



Nursing students' experience of writing a bachelor thesis – a qualitative study

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ABSTRACT

The bachelor thesis (BT) in nursing education is a significant piece of academic work for students. It serves as an instrument for demonstrating and assessing the knowledge they have gained throughout their education. The BT also introduces the students to the field of research. Students often write it on their own, and it has been characterized as the ultimate self-regulating learning task for undergraduate students. This study aims to explore undergraduate nursing students' experiences of being in the process of writing their BT. It is valuable to gain information on students' experiences in the middle of the writing process to improve the pedagogical and practical organization of the BT course in nursing education. Individual interviews were conducted with 14 students who were in the process of writing their BT. Qualitative content analysis was used to analyse the interviews. The theory of self-regulated learning was used to explore and contextualize the findings. The main findings are that the nursing students operated in both an individual and a social context while writing on their BT. Further, the study describes how students utilized and developed previous knowledge and organized the writing process. It also discusses how their personal abilities and motivation affected their learning process. The findings also show that students viewed discussions and feedback on their BT as being positive, and they provide information on how students experienced obstacles and unmet expectations. This study found that the most important self-regulated learning strategies used by the students while writing the BT were help-seeking, goal setting, time planning, and study techniques.

1. Introduction

1.1. The bachelor thesis in nursing education

The aim of a bachelor thesis (BT) in nursing is twofold. On the one hand, the BT demonstrates the students' knowledge acquired through the degree and serves as an instrument for assessing and evaluating their nursing knowledge and competencies (Gallart et al., 2015; Roca et al., 2018). On the other hand, the BT introduces the students to research techniques, encouraging their intellectual curiosity, allowing them to develop critical thinking and problem-solving, and getting acquainted with the practice of evidence-based nursing (Aguayo-González et al., 2020; Gallart et al., 2015; Roca et al., 2018). The BT fulfils the learning outcomes of research and academic writing and bridges the gap between theory and clinical learning (André et al., 2016; Friberg & Lyckhage, 2013). It is also an important step to motivate students to engage in research when they become nurses (Aguayo-González et al., 2020).

Encouraging students to develop critical thinking through the BT and academic writing could also increase the amount of research and the precision of research questions in nursing care (Falcó-Pegueroles et al., 2021).

In most European countries, nursing education leads to a bachelor's degree in nursing (Lahtinen et al., 2014) and includes a final exam, namely a BT (Humar & Sansoni, 2017). The course related to the BT can use lectures and seminars, be conducted in collaboration with the university library, and use individual or group-based supervision (Herrström et al., 2020; Nordsteien et al., 2017; Roca et al., 2018). Studies have shown that some universities do not teach students any tools to develop their academic writing skills (Aguayo-González et al., 2020), or they provide students with a minimal amount of theoretical training in research methods before the BT (Fernández-Cano et al., 2021). Students may be assessed and examined only based on the written thesis, or the assessment may include an oral exam by other faculty members or their student peers as opponents (Roca et al., 2018).

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It is common to let the students choose the topic of their BT (Fernández-Cano et al., 2021; Henttonen et al., 2021).

In Norway, the thesis usually constitutes 15 European Credit Transfer and Accumulation System credits (ECTS) (Nordsteien et al., 2017) and is the largest academic work students undertake in their nursing education. The BT is written individually or in pairs and is often a literature study or a literature review (Nordsteien et al., 2017); however, a few universities also offer students the opportunity to write an essay or conduct a small research project (Grønning et al., 2022). The primary learning outcomes for the BT in Norway are related to nursing competence, nursing science, and research methods (learning outcomes valid at the time of data collection) (Kunnskapsdepartementet, 2008; NTNU, 2019).

1.2. Students' experience with the bachelor thesis

Studies on nursing students' experiences with the BT show that they find the BT writing process challenging but also stimulating (Aguayo-González et al., 2020; Henttonen et al., 2021). The students describe having mixed feelings about their expectations toward the writing process. They are anxious and overwhelmed by the demanding process both due to the size of the task and the academic challenges, and they feel inexperienced and have doubts about their personal capabilities and motivation (Henttonen et al., 2021). At the same time, they are excited to gain new and deeper insights into an area of interest they have chosen, to understand the research field and increase their professional knowledge and competence related to writing (Aguayo-González et al., 2020; Henttonen et al., 2021; Lundgren & Halvarsson, 2009).

When thinking back on the writing process of the BT, nursing students state that the volume of information related to the chosen theme was overwhelming. They did not feel capable of extracting relevant information and making it into something meaningful related to their selected topic (Aguayo-González et al., 2020). They did not feel prepared for the academic requirements of the BT, and they also viewed the BT as more regulated and directed than previous texts they had written for their education (Aguayo-González et al., 2020). Studies show that, despite nursing students experiencing some difficulties when working on their BT, they also find it useful to write their BT and are satisfied with the learning outcomes. Students were especially satisfied with the learning outcomes related to research competencies and literature searches and with their improved critical thinking (Aguayo-González et al., 2020; Fernández-Cano et al., 2021; Lundgren & Halvarsson, 2009). They were also satisfied with developing deeper insights into how to use new knowledge in their clinical practice (Lundgren & Robertsson, 2013). Studies show that some students experienced personal satisfaction when they oversaw the BT from an idea to a finished product (Lundgren & Halvarsson, 2009). However, other students did not think it was important to write a BT, had no expectations for the upcoming process, or described having gained no new knowledge during the writing process (Henttonen et al., 2021; Lundgren & Robertsson, 2013). Students were mostly satisfied with the BT supervision when they received important feedback to improve their thesis (Aguayo-González et al., 2020; Lundgren & Halvarsson, 2009). However, they were discontent when the supervisors did not give good feedback on how to improve the content or quality of the writing and only provided feedback on the format or methodological aspects (Aguayo-González et al., 2020).

