and friends. Fear of future demands from the university, workplaces, and

significant others that the students felt were impossible to meet, were identified as unmanageable requirements. Further organizational shortcomings were underlined, for example, working hours, working environments and sufficient salary. Some students also expressed uncertainties about the choice, due to personal characteristics or changes in the healthcare sector.

Academic emotions

The self-rated academic emotions in the CASS-questionnaires were consistent with what emerged in the interviews, showing higher results of positive emotions; interested, enthusiastic, and determined, compared to negative emotions; irritation, nervousness, and anxiety.



**Figure 5.** The overarching theme, main categories, and categories, **Study I**

## 4.2 Study II

This study included the interviews from the 34 students who participated in all four interviews, conducted at start and in semester, two, three and six. One main category was created from interviews conducted in the same semester. The analysis resulted in four main categories: *Anticipation*; *Prepared for internship*; *Deepened understanding*; and *Insight*. The students deemed that working as a professional RN requires continuously learning and improvement summarized in the overarching theme: *Ready but not fully trained* (Figure 6).

### Ready but not fully trained

Students highlighted the importance of continuous professional development. It was stated that in the nursing profession there will always be more to learn, and you could always improve knowledge, understanding, skills, abilities, values, and perspectives in nursing.

"I think it went well, I'm ready to try to become part of the profession so to speak, there's a lot to learn and I think, although I think you start when you finish here, this is just the beginning ... you have had a hint, a pretty good hint about what's going to happen."

*Female student semester 6, age 32*

### Anticipation

In the first interview at the start of the program, students expressed a desire to make a difference, being able to influence other people and society in general by learning to deal with real life problems through upcoming education. They were proud to become nurses and viewed the profession as emotionally rewarding, an opportunity for personal development and employment security. The students demonstrated self-confidence and looked forward to challenges. Furthermore, students expressed doubts regarding themselves, their life situation, and the nursing profession in general.

### Prepared for internship

In the second interview, in semester two, the students stated they were being theoretically prepared to put their academic knowledge into practical skills. They expressed a need for experience to develop clinical skills. They described a change in mindset, having started to develop a professional approach. The students assumed they



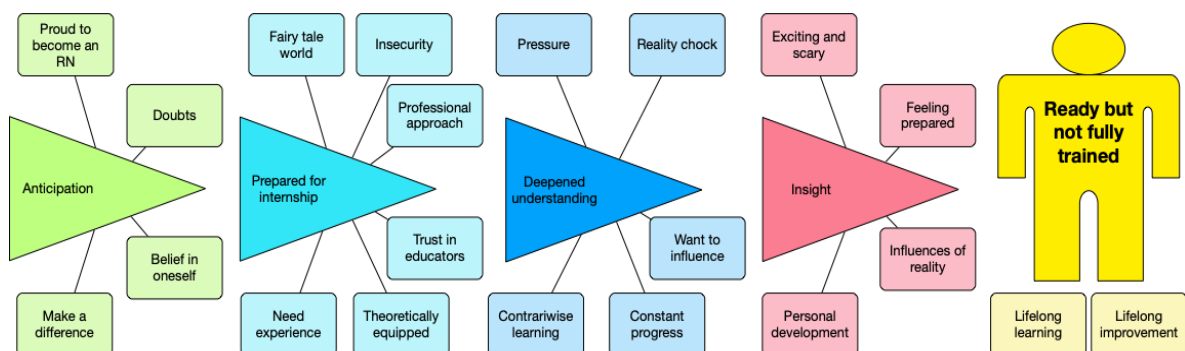
were being taught what they needed to know, a trust in educators. They spoke about insecurity concerning a lack of ability, knowledge, or competence that could lead to mistakes and thereby harm patients. Thoughts also emerged about whether what was taught reflected the true world or a fairy tale world.

Deepened understanding

In the third, at the end of semester three, interview the students’ described their development as challenging and a continuous process. They had had encounters with supervisors not following guidelines, describing therefore the use of contrariwise learning. When discussing negative situations, students highlighted their wish to want to influence. Regarding patient safety, person-centered care, and bedside work students mentioned having a reality shock in some clinical environments. Students also described emotional pressure, for example where different methods were taught depending on the person who supervised.

Insight

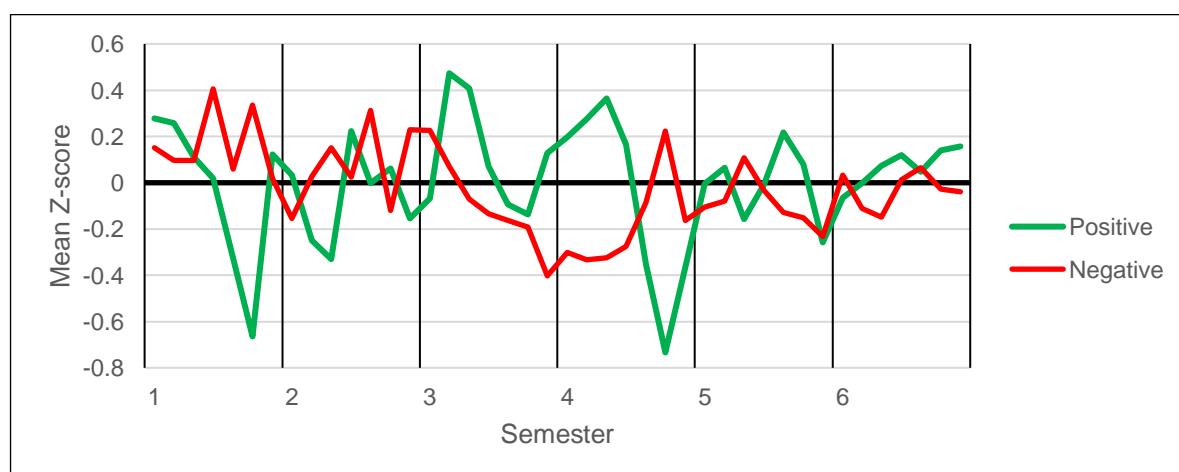
In the fourth interview, at the end of semester five, the students were feeling prepared, understanding the professional role, and trusting their own competence. Students were influenced by reality, e.g., terms of employment, salary, and working environments. They voiced fears of becoming bored and not caring about their work, linking back to encounters with tired and overworked nurses at the clinic. The upcoming entrance into healthcare in the role of an RN was described as both exiting and scary. Students reported a personal development having developed humility and the ability to identify their own shortcomings. It was also mentioned that the education was too short to develop skills to handle professional challenges.



**Figure 6.** Overarching theme, Main categories and generic categories, **Study II.**

### 4.3 Study III

In this study findings of self-reported academic emotions were analysed. Students rated their experiences of positive emotions (determination, enthusiasm, interest) and negative emotions (irritation, nervousness, anxiety). Students self-reported academic emotions varied over time linked to learning activities during the program (**Figure 7**). The students reported high levels of positive academic emotions combined with low levels of negative emotions when first entering clinical practice in the third semester, upon completion of clinical practice in the fourth semester and while writing their bachelor thesis in the fifth semester. They reported low positive emotions and high negative emotions during theoretical courses in medical science and in research methodology. Additionally, their emotions shifted from having negative emotions during the thesis preparation period, to more positive emotions during writing it. Nevertheless, the discrepancy between positive and negative academic emotions was reduced in the final year, revealing more positive emotions compared to negative emotions at the time of graduation. The reports perceived challenge and competence related to their current learning activity and revealed that flow during clinical practice was experienced by 21 percent in semester three to five, and 34 percent in semester six according to the four-channel model. Experience of flow in the courses medical science were calculated for 11 percent and research methodology for 13 percent, while writing the bachelors' thesis 29 percent experienced flow (**Table 3**).



**Figure 7.** Experienced positive and negative emotions during the program

**Table 3.** Experiences according to the four-channel model during selected learning activities

Semester	1	4	5	3 to 5	6
Course	Medical science (n=370)	Research methodology (n=98)	Bachelor thesis (n=204)	Clinical Practice (n=610)	Clinical practice (n=212)
Flow	11	13	29	21	34
Boredom	23	12	21	35	28
Apathy	36	34	25	25	19
Anxiety	30	41	25	19	19

#### 4.4 Study IV

In this study, the students' reported learning style and their attitudes to interprofessional collaboration were analysed. The findings indicated that 64.7 percent had a predominantly concrete learning style (Accommodator 50 percent and Diverger 14.7 percent), while 35.3 percent were predominantly reflective (Assimilator 8.8 percent and Converger 26.5 percent). Of the four subscales in the questionnaire Readiness for Interprofessional Learning Scale [RIPLS]: Teamwork and Collaboration, Negative Professional Identity, Positive Professional Identity and, Roles and Responsibilities, there was a significant difference between results at the start and the end of the education on the subscale Roles and responsibilities ( $p < .000$ ). In relation to learning style these significant changes in the subscale Roles and responsibility was found among Accommodators ( $p = .006$ ) and Convergents ( $p = .003$ ). Further, Cronbach's alfa for the subscale Roles and Responsibilities was 0.05 at start and 0.44 in semester 6.

The content analysis resulted in four main categories: Amazing when it's functional, Deepened insight of care, Increased quality of care and, Understanding own profession. The main categories were summarized in the theme: Well-functioning teams improve patients' outcome and working environment (**Figure 8**).

#### **Well-functioning teams improve patients' outcome and working environment.**

The students appreciated working in teams and highlighted the need to work together with others, both in profession specific as well as inter-professional teams. Non-functional teamwork was raised as an obstacle to both working environment as well as to providing safe and effective care.

"I wouldn't be able to do my job if I didn't have the team, because there are things that I don't know, or that I know very little about, there are things that I absolutely need help with, then I need the team."

*Female student semester 6, age 27*

### Amazing when it's functional

A functional interprofessional team was seen as an asset, both for work-place wellbeing and efficiency. Students highlighted the problems and obstacles that occur when teamwork is insufficient. The observations students made of the interprofessional team were compared with their own experiences during IPL. The students underscored that IPE created good conditions for future cooperation with other professionals.

### Deepened insight of care

The students' understanding of the care structure increased through interprofessional collaboration. Being tutored individually in the team was considered educational, however IPL was perceived as even more developmental. By communicating with students from other professions, the students increased their knowledge of more dimensions of patients' needs for care and treatment.

### Increased quality of care

Learning together with students from other professions was considered to benefit patient care. The students reflected on their own experiences of functioning and dysfunctional teamwork in clinical practice. It was emphasized that when everyone was familiar with the roles and responsibilities of other team members the quality of nursing, medical care and paramedicine improved.

### Understanding own profession

The students' perception of the nurse's role became clearer when they observed and participated in IPC. During IPL at student wards, they trained communication with other professions and practised the coordinating and leading role of the interprofessional team. Through collaboration with students from other professions, the nurse's overall responsibility for nursing was clarified.

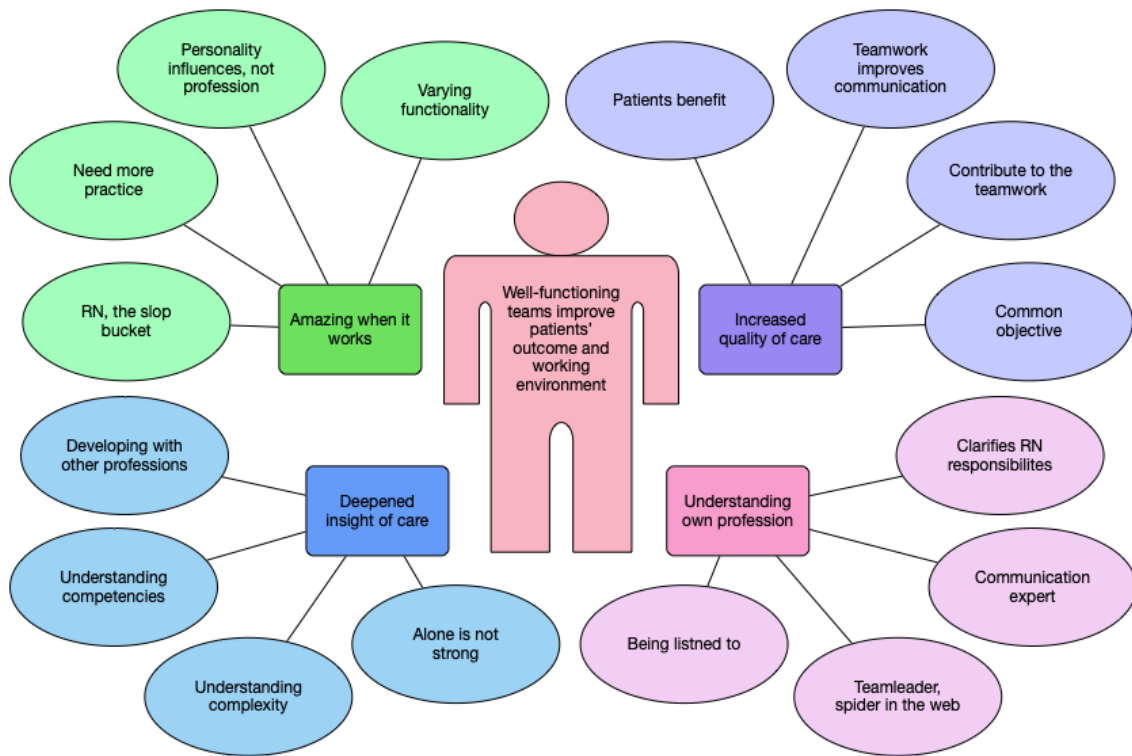
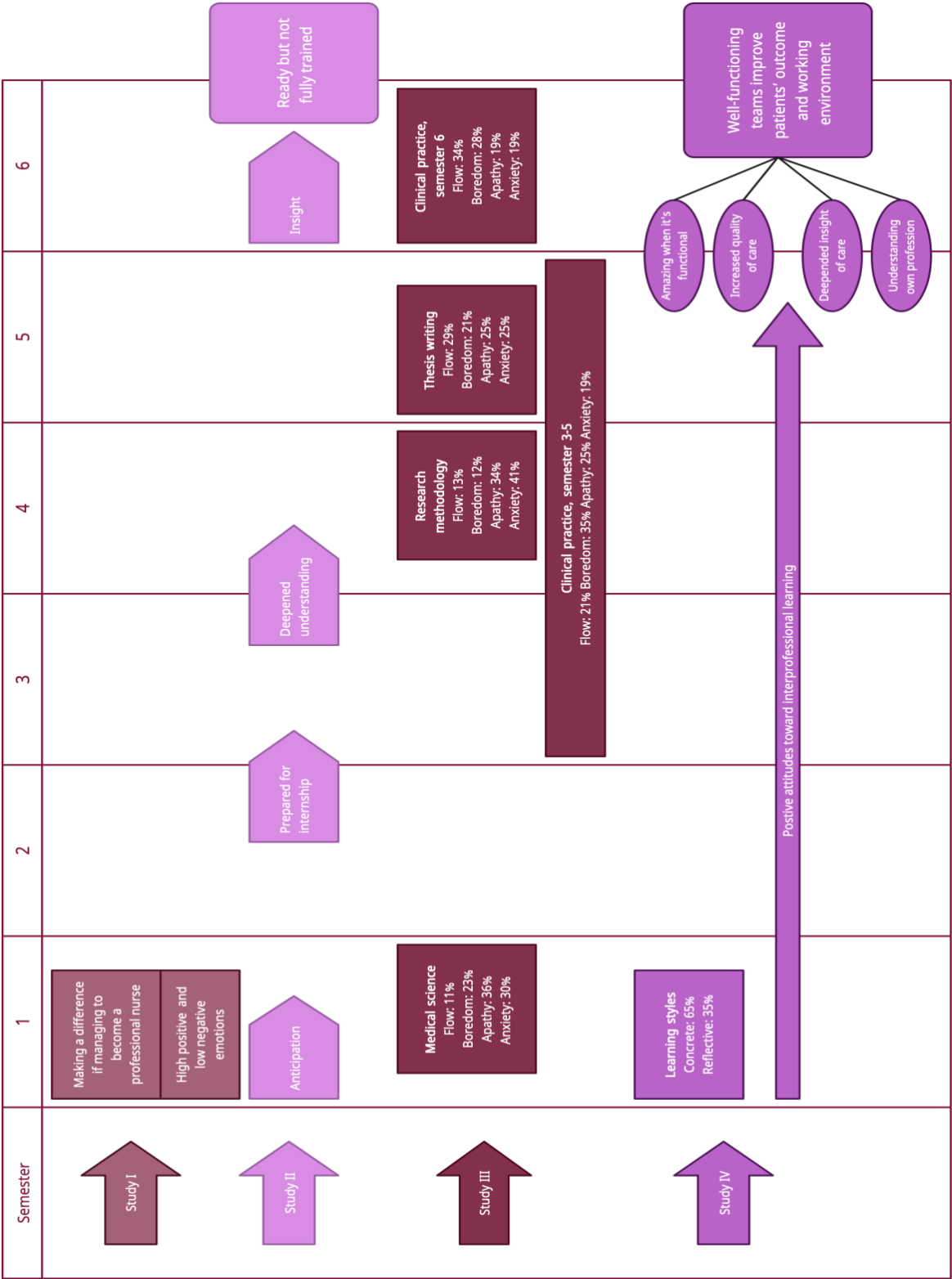