Previous research on nursing students' experiences with BTs is interesting and important, but it mainly focuses on describing their expectations and experiences before or after the BT writing process. Studies have not examined students' perceptions of their experiences as they are writing their BT; doing so can contribute to providing a holistic picture of nursing students' experiences of writing a BT. Against this background, this study aims to explore undergraduate nursing students' experiences of being in the process of writing their BT. This article defines the writing process as not only including the actual writing of the

paper but also the previous phases: researching, reading the source material, taking notes, creating outlines (Mitchell et al., 2017), participating in seminars, and being supervised.

1.3. Self-regulated learning

In the context of this study, the BT is a large individual and autonomous task, which other researchers have characterized as the ultimate self-regulated learning task for undergraduate students (Lundgren & Halvarsson, 2009). Self-regulated learning (SRL) can be explained as learning how to learn and refers to the process where the students become masters of their own learning process (Zimmerman, 2015). To do so, they must take an active role in their learning process, actively monitoring and regulating aspects of their learning (Hadwin & Oshige, 2011; Taranto & Buchanan, 2020). Thus, SRL is a perspective on learning that focuses on the cognitive, meta-cognitive, motivational, behavioural, and emotional aspects of learning (Hadwin & Oshige, 2011), skills that are necessary for lifelong learning (Taranto & Buchanan, 2020). It is an individual development process but also includes a social aspect of task modelling and feedback from others (Hadwin & Oshige, 2011; Zimmerman, 2015). By using SRL to monitor, direct, and regulate actions toward learning, students develop autonomy and ownership over their learning process (Taranto & Buchanan, 2020). Studies have also shown that there is a positive relationship between the use of SRL strategies and academic achievements, such as higher self-efficacy and grades (Broadbent & Poon, 2015; Robb, 2016; Taranto & Buchanan, 2020; Zimmerman, 2015). Additionally, students develop more complex and deeper SRL strategies as they become more experienced in them (Alvi et al., 2016; Chen et al., 2019; Zimmerman, 2015).

SRL occurs in various phases (Zimmerman, 2015). The phases in this process are not linear but recurrent, and there is an active feedback loop back and forth through the phases (Wolters & Brady, 2021). The forethought phase involves strategies related to self-motivational beliefs and intrinsic interest, activating prior knowledge and beliefs, task analysis, goal setting, determining progress, and time planning (Wolters & Brady, 2021; Zimmerman, 2015). The performance phase includes strategies related to enactment, monitoring, evaluating, and adapting. This is the phase where the students start to create the document and type words (Wolters & Brady, 2021), and it includes the actual use of study techniques. The students evaluate themselves and, responding to their own feedback, might decide they have to go back to the forethought phase (Wolters & Brady, 2021). The self-reflection phase includes strategies related to reflection and reaction after fulfilling the task and understanding the learning outcomes through a self-judgement process (Zimmerman, 2015).

SRL is an individual-orientated process, but the social context influences the students' self-regulation by defining the task and standards and providing feedback (Hadwin & Oshige, 2011; Zimmerman, 2015). Social processes and experiences that help the students become self-regulated learners include task modelling, guided practice, instrumental feedback, and types of scaffolding support (Hadwin & Oshige, 2011). Help-seeking is an external resource management strategy that often involves social interaction between students and teachers and can take place during all three phases of SRL (Karabenick & Gonida, 2017). Students at the university level seem to have a strong tendency to seek social assistance from academic peers and regulate their own learning and performance (Alvi et al., 2016) but also seek help from friends and family (Mitchell et al., 2019). Help-seeking is an SRL strategy that students use when they are stuck in their learning. Furthermore, students also regulate their learning when helping a peer (Alvi et al., 2016).

Writing self-efficacy and self-regulating behaviours mutually influence one another. Self-efficacy in writing can lead to the use of self-regulated strategies, and acting on these strategies can lead to a change in the level of self-efficacy (Mitchell et al., 2019). Self-efficacy in writing is also affected by feedback from others: one study found that students with low self-efficacy responded more negatively to feedback

than students with higher self-efficacy (Mitchell et al., 2019). However, the literature on whether help-seeking is a marker of low self-efficacy in writing is ambiguous (Mitchell et al., 2019).

Students use many strategies to manage the academic writing process; these strategies correlate with and confirm the non-linearity of the phases in SRL, confirming that SRL is a critical factor for learner success in academic writing (Peeters et al., 2020). Writing skills are especially important to ensure one has an impact in the academic world (Abadi-khah et al., 2018) but also for clinical practice. By practising academic writing, students will acquire competencies including critical thinking, documentation, formulation of arguments, summarizing and evaluation, and analysing evidence, which are all transferable and important for clinical practice (Jefferies et al., 2018; Lundgren & Robertsson, 2013). Thus, learning academic writing, in this case by writing the BT, is essential for evidence-based practice, patient safety, and effective patient care in the clinical setting (Jefferies et al., 2018; Mitchell et al., 2019).

Previous literature on how nursing students experience various aspects of the BT scarcely discusses its findings within a specific theory. This study has chosen the SRL theory as a frame to interpret and discuss the findings, because of its focus on phases and strategies that students employ during an academic writing process.

2. Methods

2.1. Methodology

This research project leans on a constructivist perspective of learning, emphasizing personal and social constructivism, two categories that exist in many learning situations (Mann & MacLeod, 2015). Personal constructivism focuses on the internal process of how individuals produce knowledge by connecting their experiences of the world to their prior knowledge of the same phenomenon and elaborating on this already existing knowledge. Social constructivism focuses on the social process of constructing knowledge, which happens in the interaction between individuals or within groups or cultures (Dennick, 2016; Mann & MacLeod, 2015). Constructivism also believes that there is a co-creation of data and interpretation in the dialogue between the researcher and the informants and that reality can be interpreted in various ways (Graneheim et al., 2017; Mann & MacLeod, 2015). This means that data always have multiple meanings depending on the degree to which the data material is interpreted (Graneheim & Lundman, 2004). This study used semi-structured individual interviews for data collection to answer the aim. This method of data collection is suitable for researching personal experiences and identifying a range of meanings and ideas (Mann & MacLeod, 2015).

2.2. Context

The study population was third-year undergraduate nursing students. They were in their final term, attending their last course in their nursing education, the BT course. At the time, 170 nursing students were attending the course. In this course, the students wrote their theses individually. The intensive course lasted 12 weeks, and they could choose between two options for the BT: 1) to write a literature review of approximately 10,000 words or 2) to participate in a clinical research project, collecting their own data or accessing data from an ongoing project (an empirical BT). If they chose the empirical BT, students had to write an academic article of approximately 4500 words (André et al., 2016; Gronning et al., 2022). All students had to formulate a research question, attend lectures on academic writing, and attend a library course on literature searches. Further, they had to attend two mandatory supervisions and could attend one voluntary one; they also had to participate in three seminars in groups of four to eight students. The students worked individually, but they collaborated with peers in the seminars. Furthermore, those who wrote an empirical BT collaborated in

the preparation and data collection.

2.3. Recruitment and data collection

The data was collected from late April to early June 2020, a period of eight weeks. Data collection was significantly influenced by the Covid-19 pandemic. The universities were closed, and the students were cut off from physical meetings with their peers and supervisors. They were mostly isolated in their rooms in their student homes while writing their BT. Supervisions were done digitally, through e-mail or video meetings, and seminars were held on Zoom. Therefore, students were provided information about the study on BlackBoard (an online learning management system), the students' informal Facebook group, through e-mail, and through their supervisors. The information included an open invitation to participate in the study, and the students registered for interviews by sending an e-mail to the first author. The interviews were conducted online by the first author through a licensed version of Zoom while students were conducting their BT before submitting it. The students were in their homes while being interviewed, in the same location in which they were working on their BT. Each student was interviewed one time during the data collection period. The interviews were recorded and transcribed verbatim. All information related to the interviews was anonymized.

Before conducting the interviews, the research team developed a thematic interview guide about the student's daily routines and study techniques, their thoughts on attending supervision and seminars, motivation and ambitions, and good/bad experiences during the process (Table 1). The interview guide was developed to answer the study's aim and was not influenced by the SRL theory. The main questions were open-ended. During the interview, the interviewer followed up with probing sub-questions to get more and richer data and understand the students' experiences of being in the process.

2.4. Data analysis

The data were analysed using qualitative content analysis, using data-driven categories (Bengtsson, 2016; Graneheim et al., 2017). During qualitative content analysis, researchers search for patterns and emphasize variation, identifying both similarities within the text and differences between parts of the text (Graneheim et al., 2017). Based on the study's aim, the data were analysed at a concrete level, being close to the original text, and looking for manifest content. There is no consensus on which heading to use in qualitative content analysis. Since we analyse the manifest content, we use categories. Themes are more frequently used to describe the latent interpretative content (Bengtsson,

Table 1

Examples of questions from the interview guide.

Themes from the interview guide	Examples of questions
Daily routines and study techniques	<i>Will you tell me about a typical day of studies during the BT? How do you organize the most important facts you have to learn? Are you able to relate earlier knowledge from your education to your work for the BT?</i>
Thoughts about attending supervision and seminars	<i>Can you tell me about your experience with collaborating with your supervisor? Can you say something about the effects (if any) of participating in seminars with other students?</i>
Motivation and ambitions	<i>What do you do to keep motivated during your work? What grade are you aiming for? Is the work with the BT going as you planned or not?</i>
Good/bad experiences from the process	<i>Which parts of the working process are you satisfied with? Who do you contact when you need help to ask questions or discuss something with? Do you think you will continue to work on the BT in the same way as you have up to now, or will you change your strategy?</i>

2016; Graneheim & Lundman, 2004). The SRL theory was introduced to the study during the analyses and was used to understand, interpret, and contextualize the findings.

The interview transcripts were first systematically read through to obtain an overall impression of the material. Meaningful units were identified and adapted to condensed meaning units. The condensed meaning units were given a code. The codes were placed into manifest categories and subcategories that constitute the writing process of a group of undergraduate nursing students working on their BT. The main categories are described on an abstract level, and the subcategories are described closer to the text. The analysis was thoroughly discussed by the authors through an iterative process. The categories were refined by going back and forth between the transcript and codes. Preliminary results were presented and discussed within an extended research group to ensure the credibility of the results (Bengtsson, 2016). Doing this introduced new discussions and considerations on the analysis. The final results were discussed with a team of experienced health educational researchers to confirm the understanding of the categories.

The first author, the interviewer, was not a teacher at the faculty and had no relation with the students before the interviews. The second and third authors were involved in the BT course as teachers and supervisors. The second and third authors received the anonymized transcripts from the first author for the analysis. The analysis was conducted over a period of 6 months after the grades were submitted and the students had graduated. NVivo20 (NVivo, 2020) and MindManager (MindManager, 2019) were used as tools in the analytical process.

2.5. Ethical approval

The participating students received written information on the interview process and gave written consent before participating. Students had the right to withdraw at any time. The study was approved by the Norwegian Data Protection Official (NSD, ref no: 457038).

3. Findings

3.1. Interviewees

Fourteen students were interviewed, and this number was appropriate to reach saturation of the data material. The sample consisted of twelve female and two male students between 22 and 27 years old. None of the students had written a BT, or anything similar, before. Four students decided to write a literature review, while ten participated in a research project and wrote an empirical BT.

3.2. Presentation of the categories

The findings are divided into two main categories concerning the students' writing process: the individual context, which concerns writing the BT as an autonomous task, and the social context, which involves interacting with supervisors, peers, and others (Table 2). The findings are further described as an analytic text, presenting the content of the main categories and subcategories. Quantifications of the statements are used if they improve the presentation of the findings (Bengtsson, 2016). Excerpts from the students are labelled with a

Table 2
Presentation of categories.