Figure 8. Theme, categories, and sub-categories, Study IV.

#### 4.5 Summary of main findings

Students began the program with a strong sense of self-reliance and a high motivation to learn how to master nursing (Study I). They had an expectation to receive practical training (Study I), which was congruent with the finding that the majority of the students rated their learning style as concrete (Study IV). The students also showed clear anticipation for team-based work from the outset (Study I, IV). At the time of graduation, students emphasized the importance of working in teams and specifically requested more opportunities for interprofessional education (Study IV). The students also highlighted the importance of having a strong theoretical basis before starting practice (Study II). When entering clinical practice, students felt well-prepared (Study II). However, during internship in semester three to five, only 21 percent of the students reported having an optimal experience (Study III). Students testified to encountering a reality that was different from what they had been taught at the university, and sometimes deepened their learning by using their experiences as examples of what not to do (Study II). The academic education in the Research methodology course, which prepare students for writing their bachelor's thesis, was reported to be highly challenging in comparison to their perceived competence, and only 13 percent reported an optimal experience (Study III). During the process of writing their thesis, 29 percent reported an optimal experience (Study III). In the final semester, students described gaining valuable insights (Study II) and were looking forward to work in functional teams (Study IV). During the final

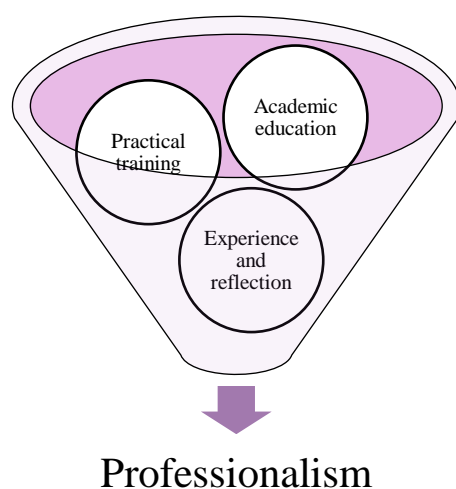
semester’s clinical training, 34 percent reported an optimal experience (**Study III**). At time of graduation, students stated that they felt that ready to work as nurses but recognized that there is always more to learn (**Study II**), (**Figure 9**).



**Figure 9**, Overview of findings in **Study I-IV**.

## 5 Discussion

All students have their own personal journey through the education to become a registered nurse. The findings revealed that students to a great degree considered themselves ready to start working as professional nurses at the end of education (**Study II**). Even though the individual presumptions varied at the start, and their journeys appeared different, it seems that all students had developed a professional approach at the time of graduation (**Study II, III, IV**). According to Benner's theory, the development from novice to expert takes place mainly through the experience that the nurse acquires by being active in a field of activity over a longer period of time (Benner, 1984a). During the nursing program, students attended several internships, starting their journey of professional development. However, that students gain experiences in clinical training leading to deeper understanding is not guaranteed since experience in itself does not automatically lead to learning and deepened knowledge (**Figure 10**). Benner suggests that the novice can develop into an expert first when theoretical knowledge and experience are combined with reflective ability and the opportunity to accommodate the meaning of this combination with one's own personality (Benner, 1984a).



**Figure 10.** Prerequisites for professional development

Benner also speaks about the importance of research to develop the nursing profession: "Therefore, knowledge development in an applied discipline consists of extending practical knowledge (know-how) through theory-based scientific investigations and through the charting of existent "know-how" developed through clinical experiences in the practice of that discipline" (Benner, 1984b, p. 3).

Investigating and evaluating knowledge through research is important, but it is also important to look back and evaluate one's own knowledge acquisition. To transfer knowledge and understanding from one situation to a new situation involves skills and critical self-reflection (Mezirow, 2018). Nursing students' development is moulded by their experiences and interactions with others in clinical settings and they do not automatically possess the ability to transfer knowledge from one setting to another (Ewertsson et al., 2017). Consequently, students need to be educated in how to use reflection as a tool for continued professional development during their education and in future work life. Several advantages can be gained in the development of professionalism in nursing by using reflection as a tool, both in clinical practice and in theoretical learning (Bjerkvik & Hilli, 2019; Branch & Paranjape, 2002; Gustafsson & Fagerberg, 2004). The advantages of using reflection as students were highlighted in the third interview. Conscious efforts are required to be able to look at a situation with awareness of one's own beliefs and values, which provides an opportunity to learn from experiences and incorporate this to improve patient care (Patel & Metersky, 2022). Through the process of reflection, students increase consciousness and self-awareness, and the latter helps them improve clinical skill by reviewing their actions (Hayes et al., 2018; Tashiro et al., 2013). Reflection also improves students' ability to communicate with patients, leading to improved patient outcomes (Hayes et al., 2018; Tashiro et al., 2013). It is conceivable that participating in this study may have prompted the students to look back on previous parts of the program and thereby stimulated their ability to use reflection as a tool for learning. Using the CASS methodology has previously been shown to stimulate students' self-reflection in that they had to respond to questions concerning ongoing activities and connected emotions (Lachmann et al., 2014). When answering the questions students went back and reflected on core competencies, learning activities, experiences in clinical practice and teamwork. Some experienced CASS so beneficial that they expressed that it should be mandatory to use during the program.