CATEGORY	SUBCATEGORIES
An individual approach to the BT writing process	Utilizing and developing knowledge Organizing the writing process Personal abilities and motivation
A social approach to the BT writing process	Discussions and feedback Obstacles and unmet expectations

number for each student and a code depending on what kind of BT they wrote: a literature review (LR) or an empirical thesis (ET).

3.3. An individual approach to the BT writing process

3.3.1. Utilizing and developing knowledge

Overall, the students had not consciously connected their BT writing to previous theoretical nursing knowledge: ... *sometimes I remember we had a lecture about this or things like that* (5ET). However, some students referred to the role and function of the nurse and nursing theories. Only three students read theory to choose a topic or formulate a research question for their BT. Nine students said they related the theoretical content of the thesis to situations they'd experienced in clinical practice to obtain a deeper understanding and relate the theory to a natural setting. As 10LR stated: *When I read the articles, I thought, "yes, this is how it was when I had my clinical placement!"* (10LR). Four students chose the theme for the BT based on their experience from their clinical placements.

Ten of the fourteen students in the study expressed that they found it difficult to master the skills needed for the research methods. The literature search stood out as an especially demanding and time-consuming task: ... *finding research articles was kind of a frustrating process; I thought it was a difficult task* (6ET). They also found it difficult to appraise the relevance of the research articles to their own thesis. Only two students reported mastering this task. Further, a couple of the students were still confused about the differences between quantitative and qualitative methods, even though they were halfway through the writing process: *I think it has been difficult; it took quite a long time before I really understood the differences between quantitative and qualitative methods and stuff like that* (11ET). Just two students reported that they had good experiences understanding the methods related to their BT. The students that wrote an empirical BT found the research methods especially difficult. They discussed difficulties related to collecting and analysing their own data material, which students writing a literature review did not encounter: *I had never written an interview guide before, so I just wrote the questions I thought were relevant and had to see after the interview if I got the answers I wanted* (3ET).

Eight students stated that they had developed skills in academic writing during their education, which made the writing process of the BT a bit easier. As 7ET stated, *I'm so glad for all the previous exams we have had; it makes the process much easier now* (7ET). They reported having developed an academic language, an understanding of the composition of the thesis, and a mastery of the phases of the writing process. Nonetheless, the concept of the BT was new to all students and, to some extent, overwhelming. *I am working on all parts at the same time; it is hard to know what is most important at the time, and it is quite overwhelming* (9LR).

The students that wrote an empirical BT found it more difficult to write academically than those writing a literature review. They talked about challenges related to the format of the thesis as it had to be written as an ordinary research article in nursing. This was a new experience for them, which made them feel insecure about the examiners' expectations of the academic language, the content, and the composition: *It's quite frustrating since you kind of don't know what you are doing* (7ET).

3.3.2. Organizing the writing process

Twelve of the students stated that they used some sort of study technique, like taking notes in a book or on post-it notes, writing in the margin of the text, drawing mind maps, and writing summaries, whether analogous or digital. Many had used these techniques earlier in their education. As 6ET stated: *Some things have been vague and difficult to understand; then, I have drawn mind maps and notes before I processed them in the text* (6ET). When they talked about the techniques, they described them not only as concrete tools but also as cognitive tools to help them remember, sort ideas out, reduce stress, and gain control over the writing process. As 9LR stated: *I had sort of a breakthrough in the writing*

process when I started to use it because it was so many thoughts at the same time (9LR). A couple of the students did not use any structured study techniques at all, even though they mentioned that it could have helped them in the writing process.

Students varied in their approach to time planning. Some did not have any schedule, at any time, such as 1ET: *The days are pretty unsystematic; I don't know what to do before I start the day* (1ET). Others had written a personal schedule for the whole period or the work they had to do that day: *I am happy about my routines, I manage to keep my concentration, and I don't get distracted* (7ET). Others made plans as they progressed, often related to the supervisory sessions or the university seminars. Five students described having a schedule but not being able to keep to it. Some benefited from having a schedule, understanding their progress, and keeping concentrated, while others became stressed when they fell behind on their plan: *... just now, I'm one week behind on my schedule, and that is stressing me* (4ET).

Students often used breaks as rewards and saw them as necessary to maintain concentration and motivation during the day. They could use breaks as small goals during the day to keep their progress going. However, breaks could also take their focus away from the thesis and become a distraction, making it difficult for students to return to work: *If I am really into it, I do not take breaks because then it all stops* (3ET).

3.3.3. Personal abilities and motivation

The students' ambitions, here understood as achieving a desired grade on their thesis, were also an important motivation for learning for most of the students. Nine students were aiming for and working towards a top grade: *Of course, I aim for at least a B and, hopefully, an A* (4ET). Only a couple of students adjusted their ambitions related to their self-efficacy and strived for a middle grade or, hopefully, a bit better. Another motivation for learning was to become a competent nurse, which had been their goal for the last three years: *I want to do my best and become the best nurse I can be, and I feel that the bachelor thesis is the biggest task in this education, so I want to complete it well* (8ET).

One group of students stated they were confident about their routines, had control over the process, and were not becoming stressed: *You must trust yourself and your own knowledge, and yes, believe in yourself* (5ET). They managed to stay calm and worked with steady progress and were self-confident and positive about finishing the thesis: *I know that I will finish the thesis, so I am not really stressed* (7ET). In contrast, another group of students described a lack of self-discipline, motivation, and concentration, as well as procrastination and slow progress. Some of these students were extremely self-critical, had low self-esteem, and had dreaded the thesis for their whole education, which affected both their learning process, progress, and experience of writing. For example, 8ET stated, *I am very self-critical about my bachelor thesis, more than an ordinary exam, I am very afraid that my writing is not good enough* (8ET). Four students did not even see the meaning of the thesis as they thought they would not use any academic skills in their work as nurses and were, therefore, not motivated during the process.

3.4. A social approach to the BT writing process

3.4.1. Discussion and feedback

Almost all students expressed the idea that it was valuable to discuss their work on the BT with others. They found discussions very useful, especially the feedback provided on methods and structure, both from other students and supervisors. The most positive experience from attending the seminars was thinking out loud with the group, mirroring themselves in other students, and getting feedback about whether they were on the right path. As 14ET states: *You are set into modus and become a part of a collective mindflow that might give you a clue if you are on the right track or not* (14ET).

Supervisory sessions motivated the students to further progress and write. Some students (seven) viewed the supervision as helping them produce high-quality content for the thesis. They found the supervision

helpful for formulating a good research question related to nursing, systemizing their writing process, structuring the thesis, getting back on track, and obtaining help with their own critical thinking. For example, 1ET stated: *She (the supervisor) has been helpful to give feedback that is not very direct but makes me think myself and makes me find the answer on my own...It can be frustrating, but I think it is a good thing that I have made my own thoughts* (1ET). Students stated that it was crucial that their supervisor was available for them to progress steadily. Many supervisors were very available for students by mail and phone and for short supervision sessions and questions, also outside of normal working hours. That was important when the students were stuck in the process and needed help to move on. An important factor was having the supervision align with the students' ambitions: *I told her to be picky, because I wanted high quality, and she is!* (4ET).

Students also sought support through informal channels outside the structures of seminars and supervisory sessions. Many students chose to work with their peers. They often had something in common, such as the same project: *I am in contact with the student I collected data with; we have kind of the same theme but different research questions* (5ET). Other times, they were in the same study group, writing about the same topic, or they lived together in student homes. They helped each other with issues related to their thesis. Another important reason to keep in contact was to motivate each other, which occurred in different ways: *It helps my motivation to hear that I am not far behind the other students* (10LR). Ten of the fourteen students also discussed their outlines with family or friends who had experience in healthcare or academia: *My mum has been helpful because she has written two master's theses and knows how to start the writing process and other things* (12LR).

3.4.2. Obstacles and unmet expectations

Some students found the supervision to be too superficial and wanted the feedback to be more constructive and in-depth, not only including minor changes to words. As 8ET stated: *I do not know; it feels like she hasn't read it properly, and it was so little feedback* (8ET). Others gave examples of misunderstandings and poor communication and expectations: *There have been some misunderstandings, like when I wanted to focus on the discussion, but the supervisor only focused on other things* (12LR). Three students stated they could not make contact outside of the agreed supervision time since the supervisors stated they had limited time for each student, even if they needed help. Three students also stated their supervisory needs were not met, and they faced difficulties in digital communication: *On mail, you depend on the supervisor to understand what you write, so she answered about other things than what I asked about* (4ET).

Even if the students had positive experiences of attending the seminars, they found these time-consuming and of poor quality because they were done digitally. Each student had limited time and had to prepare to critique other students, taking time from their own work. They also found it difficult to critique a new student in each seminar. Two students dropped out of the last seminar (of three) because they wanted to spend their time more efficiently: *It has taken a lot of time that I could have used more efficiently, and I could have spent my time better* (14ET).

4. Discussion

This study aims to explore undergraduate nursing students' experiences of being in the process of writing their BT. The main findings are that the nursing students take both individual and social approaches to the process of writing on their BT. This chapter further discusses their experiences with this process and relates them to the theory of SRL.

4.1. The dualism of learning

The students describe making progress through a floating process. They organize their work individually, but they simultaneously feel dependant on others to correct or confirm their thoughts and understandings. This duality illustrates the students' individual and social

writing processes in both the forethought and performance phases of SRL (Zimmerman, 2015). Our findings show that, during the forethought phase, the students needed help with formulating a research question that could connect to their experience during the clinical placement (Wolters & Brady, 2021). They also needed help with long-term time planning and structuring their writing. Individually, they planned their time from day to day and set individual achievement goals for their BT. In the performance phase, they organized the writing using several study techniques and tried to follow their schedules. In this phase, they also monitored and evaluated their process and stated that being supervised was advantageous. Feedback from others often sent them back to the forethought phase to rearrange their strategies, time planning, or goals before they continued the writing process, which illustrates how the phases are not linear but work as a recurrent feedback loop during the progress (Wolters & Brady, 2021).

The nursing students in this study expressed the need for and positive effects of discussing both their understanding of the chosen theme and various parts of the process with their supervisors and peers. When participating in the seminars, they regulated their learning, both in the discussions by critiquing other students and by helping others with any issues they may have encountered (Alvi et al., 2016). One student described the state of being in a collective mind flow, which illustrates that, during this process, students collaboratively gain new knowledge, skills, insights, or understanding about nursing and their writing process. Being in this state positively affects their self-regulating strategies, as the new insights may modify their time planning, regulate the way they read the literature, or help them develop more strategic study techniques (Hadwin & Oshige, 2011). The majority of the students collaborated with and sought help from peers and others outside the university, showing the importance of the social context for the individual writing process (Alvi et al., 2016). A few students actively chose not to participate in the last seminar (of three) because it took too much time and energy away from their individual writing. The obligation to participate in the seminars shifted their focus away from their own learning; this decision to not attend this seminar confirms that some students prefer to manage their own personal learning initiative (Zimmerman, 2015).

The students in the current study are mostly satisfied with the feedback from the supervisor and experience it as helpful for their own progress. Other studies have also confirmed that students are satisfied about supervisor feedback (Aguayo-González et al., 2020). They are grateful for the supervision both on the nursing content and the academic writing. However, some were not satisfied. They did not find the supervision helpful, or they expressed insecurity about contacting their supervisor. To seek help, the students need both cognitive and social competency: they must know if and when to seek help, what they need help with, how to express it to others, and how they can use the feedback in a productive way (Karabenick & Gonida, 2017). Some of the students in the current study stated they had inadequate supervision, misunderstandings, and hesitated to contact their supervisor even if they needed extra help. Some studies indicate that the students that need supervision the most are often those who do not seek help (Karabenick & Gonida, 2017), while others indicate the opposite, namely that students with low self-efficacy and higher anxiety seek help the most (Mitchell et al., 2019). This study has not found any clear link between needing help the most and getting the most supervision, but it does emphasize the importance of communication between the student and the supervisor. Supervisors must also be able to identify students that need more help but are unable to ask for it.