"I feel that that you think a bit more about these different parts [the core competencies and teaching activities]. Have we really done that? and what about patient safety and such? Now during clinical practice, it is very much thinking about; how do you inform, how do you make sure it's safe, what do I do, what can I do, what can't I do. And, for example, if the supervisor says that I'm going to do something that I'm not allowed to do, do I bring it up, or do I do it because I can do it anyway, you think, you have to think a lot more about how collaboration and everything like that works... you have to think about how it was. "

*Male student, semester 4, age 29*



It was clear that the students appreciated the first academic year, which was seen as a solid foundation when starting clinical practice (**Study II**). Nevertheless, a high number of students reported experiencing boredom during internship in all semesters except the final one (**Study III**). At the time of data collection, the clinical practice in the present program covered 60 ECTS, according to the national guidelines in Sweden at the time (The Swedish Higher Education Act, 1992). Nowadays, nursing education in Sweden is required to follow the directive requirement of the European Union [EU], meaning that clinical practice must cover a minimum of 90 ECTS (Henriksen et al., 2020b). In article 31 (Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the Recognition of Professional Qualifications, 2005) it is stated that: "Clinical practice is that part of nurse training in which trainee nurses learn, as part of a team and in direct contact with a healthy or sick individual and/or community, to organize, dispense and evaluate the required comprehensive nursing care" (p. 19). These requirements mean that half of the education should take place in clinical settings. This required number of clinical hours has been adhered to in Great Britain, Canada, and America. The pandemic showed that the educational ambition of so much clinic training was, and still is, unsustainable. An increased enrolment for nursing students is important, and experienced RNs are needed to train and supervise students, something that is difficult since nurses already are overworked (McGinn, 2022). The issue of providing students with sufficient hours of high-quality clinical placements creates a bottleneck in possibilities to accomplish nursing education (Mitchell, 2023). Furthermore, the demands of increased hours in clinical practice may result in a decrease of the theoretical education and lower the academic competence. The students were clear about that to become a nurse you require a solid theoretical foundation, and they were proud of obtaining an academic degree.

"I really got a clear picture of how different tasks you do and how important the nurse is, and that it is not just about the nurse holding hands, that is an important thing, but there is so much more than holding hands and talking and being nice, we're not going through an education for the sake of holding hands, it's really important if you hold hands, but that's not why I'm taking a baccalaureate degree"

*Female student semester 2, age 23*

In order to ensure and quality-assure the flow in the nursing programs, a number of actions are required, such as an increased cooperation between the universities and the clinics and the possibility of replacing parts of compulsory time in clinical settings with simulations (Goodwin & Szanton, 2022; Jones, 2023). To meet the competence demands

of the healthcare system, collaboration between the health service system and nursing education regarding outcomes of education and demands of work life is the key to nurses competence and transition to professional nurses (Kukkonen et al., 2023).

"I feel quite ... confident but humble ... I feel pretty calm but that there is always more to learn, you will never be fully learned, however, I think it's fun, I think I learn something new every day and that, well, that's fun."

*Female student semester 6, age 25*

Furthermore, students expected to work in teams (**Study I**) and requested more training together with students in other professions (**Study IV**). Their attitudes towards IPL revealed high positive levels already at the start of education. In the interviews, the students expressed the necessity of working in teams and a desire for increased learning together with other professions, both in theoretical and practical settings.

"Too little of the interprofessional throughout, really, the times we've had interprofessional learning, seminars and similar, it's has only been nurses there, it's very rare to meet medical candidates or assistant nurse trainees, so yes, I'd like more of that."

*Female student, semester 6, age 32*

During the education, students gained a certain level of clinical experience and started to reason like a nurse, even though sometimes clinical experiences were not all positive (**Study II, III**). Based on the findings (**Study II, III**), it can be assumed that the learning environment in the clinical settings does not meet the demands of the quality requirements, i.e., to be able to examine nurses with sufficient knowledge to provide patient safety and person-centered care at a professional level. Previous research has found that nursing students experience various difficulties in clinical practice and often fail to transfer their theoretical knowledge into practice (Günay & Kılınc, 2018). It is necessary to oversee consequences of placing half of the program in clinical settings since students testified to a reality shock (**Study II**) and the high number students of the self-reported experiences of boredom in these environments (**Study III**). To ensure quality into the nursing program there is a need for university and clinical staff to cooperate to create learning environments appropriate for students (Jones, 2023). Questions about if the clinical environment lives up to the standards of quality nursing

have arisen, if there is something rotten at the core of modern nursing, and there is a need of a measured debate about the values in the profession (Richards & Borglin, 2019). Moreover, similar to findings in **Study II**, students need for further training has been found in several studies (Gardulf et al., 2016; Nilsson et al., 2019; Willman et al., 2020).

"You start to feel ready but not ready, so I kind of think that you, you have more control over what is expected of you ... what your responsibilities are according to the skills description, but then it's kind of obviously scary when you think you're going to go out [in a clinical setting], you never finish, it's kind of double ... you start to get tired of going to school at the same time and you want to get out and start working also"

*Female student, semester 6, age 23*

Even if the students found themselves educated to a level that is satisfactory for starting to work as an RN, there are demands to achieve the learning objectives of the program. When looking at nursing students' self-assessments of their competence compared to competency assessed by examination, it has been found that there may be differences (Forsman et al., 2020). The findings in this thesis originated from students' own experiences and no comparisons with study results has been performed. Therefore, these findings are not applicable to assess academic outcome of competence since this material exclusively demonstrates the students' own experiences.

Additionally, the learning process is also affected by personality and there is an association between personality and academic performance (Biggs & Tang, 2011; Mammadov, 2022; Zell & Lesick, 2022). Personality traits can be characterized as individual behavioural patterns and are assumed to be stable over time (Pow & DeLongis, 2018). However, personality can be influenced and developed by concrete experiences during both childhood and daily life (Soto et al., 2011). Personality can be assessed in a range of different ways, often with multidimensional approaches (Cavanagh et al., 1995; Chen & Canli, 2022). For this project, data about personality were collected using The Big Five Inventory, BFI, though these data are planned to be used in future studies.

## **5.1 Methodological reflections**

Voluntary participation can be problematic, for example there is a risk that the characteristics of the sample will not become representative. An issue that was considered was the teacher-student relationship when performing this research. Since I work as a

lecturer at the university, it is conceivable that students joined in the belief that the participation could provide advantages in assessment of assignments. To reduce the influence of personal opinions, the research was carried out separately from the training to the greatest possible extent. Accordingly, no interviews were carried out at times when I was responsible for exams and all data collected data were coded as soon as possible to avoid connection to individual participants.

When performing the interviews, the time for the interviews varied according to how the students answered the questions. A total of four interview guides were created, one for each time of the interview. The same four interview guides, corresponding to the time of the interview, were used for all interviews. All the interviews were terminated when the students had nothing more to add.

Furthermore, dropouts were discussed at the start of the study since it initially was planned to collect the data over a period of three years. Even if the data collection was mainly internet based to facilitate, ten percent could be expected to dropout almost instantly and additional participants tend to dropout after having completed a number of questionnaires (Hoerger, 2010). Additionally, besides studying students have a life going on that could affect participation in both education and research. Initially, it was planned to start data collection in autumn 2015 and spring 2016. Based on the number of participants, the decision was made to extend the start of data collection to include students starting autumn 2016 and spring 2017. When comparing the demographics from the four cohorts, no significant differences were found.

It is challenging to investigate emotions without biases (Cleland & Durning, 2015). To reduce this risk previously validated questionnaires were chosen. Even so, the meaning of a word is individually interpreted, and all experiences are personal. Therefore, it can be assumed that there are undetected variances in the findings. To reduce individual differences regarding quantitative data Z-scores has been used for the statistical analysis (Campbell et al., 2007).

## 6 Conclusions

The purpose of this thesis was to contribute to a deeper knowledge and understanding about nursing students' experiences of learning activities and the process of developing professional identity during higher education in the field of nursing, which is essential to ensure patient safety. The findings suggest that throughout the education, students' experienced emotions varied during various learning activities performed in different settings within diverse teams.

The students started their education with a vision of making a difference. In the first academic year they developed a solid theoretical platform and were eager to enter internship to transform their knowledge into practice and to gain clinical experience. The development into a professional nurse requires opportunities to put theory into practice, and further development necessitates experience-based learning. According to students experiences the clinical reality does not always correspond to what is taught at the university. This gap between theoretical education and practical training needs to be addressed. When equipped with a solid theoretical foundation before practice, the students have an ability to question and reflect on nurses' core competencies and the nursing profession. Accordingly, it is important to maintain a high level of academic competence at baccalaureate level within the nursing profession. To ensure good and safe care with a high standard, the nursing profession requires solid knowledge. If the hours of practice are increased, it risks implying a reduction of the theoretical education in the nursing program. Consequently, a development toward decreased academic requirements could lead to future nurses being insufficiently equipped to meet the demands of healthcare.