4.2. The use of SRL strategies while writing a BT

The nursing students in this study are using the most important SRL strategies, such as time planning, goal setting, and study techniques (Zimmerman, 2015). Academic writing is a cognitively demanding task, which includes the ability to set realistic but challenging goals and

knowing how to manage one's time to meet these goals according to one's deadlines (Abadikhah et al., 2018). The majority of students in the current study planned their time and had high ambitions for their BT results in terms of grades. This finding confirms that good time management may help students reach their goals and strengthen their motivation to produce high-quality writing (Wolters & Brady, 2021). In contrast, a lack of specific goals might be a factor in poor time management as students may not know how to prioritize their work most efficiently (Abadikhah et al., 2018). Even if the students have clear goals related to their expected grades on the BT, a grade may not be a sufficient goal to ensure students make efficient time plans: a grade is a goal related to the outcome and thus may not affect the writing process. Only a few students in this study had goals related to learning outcomes or becoming well-qualified nurses. The study findings show that the students revised their plans many times (Abadikhah et al., 2018) and use many different approaches to planning their time (Treize et al., 2017).

The majority of students in the study used a meta-cognitive approach, namely the study technique, to organize their thoughts and information (Wolters & Brady, 2021) while writing their BT. The students also believed that the study techniques, which have been shown to improve the quality of writing and learning (Treize et al., 2017), were highly useful. Using different types of study techniques as a cognitive tool helped the students sort and understand the nursing content they read about. It further helped them appraise both the quality and relevance of the articles related to their nursing research question, which in turn helped them relate the theory to their clinical experience. Many of the students stated that they used the study techniques earlier in their education, confirming the importance of teaching and familiarizing students with SRL strategies, such as study techniques, during their education (Taranto & Buchanan, 2020).

Using familiar study techniques while writing one's BT is a strategy for activating previous knowledge (Wolters & Brady, 2021). A contradiction this study identified about activating previous knowledge is that students viewed their academic writing experience from earlier exams positively, stating it prepared them for the BT. However, students, especially those writing an empirical BT, also found it hard to understand the formal rules and research methods needed to write an academic article. The students also stated they faced difficulties with processing the volume of information acquired from the literature search and understanding the research methods in general. They explained that they faced difficulties because they did not feel prepared enough and did not have enough prior knowledge, making it hard to determine how much time and effort they would need to search for, read, appraise, and summarize the literature. Some researchers have argued that nursing students are not prepared enough to write an academic paper such as a BT, especially when accounting for research competence, ethical considerations, and formal rules (Johansson & Silén, 2018). However, other researchers have found that nursing students believe that writing the BT is useful and worth the difficulties associated with it (Aguayo-González et al., 2020; André et al., 2016; Grønning et al., 2022).

4.3. Implications for nursing education

The knowledge identified in this study will be important for the supervisors and educators responsible for the BT in nursing education and will influence the pedagogical and practical organization of the BT course in nursing education. The first step in helping students develop new nursing knowledge by writing a BT is to encourage them to activate previous knowledge (Wolters & Brady, 2021). Some of the students in this study stated that they based ideas for their BT on previous theoretical knowledge about nursing and related their research question to experience from clinical placement. A clear expectation that students should activate both their theoretical and practical nursing knowledge to complete the BT will make it easier for them to connect theory and practice and develop a deeper understanding of their chosen field

(André et al., 2016; Kunnskapsdepartementet, 2008; NTNU, 2019). This will also ensure students can demonstrate they understand the knowledge they have accumulated during their education (Gallart et al., 2015).

Further, universities should prepare students to make time plans for their writing and learning processes (Treize et al., 2017) and help them formulate appropriate and reachable goals. This will reduce the number of times they have to revise their time plans, help them structure their work, and reduce the stress they feel if they are unable to keep up with their time plans. The universities should also teach students to develop their organizing skills related to learning (Robb, 2016). Even though our results show that the students activated their previous knowledge of study techniques and academic writing while working with their BT, they needed to develop these skills further. This finding confirms that students need time, practice, and experience to develop efficient learning strategies (Abadikhah et al., 2018; Alvi et al., 2016).

Some students are self-confident and in control over the process, while others struggle significantly. An important implication of this finding is that teachers and supervisors need to understand each student individually and determine how to support their learning and build their self-efficacy. The supervisors must, for example, identify why students are or are not asking for help and support the students' individual learning needs. Students asking for too much help from external sources need to be given the tools to strengthen their SRL strategies and thus self-regulate their learning (Alvi et al., 2016).

This current study agrees with other studies that some nursing students find it overwhelming to have to write a BT (Henttonen et al., 2021; Lundgren & Halvarsson, 2009). Some students in the current study had dreaded the BT throughout their whole nursing education; this perspective is linked to both beliefs and attitudes in the forethought phase (Wolters & Brady, 2021). To support students' learning, universities must facilitate a learning environment that assists students with developing SRL strategies over time and prepares them for both the cognitive and practical steps of the process of writing a BT.

4.4. Methodological considerations

Due to the Covid-19 pandemic and the sudden lockdown in the spring of 2020, both the recruitment and interviews for this study had to be conducted digitally. The digital recruitment might have affected which students agreed to be interviewed and which did not. The digital interviews were a new experience for both researchers and students, but all participants thought they worked well. The students' experience with the process of writing their BT might also have been affected by the pandemic, and thus the findings may have been different if the study had been conducted at another time. Another consideration for the data analysis is that the students were in different phases of their writing process during the interviews. This is partly because the data was collected throughout a period of eight weeks, but it was also due to the differences in the students' working processes. Some were efficient and quick workers, while others had progressed slowly, were procrastinating, and struggled with the process. Thus, the findings represent a wide variety of students' experiences in different phases of the process and do not provide a uniform understanding of students' experiences in the same phase of the process. Further, small qualitative studies are not suitable for generalization or automatically transferable to other settings or groups (Bengtsson, 2016). However, teachers and supervisors of the BT might find the findings and information useful for their own situations.