When entering clinical practice, students witnessed a reality that did not always correspond to what they had been taught. The students' emphasized the use of reflection to deepen their knowledge. It might be assumed that participation in this study had made the students reflect when they filled in the questionnaires and thereby identified the positive effects of reflection when learning. At the time of graduation, the students' felt ready to join the workforce and stressed that there is always more to learn.

Students' education benefits when using reflection as a tool for learning. Reflection does not happen automatically; students need to be educated about and guided through appropriate methods for reflection useful for continuous professional development.

Nursing students expected to work in teams, both with colleagues from their own profession and from other professions. If provided with the ability to learn together with other professions during their education, the future collaboration will be enhanced. Hence, there is a need for increased interprofessional learning activities during the nursing program.



## 7 Points of perspective

Today's healthcare is under strain and there is a great demand for competent nurses to meet its the future needs. Therefore, it is essential that tomorrow's nurses obtain an education that corresponds to these expectations. Various efforts can be carried out to increase the students' learning and experiences during training.

A good learning environment is required to optimize students' experiences and their learning. Reflection is required to develop a professional approach and the students therefore need education and training in using appropriate methods for reflection in all educational settings.

Students needs additional preparation for the clinical reality. Increased training in clinical training centers and simulation, together with reflection seminars containing authentic cases during the theoretical training could be used to improve students' preparedness.

An increased cooperation between universities and clinics is a needed to provide students with an adequate education and training to optimize their experiences. Actions such as increased presence of teachers on clinical wards and development of clinical units with a focus on learning may improve the students' experiences.

### Further research

During this research my understanding of the complexity of the design of nursing education has increased. The education and training of competent nurses contains several organizational challenges, including multiple stakeholders with different areas of interest. Following areas needs to be further explored.

- Possibilities to enhance organization and development of learning environments for the nursing program needs to be further investigated.
- Development and evaluation of learning activities during theoretical training constructed to prepare students for the clinical reality.
- Implementation of clinical units with a focus on learning and with high pedagogical competence.





## 8 Svensk sammanfattning

En professionell sjuksköterska behöver ha både teoretiska kunskaper och praktiska färdigheter. På det treåriga sjuksköterskeprogrammet undervisas studenter i olika lärmiljöer, exempelvis på campus, i verksamhetsförlagd utbildning och på kliniska träningscenter, för att lära sig sjuksköterskeprofessionen. Ett flertal faktorer påverkar lärande, till exempel motivation, lärandemiljö och de känslor som upplevs under pågående inläring. För att undersöka studenternas upplevelser av den professionella utvecklingen under pågående utbildning följdes deras erfarenheter med hjälp av enkäter och intervjuer. Studenter som började på sjuksköterskeprogrammet från augusti 2015 till januari 2017, fyra kohorter, följdes under utbildningstiden. Datasamlingen avslutades i januari 2020. Enkäter skickades ut var tredje vecka till de studenter som hade valt att delta i studien. Deltagande studenterna inbjöds också till en intervju vid fyra olika tidpunkter i utbildningen. Insamlingen resulterade i 2 947 besvarade enkäter och 286 genomförda intervjuer.

Vid utbildningens start förmedlade studenterna en önskan att påverka andra människors liv och samhället i stort, att göra skillnad. Studenterna beskrev att de uppfattade sjuksköterskeyrket som ett givande arbete och praktiskt arbete, ett hantverk. Att studenterna uppskattade den praktiska sidan återspeglades också i deras självskattning av lärostil, där det framgick att två tredjedelar av studenterna föredrog konkreta och praktiska läraaktiviteter.

Studenternas professionella utveckling skedde gradvis, från en naiv förståelse av professionen till att uppleva sig beredda att gå ut i arbetslivet. Studenterna underströk värdet av det första årets teoretiska utbildning som en viktig grund för den verksamhetsförlagda utbildningen. Innehållet i den teoretiska utbildningens överensstämde med studenternas förväntningar, men de upplevde att den kliniska verkligheten inte alltid överensstämde med den teoretiska undervisningen. De första erfarenheterna i den verksamhetsförlagda utbildningen kunde beskrivas av studenterna som en verklighetschock. Vidare beskrev studenterna att de ibland använt sig av en omvänd lärstrategi, det vill säga att de använde sina negativa erfarenheter från den kliniska verkligheten som exempel på hur de själva inte skulle komma att agera.

Lärprocessen påverkas av upplevda känslor. En optimal upplevelse, även kallad flow, uppstår under lärande när studenter utför en uppgift som de upplever sig utmanade av samtidigt som de uppfattar sig kompetenta att utföra den. Vid upplevelse av flow ligger fokus på uppgiften och studenten kan bli så engagerande att tids- och rumsuppfattning går förlorad. En tredjedel av studenterna skattade upplevelse av flow i samband med att de skrev sina kandidatuppsatser samt under den verksamhetsförlagda i utbildningens sista termin. Vidare visade resultaten på att en dryg tredjedel av studenterna upplevt tristess under merparten av de tidigare verksamhetsförlagda placeringarna. Under kurser

i medicinsk och metodologisk vetenskap skattade ungefär två femtedelar av studenterna en upplevelse låg kompetens och hög utmaning, vilket kan beskrivas som ångest.

Redan från utbildningens start betonade studenterna nyttan och vikten av ett väl-fungerande teamarbete, och resultaten visade en positiv inställning till interprofessionellt lärande. När studenterna talade om samarbete i team uttryckte de önskemål om ytterligare läraaktiviteter tillsammans med studenter från andra professionsutbildningar. Inga signifikanta samband mellan lärostil och attityd till interprofessionellt lärande kunde identifieras.

Resan för att bli en professionell sjuksköterska inleds på sjuksköterskeprogrammet, innehållande både upp- och nedgångar, och den kommer aldrig att bli helt klar. Vid examen uttryckte studenterna att de kände sig färdiga att börja arbeta som professionella sjuksköterskor, men att en sjuksköterska aldrig kommer bli fullärd eftersom det inom sjuksköterskeprofessionen alltid kommer finnas mer att lära.

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# 11 Appendix

## Interview guides

All interviews began with a verbal information about the voluntariness of participation.

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### Interview 1

1. Jag skulle vilja att du börjar med att berätta för mig om varför du vill bli sjuksköterska?
  2. Var det någonting som påverkade dig när du gjorde ditt val till sjuksköterska, någon händelse eller några personer eller så?
  3. Vad har du för förväntningar på utbildningen?
  4. Vad har du för förväntningar på sjuksköterskeyrket, när du är klar?
  5. Har du några funderingar inför utbildningen, sådant som du är lite fundersam på?
  6. Har du några funderingar kring sjuksköterskerollen?
  7. Farhågor, har du några farhågor inför utbildningen?
  8. Farhågor inför kommande yrkeslivet då, yrkesrollen som sjuksköterska?
  9. Det vi pratat om nu är varför du vill bli sjuksköterska och lite förväntningar, föreställningar och farhågor inför utbildning och kommande yrkesliv, är det nånting mer du skulle vilja tillägga?
- 

### Interview 2

1. Hur fungerar studierna för dig? (Utbildningens upplägg, stress, utmaningar?)
  2. Vad du tänker när du hör uttrycket "sjuksköterskans kärnkompetens"?
  3. Hur uppfattar du din egen utveckling gällande sjuksköterskans kärnkompetenser?
    - *Personcentrerad vård*
    - *Samverkan i team*
    - *Evidensbaserad vård*
    - *Förbättringskunskap*
    - *Säker vård*
    - *Informatik*
  4. Beskriv dina tankar om sjuksköterskans profession, upplever du att din uppfattning förändrats under de första terminerna? På vilket sätt i så fall?
  5. Berätta hur du upplever din utveckling mot din kommande yrkesroll som sjuksköterska?
  6. Vilka faktorer uppfattar du påverkar din utveckling? (Utbildning? Studiemiljö? Lärstil? Enkäterna var tredje vecka? Personlighet? Samhällsutveckling? Privata orsaker?)
  7. Vi har nu pratat om sjuksköterskans kärnkompetenser och din studiemiljö och din pågående professionella utveckling, är det något du skulle vilja tillägga ?
-

### Interview 3

1. Vad har du för erfarenheter av återkoppling, under teoretiska kurser och under VFU. Skillnader och likheter?
  2. Vilken betydelse du anser att återkoppling har för ditt lärande (teoretiska kurser och VFU, skillnader och likheter?)
  3. Vad har du för erfarenheter av att använda reflektion i din utbildning? (teoretiska kurser och VFU, skillnader och likheter?)
  4. Vilken betydelse anser du att reflektionen har för ditt lärande?
  5. Vilka är dina erfarenheter gällande reflektion och ditt deltagande i den här studien?
  6. Hur tänker du kring sjuksköterskans kärnkompetenser idag? Har dina tankar påverkats efter din tid i klinisk verksamhet, på vilket sätt i så fall?
    - *Personcentrerad vård*
    - *Samverkan i team*
    - *Evidensbaserad vård*
    - *Förbättringskunskap*
    - *Säker vård*
    - *Informatik*
  7. Nu har vi pratat om dina upplevelser av sjuksköterskans kärnkompetenser i klinik, om din syn på återkoppling och reflektion, är det någonting du skulle vilja tillägga?
- 

### Interview 4

- 1) Vad är dina tankar om sjuksköterskans profession?
- 2) Hur ser du på dig själv som snart färdig sjuksköterska?
- 3) Hur uppfattar du din egen professionella utveckling under utbildningen?
- 4) Hur du uppfattar sjuksköterskans roll i det interprofessionella teamarbetet?
- 5) Vilken roll upplever du att andra i det interprofessionella teamet uppfattar att sjuksköterskan har?
- 6) Vad har du för egna erfarenheter av interprofessionellt teamarbete och sjuksköterskerollen?
- 7) Har det interprofessionella teamarbetet har påverkat dig under din utbildning och i så fall hur?
- 8) Hur tänker du kring kärnkompetenserna nu när du snart är färdig sjuksköterska?
  - *Personcentrerad vård*
  - *Samverkan i team*
  - *Evidensbaserad vård*
  - *Förbättringskunskap*
  - *Säker vård*
  - *Informatik*
- 9) Nu har vi pratat om din roll som sjuksköterska och dina egna erfarenheter och upplevelser av interprofessionellt samarbete, är det någonting du skulle vilja tillägga ?

## Questionnaires

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### Varjegangfrågor

1. Var är du just nu?  
*Bibliotek – Föreläsningssal – Grupprum – Hemma – Klinisk träningsavdelning – Seminarierum – Vårdverksamhet – Annan plats, var? (fritextsvar)*
2. Vilken kurs inom sjuksköterskeprogrammet går du just nu?  
*Kurser för pågående termin listade som förval – Annan kurs, nämligen (fritextsvar)*
3. Skatta i vilken grad din pågående kurs är relaterad till sjuksköterskans kärnkompetenser? *Mycket lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Väldigt mycket*
  - Evidensbaserad vård
  - Förbättringskunskap
  - Informatik
  - Personcentrerad vård
  - Samverkan i team
  - Säker vård
4. Vilken läraaktivitet upplever du som mest betydelsefull just nu?  
*Egen studietid – Färdighetsträning – Föreläsningar – Grupparbete – Seminarium – VIL (Verksamhets Integrerat Lärande) – Annat, nämligen: (fritextsvar)*
5. Samarbetar du med någon i detta kursmoment? Ange en eller flera.  
*Annan/andra studenter – Handledare – Lärare – Patient – Nej – Någon annan, vem? (fritextsvar)*
6. Hur fungerar samarbetet? *Inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
7. Om du i fråga 6 skattat < 5 besvarat följande två frågor:
  - Vad/vilket är problemet med samarbetet? *(fritextsvar)*
  - Hur kan samarbetet förbättras? *(fritextsvar)*
8. Med stress menas situationer i vilka människor känner sig spända, oroliga, nervösa eller trängda eller då de har svårt att sova för att de ständigt grubblar över saker och ting. Upplever du den här typen av stress för närvarande?  
*Stämmer inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Stämmer precis*
9. Nedan finns några ord som beskriver olika sorters sinnesstämning och känslor. Skatta orden efter hur du just nu känner dig. *Lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Väldigt mycket*
  - Beslutsam
  - Engagerad
  - Entusiastisk
  - Intresserad
  - Irriterad
  - Kompetent
  - Nervös
  - Orolig
  - Utmanad
10. Skatta hur du just nu bedömer ditt allmänna hälsotillstånd  
*Mycket dåligt 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*

11. Skatta hur du just nu bedömer din sömnkvalitet  
*Mycket dålig 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
12. Finns det någon som du har förtroende för och som du kan vända dig till om du har besvärligt? Sätt ett eller flera kryss!  
*God vän/bekant – Handledare – Kursansvarig – Kurskamrat – Lärare – Mentor – Någon i familjen – Studievägledare – Nej – Annan, vem? (fritextsvar)*

### Terminsstartsfrågor

- 1) Har det hänt något betydelsefullt i ditt liv under sommaren/vintern, privat eller kopplat till din utbildning, som påverkar dina studier och/eller din utbildning? *Nej – Ja, vad? (fritextsvar)*
- 2) Vilken typ av boende har du?  
*Bostadsrätt – Hyresrätt – Studentboende – Villa/radhus – Annat boende, nämligen...(fritextsvar)*
- 3) Hur många personer ingår i ditt hushåll? *1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10*
- 4) Antal hemmavarande barn i ditt hushåll? *0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9*
- 5) Hur mycket planerar du att yrkesarbeta under kommande termin?  
*Inte alls; 20 % eller mindre; 20 – 40%; 40 – 60%; 60 – 80%; 80% eller mer*
- 6) Var är du just nu?  
*Bibliotek – Föreläsningssal – Grupprum – Hemma – Klinisk träningsavdelning – Seminarierum – Vårdverksamhet – Annan plats, var? (fritextsvar)*
- 7) Vilken kurs inom sjuksköterskeprogrammet går du just nu?  
*Kurser för pågående termin listade som förval – Annan kurs, nämligen (fritextsvar)*
- 8) Skatta i vilken grad din pågående kurs är relaterad till sjuksköterskans kärnkompetenser?  
*Mycket lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Väldigt mycket*
  - Evidensbaserad vård
  - Förbättringskunskap
  - Informatik
  - Personcentrerad vård
  - Samverkan i team
  - Säker vård
- 9) Vilken läraaktivitet upplever du som mest betydelsefull just nu?  
*Egen studietid – Färdighetsträning – Föreläsningar – Grupparbete – Seminarium – VIL (Verksamhets Integrerat Lärande) – Annat, nämligen: (fritextsvar)*
- 10) Samarbetar du med någon i detta kursmoment? Ange en eller flera.  
*Annan/andra studenter – Handledare – Lärare – Patient – Nej – Någon annan, vem? (fritextsvar)*
- 11) Hur fungerar samarbetet? *Inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 12) Om du i fråga 11 skattat < 5 besvara följande två frågor:
  - Vad/vilket är problemet med samarbetet? *(fritextsvar)*
  - Hur kan samarbetet förbättras? *(fritextsvar)*