A strength of this study is the 'window in real time' it offers, as the students were interviewed while they were writing their BT, and thus the study could grasp their thought processes as they were occurring and understand their environments (Zimmerman, 2015). Another strength of the study is that it relates the findings to a specific theory. Often, other studies on the BT in nursing education have not done this.

5. Conclusion

This study found that the nursing students' experiences of the process of writing the BT in nursing can be understood both through the individual context, as the process was an autonomous task, and the social context, as the process required interacting with supervisors, peers, and others. The study also shows that nursing students use a range of SRL strategies while they are writing their BT. The most used SRL strategies in this study are help-seeking, time planning, study techniques, and goal setting. SRL strategies must be understood in relation to the task, which is, in this case, the BT in nursing education. They must also be used to reach specific learning outcomes: developing nursing competence, understanding nursing science, and improving one's research methods. The SRL theory is a valuable frame to better understand the learning process when writing a BT, making it easier for the university to encourage students to develop good learning habits, both individually and in groups. Furthermore, focusing on SRL in nursing education has long-standing effects. The students learn the necessary tools to further their careers and participate in developing nursing knowledge in collaboration with others and becoming lifelong learners. Thus, it is important for universities that educate nurses to foster these tools and ensure students can have productive and long-term careers in the nursing workforce.

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

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References

- Abadikhah, S., Aliyan, Z., & Talebi, S. H. (2018). EFL students' attitudes towards self-regulated learning strategies in academic writing. *Issues in Educational Research*, 28(1), 1–17. <http://www.iier.org.au/iier28/abadikhah.pdf>.
- Aguiayo-González, M., Leyva-Moral, J. M., San Rafael, S., Fernandez, M. I., & Gómez-Ibáñez, R. (2020). Graduated nurses' experiences with baccalaureate thesis writing: A qualitative study. *Nursing & Health Sciences*, 22(3), 563–569. <https://doi.org/10.1111/nhs.12693>
- Alvi, E., Iqbal, Z., Masood, F., & Batool, T. (2016). A qualitative account of the nature and use of self-regulated learning (SRL) strategies employed by university students. *The Australian Journal of Teacher Education*, 41(8), 40–59. <https://doi.org/10.14221/ajte.2016v41n8.3>
- André, B., Aune, A. G., & Brænd, J. A. (2016). Embedding evidence-based practice among nursing undergraduates: Results from a pilot study. *Nurse Education in Practice*, 18, 30–35. <https://doi.org/10.1016/j.nepr.2016.03.004>
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8–14. <https://doi.org/10.1016/j.npls.2016.01.001>
- Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, 27, 1–13. <https://doi.org/10.1016/j.iheduc.2015.04.007>
- Chen, J. H., Björkman, A., Zou, J. H., & Engström, M. (2019). Self-regulated learning ability, metacognitive ability, and general self-efficacy in a sample of nursing students: A cross-sectional and correlational study. *Nurse Education in Practice*, 37, 15–21. <https://doi.org/10.1016/j.nepr.2019.04.014>
- Dennick, R. (2016). Constructivism: Reflections on twenty five years teaching the constructivist approach in medical education. *International Journal of Medical Education*, 7, 200–205. <https://doi.org/10.5116/ijme.5763.de11>
- Falcó-Pegueroles, A., Rodríguez-Martín, D., Ramos-Pozón, S., & Zuriguel-Pérez, E. (2021). Critical thinking in nursing clinical practice, education and research: From