- 13) Med stress menas situationer i vilka människor känner sig spända, oroliga, nervösa eller trängda eller då de har svårt att sova för att de ständigt grubblar över saker och ting. Upplever du den här typen av stress för närvarande?  
*Stämmer inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Stämmer precis*
- 14) Nedan finns några ord som beskriver olika sorters sinnesstämning och känslor. Skatta orden efter hur du just nu känner dig. *Lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Våldigt mycket*
- Beslutsam
  - Engagerad
  - Entusiastisk
  - Intresserad
  - Irriterad
  - Kompetent
  - Nervös
  - Orolig
  - Utmanad
- 15) Skatta hur du just nu bedömer ditt allmänna hälsotillstånd  
*Mycket dåligt 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 16) Skatta hur du just nu bedömer din sömnkvalitet  
*Mycket dålig 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 17) Finns det någon som du har förtroende för och som du kan vända dig till om du har besvärligt? Sätt ett eller flera kryss!
- a. *God vän/bekant – Handledare – Kursansvarig – Kurskamrat – Lärare – Mentor – Någon i familjen – Studievägledare – Nej – Annan, vem? (fritextsvar)*
- 18) Här följer ett antal påståenden om att arbeta i team. Markera i hur hög grad du håller med eller inte håller med.  
*Håller inte alls med 1 – 2 – 3 – 4 – 5 – 6 – 7 Håller absolut med*
- Att lära tillsammans med andra studenter hjälper mig att bli en effektiv medarbetare i ett vårdteam
  - Patienter skulle i slutändan tjäna på att studenter samarbetade för att lösa patientproblem
  - Gemensamma studier med andra studentkategorier kommer att öka min förmåga att förstå kliniska problem
  - Att studera med andra studenter under utbildning skulle kunna förbättra arbetsrelationerna efter examen
  - Kommunikationsfärdigheter borde man lära sig tillsammans med andra högskolestudenter inom hälso- och sjukvård
  - Gemensamma studier kommer att hjälpa mig att tänka mer positivt om andra yrkeskategorier
  - För att studier i mindre grupper ska fungera måste studenterna lita på och respektera varandra
  - Att lära sig att arbeta i team är grundläggande för alla studenter inom hälso- och sjukvårdsutbildningar
  - Gemensamma studier med andra kommer att hjälpa mig att förstå mina egna begränsningar
  - Jag vill inte slösa bort min tid på att studera tillsammans med andra studentkategorier inom hälso- och sjukvård



- Det är inte nödvändigt för studenter i grundutbildningar inom hälso- och sjukvård att studera tillsammans i utbildningen
- Kliniska färdigheter kan man endast lära sig tillsammans med studenter från sitt eget område
- Gemensamma studier med andra grundutbildningsstudenter inom hälso- och sjukvård kommer att bidra till att jag kommunicerar bättre med patienter och medarbetare från andra yrkesgrupper
- Jag skulle välkomna möjligheten att göra mindre projektarbeten tillsammans med studenter från andra vårdutbildningar
- Gemensamma studier kommer att hjälpa mig att bättre förstå vilken typ av problem patienterna har
- Gemensamma studier före examen kommer att hjälpa mig att bättre kunna arbeta i team
- Sjuksköterskors och rehabpersonals funktion är att stödja läkare
- Jag är inte säker på vad min yrkesroll kommer att innebära
- Jag måste förvärva mer kunskaper och färdigheter än andra grundutbildningsstudenter inom hälso- och sjukvård

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### Studiestartsfrågor

- 1) Kön? *Man – Kvinna*
- 2) Ange ditt födelseår (*fritextsvar*)
- 3) Vilket år gick du ut gymnasiet? *Ange årtal för examen (fritextsvar)*
- 4) Har du en tidigare högskoleexamen? *Nej – Ja, i vilket ämne? (fritextsvar)*
- 5) Har du studerat vid en högskola (utan att ta examen) innan du började studera på sjuksköterskeprogrammet? *Nej – Ja, i vilket huvudämne? (fritextsvar)*
- 6) Var sjuksköterskeprogrammet ditt förstahandsval vid ansökan till högskolan denna termin? *Ja – Nej, vad var ditt förstahandsval? (fritextsvar)*
- 7) I vilken urvalsgrupp kom du in på sjuksköterskeprogrammet? *Arbetslivserfarenhet – Betyg – Högskoleprov*
- 8) I vilket land är du född? (*fritextsvar*)
- 9) Vilket är ditt modersmål? (*fritextsvar*)
- 10) I vilket/vilka land är dina föräldrar födda? (*fritextsvar*)
- 11) Är någon i din familj sjuksköterska eller sjuksköterskestuderande? *Nej – Ja, vem? (fritextsvar)*
- 12) Har någon i din familj ett annat yrke inom hälso- och sjukvård? *Nej – Ja, vilket/vilka yrken? (fritextsvar)*
- 13) Vilken typ av boende har du?  
*Bostadsrätt – Hyresrätt – Studentboende – Villa/radhus – Annat boende, nämligen... (fritextsvar)*
- 14) Hur bor du? *Ensamboende – Sammanboende*
- 15) Hur många personer ingår i ditt hushåll? *1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10*
- 16) Har du barn? *Nej – Ja, ange födelseår (fritextsvar)*
- 17) Antal hemmavarande barn? *0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9*
- 18) Hur mycket planerar du att yrkesarbeta under kommande termin?

- Inte alls – 20 % eller mindre; 20 – 40%; 40 – 60%; 60 – 80%; 80% eller mer*
- 19) Skatta hur du just nu bedömer ditt allmänna hälsotillstånd  
*Mycket dåligt 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 20) Skatta hur du just nu bedömer din sömnkvalitet  
*Mycket dålig 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 21) Finns det någon som du har förtroende för och som du kan vända dig till om du harbesvärligt? Sätt ett eller flera kryss!  
*God vän/bekant – Handledare – Kursansvarig – Kurskamrat – Lärare – Mentor – Någon i familjen – Studievägledare – Nej – Annan, vem? (fritextsvar)*
- 22) Var är du just nu?  
*Bibliotek – Föreläsningssal – Grupprum – Hemma – Klinisk träningsavdelning – Seminarierum – Vårdverksamhet – Annan plats, var? (fritextsvar)*
- 23) Vilken kurs inom sjuksköterskeprogrammet går du just nu?  
*Kurser för pågående termin listade som förval – Annan kurs, nämligen (fritextsvar)*
- 24) Skatta i vilken grad din pågående kurs är relaterad till sjuksköterskans kärnkompetenser? *Mycket lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Väldigt mycket*
- Evidensbaserad vård
  - Förbättringskunskap
  - Informatik
  - Personcentrerad vård
  - Samverkan i team
  - Säker vård
- 25) Vilken läraaktivitet upplever du som mest betydelsefull just nu?  
*Egen studietid – Färdighetsträning – Föreläsningar – Grupparbete – Seminarium – VIL (Verksamhets Integrerat Lärande) – Annat, nämligen: (fritextsvar)*
- 26) Samarbetar du med någon i detta kursmoment? Ange en eller flera.  
*Annan/andra studenter – Handledare – Lärare – Patient – Nej – Någon annan, vem? (fritextsvar)*
- 27) Hur fungerar samarbetet? *Inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Mycket bra*
- 28) Om du i fråga 27 skattat < 5 besvara följande två frågor:
- Vad/vilket är problemet med samarbetet? *(fritextsvar)*
  - Hur kan samarbetet förbättras? *(fritextsvar)*
- 29) Med stress menas situationer i vilka människor känner sig spända, oroliga, nervösa eller trängda eller då de har svårt att sova för att de ständigt grubblar över saker och ting. Upplever du den här typen av stress för närvarande?  
*Stämmer inte alls 1 – 2 – 3 – 4 – 5 – 6 – 7 Stämmer precis*
- 30) Nedan finns några ord som beskriver olika sorters sinnesstämning och känslor. Skatta orden efter hur du just nu känner dig. *Lite 1 – 2 – 3 – 4 – 5 – 6 – 7 Väldigt mycket*
- Beslutsam
  - Engagerad
  - Entusiastisk
  - Intresserad
  - Irriterad
  - Kompetent
  - Nervös
  - Orolig
  - Utmanad

31) Här följer ett antal påståenden om att arbeta i team. Markera i hur hög grad du håller med eller inte håller med. *Håller inte alls med 1 – 2 – 3 – 4 – 5 – 6 – 7 Håller absolut med*

- Att lära tillsammans med andra studenter hjälper mig att bli en effektiv medarbetare i ett vårdteam
- Patienter skulle i slutändan tjäna på att studenter samarbetade för att lösa patientproblem
- Gemensamma studier med andra studentkategorier kommer att öka min förmåga att förstå kliniska problem
- Att studera med andra studenter under utbildning skulle kunna förbättra arbetsrelationerna efter examen
- Kommunikationsfärdigheter borde man lära sig tillsammans med andra högskolestudenter inom hälso- och sjukvård
- Gemensamma studier kommer att hjälpa mig att tänka mer positivt om andra yrkeskategorier
- För att studier i mindre grupper ska fungera måste studenterna lita på och respektera varandra
- Att lära sig att arbeta i team är grundläggande för alla studenter inom hälso- och sjukvårdsutbildningar
- Gemensamma studier med andra kommer att hjälpa mig att förstå mina egna begränsningar
- Jag vill inte slösa bort min tid på att studera tillsammans med andra studentkategorier inom hälso- och sjukvård
- Det är inte nödvändigt för studenter i grundutbildningar inom hälso- och sjukvård att studera tillsammans i utbildningen
- Kliniska färdigheter kan man endast lära sig tillsammans med studenter från sitt eget område
- Gemensamma studier med andra grundutbildningsstudenter inom hälso- och sjukvård kommer att bidra till att jag kommunicerar bättre med patienter och medarbetare från andra yrkesgrupper
- Jag skulle välkomna möjligheten att göra mindre projektarbeten tillsammans med studenter från andra vårdutbildningar
- Gemensamma studier kommer att hjälpa mig att bättre förstå vilken typ av problem patienterna har
- Gemensamma studier före examen kommer att hjälpa mig att bättre kunna arbeta i team
- Sjuksköterskors och rehabpersonals funktion är att stödja läkare
- Jag är inte säker på vad min yrkesroll kommer att innebära
- Jag måste förvärva mer kunskaper och färdigheter än andra grundutbildningsstudenter inom hälso- och sjukvård

32) Här är ett antal egenskaper som kanske eller kanske inte stämmer in på dig. Instämmer du till exempel i att du är någon som tycker om att umgås med andra? Skatta varje påstående för att ange hur mycket påståendet stämmer eller inte stämmer.  
*Stämmer – Stämmer ganska dåligt – Stämmer varken bra eller dåligt – Stämmer ganska bra – Stämmer absolut inte*

Jag ser mig själv som någon som...

Är pratsam  
Tenderar att hitta fel hos andra  
Gör ett grundligt jobb  
Är deprimerad, nere  
Är originell, kommer med nya idéer  
Är reserverad  
Är hjälpsam och osjälvisk mot andra  
Kan vara något vårdslös  
Är avspänd, hanterar stress väl  
Är nyfiken på många olika saker  
Är full av energi  
Startar gräl med andra  
Är pålitlig i arbetet  
Kan vara spänd  
Är sinnrik, en djup tänkare  
Sprider mycket entusiasm  
Har en förlåtande läggning  
Tenderar att vara oorganiserad  
Oroar mig mycket  
Har livlig fantasi  
Tenderar att vara tystlåten  
Är i allmänhet tillitsfull  
Tenderar att vara lat  
Är känslomässigt stabil, blir inte upprörd så lätt  
Är uppfinningsrik  
Har en självhävdande personlighet  
Kan vara kall och distanserad  
Framhårdar tills uppgiften är slutförd  
Kan vara lynnig  
Värdesätter konstnärliga, estetiska upplevelser  
Är ibland blyg, hämmad  
Är omtänksam och vänlig mot nästan alla  
Gör saker effektivt  
Förblir lugn i spända situationer  
Föredrar rutinarbete  
Är utåtriktad, sällskaplig  
Är ibland ohövlig mot andra  
Gör upp planer och fullföljer dem  
Blir lätt nervös  
Tycker om att reflektera, leka med idéer  
Har få konstnärliga intressen  
Tycker om att samarbeta med andra  
Blir lätt distraherad  
Har en utvecklad smak för konst, musik eller litteratur

33) Här ombeds du fullborda 13 meningar. Varje mening har fyra olika, alternativa, slut. Poängsätt de fyra alternativen för varje mening, utifrån hur pass bra vart och ett av dem passar in på hur du är eller går tillväga när du lär dig något. Utgå gärna från någon närliggande situation då du hade att lära dig något nytt, t ex i arbete eller studier. Arbeta spontant, fundera inte för länge.

Sätt för varje mening siffran

4 för det alternativ som bäst passar in på dig

3 för det näst bästa alternativet

2 för det näst sämsta alternativet

1 för det alternativ som sämst passar in på dig

När jag ska lära mig något vill jag	<i>engagera mig känslomässigt</i>	<i>observera och lyssna</i>	<i>tänka över begreppen och idéerna</i>	<i>omsätta och pröva det i praktiken</i>
Då jag lär	<i>analyserar jag problemet och bryter ner det i dess delar</i>	<i>är jag inriktad på den praktiska användbarheten</i>	<i>ser jag problemet ur många infallsvinklar</i>	<i>är jag öppen för nya erfarenheter och intryck</i>
Jag lär bäst då jag	<i>opartiskt lyssnar och betraktar</i>	<i>utgår från mina egna konkreta upplevelser</i>	<i>ser att det är genomförbart</i>	<i>stöder mig på logiskt tänkande</i>
Medan jag lär	<i>känner jag ansvar föra att det ska leda till något</i>	<i>resonerar jag mig fram</i>	<i>väcks starkt gensvar och känslor hos mig</i>	<i>är jag tyst, tillbaka dragen och reserverad</i>
Under inläring är jag	<i>är jag aktiv och handlingsinriktad</i>	<i>intuitiv</i>	<i>lyhörd och uppmärksam</i>	<i>logisk och konsekvent</i>
Jag lär bäst	<i>i samverkan och dialog med andra</i>	<i>då jag kan göra praktiska tillämpningar</i>	<i>utifrån teorier och modeller</i>	<i>genom reflektion över egna iakttagelser</i>
När jag lär	<i>tar jag god tid på mig innan jag handlar</i>	<i>gillar jag idéer, begrepp och tankar</i>	<i>känner jag mig personligt involverad i ämnet</i>	<i>vill jag se resultat av mitt arbete</i>
Jag lär bäst då jag litar på	<i>mina tankar och teorier</i>	<i>nyttan och funktionsdugligheten</i>	<i>mina egna rön och iakttagelser</i>	<i>mina infall och ingivelser</i>
Jag lär genom att	<i>känna</i>	<i>observera</i>	<i>handla</i>	<i>tänka</i>
Vid inlärande är jag	<i>rationell och klarsynt</i>	<i>försiktig och avvaktande</i>	<i>accepterande och oförbehållsam</i>	<i>ansvarstagande och resultatinriktad</i>
När jag lär	<i>är jag aktiv och experimenterande</i>	<i>blir jag engagerad och indragen</i>	<i>bedömer och utvärderar jag</i>	<i>föredrar jag att vara observatör</i>
Jag lär bäst då jag	<i>är eftertänksam och begrundande</i>	<i>argumentera och drar slutledningar</i>	<i>är mottaglig, öppen och bejakande</i>	<i>arbetar praktiskt och konkret</i>
För att lära mig något behöver jag	<i>Systematisera det</i>	<i>hålla distans till det</i>	<i>se användningsmöjligheterna i det</i>	<i>känna starkt för det</i>