- attitudes to virtue. *Nursing Philosophy*, 22(1), Article e12332. <https://doi.org/10.1111/nup.12332>
- Fernández-Cano, M. I., Arreclado Maraño, A., & Feijoo-Cid, M. (2021). The Bachelor's thesis in nursing: Characteristics and students' approach and satisfaction. *Nurse Education in Practice*, 53, 6. <https://doi.org/10.1016/j.nepr.2021.103067>
- Friberg, F., & Lyckhage, E. D. (2013). Changing essay writing in undergraduate nursing education through action research: A Swedish example. *Nursing Education Perspectives*, 34(4), 226–232. <https://doi.org/10.5480/1536-5026-34.4.226>
- Gallart, A., Bardallo, M. D., de Juan, M.A., Rodríguez, E., Fuster, P., & Monforte-Royo, C. (2015). Impact of the Bachelor's thesis on the nursing profession. *Nurse Education Today*, 35(1), 16–17. <https://doi.org/10.1016/j.nedt.2014.09.011>
- Graneheim, U. H., Lindgren, B.-M., & Lundman, B. (2017). Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Education Today*, 56, 29–34. <https://doi.org/10.1016/j.nedt.2017.06.002>
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105–112. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Grønning, K., Karlsholm, G., & André, B. (2022). Undergraduate nursing students' experiences of conducting clinical research projects in their bachelor theses – a qualitative study. *SAGE Open Nursing*, 8, 9. <https://doi.org/10.1177/23779608221094537>
- Hadwin, A., & Oshige, M. (2011). Self-Regulation, coregulation, and socially shared regulation: Exploring perspectives of social in self-regulated learning theory. *Teachers College Record*, 113(2), 240–264. <https://doi.org/10.1177/016146811111300204>
- Henttonen, A., Fossum, B., Scheja, M., Teräs, M., & Westerbotn, M. (2021). Nursing students' expectations of the process of writing a bachelor's thesis in Sweden: A qualitative study. *Nurse Education in Practice*, 54, 6. <https://doi.org/10.1016/j.nepr.2021.103095>
- Herrström, K., Larsson, S., Einberg, E. L., Nilsson, M., Blomqvist, K., & Garmy, P. (2020). Assessment of search strategies in literature-review-based candidate theses within a nursing program. *Advances in Medical Education and Practice*, 11, 71–77. <https://doi.org/10.2147/amep.S227547>
- Humar, L., & Sansoni, J. (2017). Bologna process and basic nursing education in 21 European countries. *Annali di igiene: Medicina preventiva e di comunità*, 29(6), 561–571. <https://doi.org/10.7416/ai.2017.2185>
- Jefferies, D., McNally, S., Roberts, K., Wallace, A., Stunden, A., D'Souza, S., et al. (2018). The importance of academic literacy for undergraduate nursing students and its relationship to future professional clinical practice: A systematic review. *Nurse Education Today*, 60, 84–91. <https://doi.org/10.1016/j.nedt.2017.09.020>
- Johansson, L., & Silén, M. (2018). Research methods in nursing students' Bachelor's theses in Sweden: A descriptive study. *Nurse Education Today*, 66, 187–193. <https://doi.org/10.1016/j.nedt.2018.04.006>
- Karabenick, S. A., & Gonida, E. N. (2017). Academic help seeking as a self-regulated learning strategy. Current issues, future directions. In P. A. Alexander, D. H. Schunk, & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2. ed., pp. 421–433). Routledge. <https://doi.org/10.4324/9781315697048>
- Kunnskapsdepartementet. (2008). *Forskrift til rammeplan for sykepleierutdanning*. <https://lovdata.no/dokument/SF/forskrift/2008-01-25-128>
- Lahtinen, P., Leino-Kilpi, H., & Salminen, L. (2014). Nursing education in the European higher education area — Variations in implementation. *Nurse Education Today*, 34(6), 1040–1047. <https://doi.org/10.1016/j.nedt.2013.09.011>
- Lundgren, S. M., & Halvarsson, M. (2009). Students' expectations, concerns and comprehensions when writing theses as part of their nursing education. *Nurse Education Today*, 29(5), 527–532. <https://doi.org/10.1016/j.nedt.2008.11.010>
- Lundgren, S. M., & Robertsson, B. (2013). Writing a bachelor thesis generates transferable knowledge and skills useable in nursing practice. *Nurse Education Today*, 33(11), 1406–1410. <https://doi.org/10.1016/j.nedt.2012.10.019>
- Mann, K., & MacLeod, A. (2015). Constructivism: Learning theories and approaches to research. In J. Cleland, & S. J. Durning (Eds.), *Researching medical education* (pp. 51–65). Wiley Blackwell.
- MindManager. (2019). *MindManager in (Version 20)*. Corel Corporation. <https://www.mindmanager.com/en/company/about/>
- Mitchell, K. M., Harrigan, T., Stefansson, T., & Setlack, H. (2017). Exploring self-efficacy and anxiety in first-year nursing students enrolled in a discipline-specific scholarly writing course. *Quality Advancement in Nursing Education - Avances en formación enfermiere*, 3(1), 21. <https://doi.org/10.17483/2368-6669.1084>
- Mitchell, K. M., McMillan, D. E., & Rabbani, R. (2019). An exploration of writing self-efficacy and writing self-regulatory behaviours in undergraduate writing. *The Canadian Journal for the Scholarship of Teaching and Learning*, 10(2). <https://doi.org/10.5206/cjsotl-rcacea.2019.2.8175>
- Nordsteien, A., Hornvædt, M.-E. T., & Syse, J. (2017). Use of research in undergraduate nursing students' theses: A mixed methods study. *Nurse Education Today*, 56, 23–28. <https://doi.org/10.1016/j.nedt.2017.06.001>
- NTNU. (2019). *HSYK3003 - Bacheloroppgave i sykepleie*. NTNU. Retrieved 10. mars 2019 from <https://www.ntnu.no/studier/emner/HSYK3003/2018#tab=omEmnet>
- NVivo. (2020). NVivo. in (Version released in marh 2020) QSR International Pty Ltd. <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>
- Peeters, W., Saqr, M., & Viberg, O. (2020). *Applying Learning Analytics to Map Students' Self-Regulated Learning Tactics in an Academic Writing Course* 28th International Conference on Computers in Education, Virtual conference. <https://hdl.handle.net/10067/1732320151162165141>
- Robb, M. K. (2016). Self-regulated learning. Examining the baccalaureate millennial nursing students's approach. *Nursing Education Perspectives*, 37(3), 162–164. <https://doi.org/10.5480/14-1349>
- Roca, J., Gros, S., & Canet, O. (2018). Analysis of and reflection on bachelor thesis in nursing students: A descriptive study in Spain. *Nurse Education Today*, 68, 159–164. <https://doi.org/10.1016/j.nedt.2018.06.010>
- Taranto, D., & Buchanan, M. T. (2020). Sustaining lifelong learning: A self-regulated learning (SRL) approach. *Discourse and Communication for Sustainable Education*, 11(1), 5–15. <https://doi.org/10.2478/dcse-2020-0002>
- Treize, K., de Barba, P.G., Jennens, D., Zarebski, A., Russo, R., & Kennedy, G. (2017, 4-6 December 2017). *A learning analytics view of students' use of self-regulation strategies for essay writing*. Me, Us, IT! Proceedings ASCILITE2017: 34th International Conference on Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education., Toowoomba, Queensland, Australia. <https://2017conference.ascilite.org/wp-content/uploads/2017/11/Full-TREZISE.pdf>
- Wolters, C. A., & Brady, A. C. (2021). College students' time management: a self-regulated learning perspective. *Educational Psychology Review*, 33(4), 1319–1351. <https://doi.org/10.1007/s10648-020-09519-z>
- Zimmerman, B.J. (2015). Self-Regulated Learning: Theories, Measures, and Outcomes. In J. D. Wright (Ed.), *International encyclopedia of the social & behavioral sciences* (Vol. 21, pp. 541–546). Elsevier. 10.1016/B978-0-08-097086-8.26060-1.