

Enhancing Self-Assessment and Reflection in Nursing Education: Insights from a Qualitative Study on Students' Professional Development in Clinical Practice

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Abstract

This study emphasizes the pivotal role of self-assessment in the professional development of nursing students, illustrating how educators can facilitate this process. The findings indicate that although clinical practice is essential for connecting theoretical knowledge and practical skills, the incorporation of reflective practice and structured guidance from professors and supervisors is equally important. The data comprises 30 in-depth interviews with students, professors, and supervisors. Analysis was conducted using Braun and Clarke's thematic analysis (2022). The study revealed that nursing students found self-assessment and reflection on their professional growth during clinical placements to be crucial for developing nursing skills. The results suggest that students who prepared for the mid-term assessment gained more from the assessment than their unprepared peers. Professors and supervisors often saw efficiency as a key nursing competency for students. This highlights a mismatch between supervisors' and professors' expectations and the time required for students to engage in meaningful learning processes. However, to support students in self-assessment, professors and supervisors facilitated learning by guiding them to recognize educational opportunities and activities within the clinical setting.

Keywords: self-assessment, professional growth, nursing profession, nursing students, clinical practice, qualitative research



Enhancing Self-assessment and Reflection in Nursing Education: Insights from a Qualitative Study on Students' Professional Development in Clinical Practice

Clinical practice is vital for nursing students to grasp the nursing profession and serves as a fundamental element of nursing education worldwide. According to European Union standards, a bachelor's program in nursing requires that 50% of the total study duration be dedicated to clinical placements. In the educational context, learning outcomes for a bachelor's program in nursing in Norway emphasize, among other things, the students' ability to self-assess (Regulation on National Guidelines for Nursing Education, 2019). The nursing education program plan at the university involved in this study includes assessing students' general competence in their ability to "critically reflect on personal professional development and engage in academic discussions with colleagues" (OsloMet, 2024). This focus on self-assessment and reflective practice is crucial for fostering a deeper understanding of clinical competencies and preparing students to navigate complex healthcare environments effectively.

Thus, throughout their clinical placements, nursing students are expected to engage in continuous self-assessment, allowing them to gain a deeper understanding of their nursing skills, strengths, weaknesses, and values (Manning, p. 4, 2020). This self-assessment entails evaluating their skills, knowledge, and attitude in comparison to the standards and competencies outlined in the course they follow. Engaging in self-assessment enhances students' awareness of their learning process and identifies professional development needs (Taylor et al., 2020). This reflective practice prompts students to contemplate their experiences, thereby enriching their learning and nurturing the cultivation of critical thinking skills. One essential part of self-assessment is being able to reflect, as well as pursue feedback on their thoughts, to better set a focus for future goals and professional development (Manning, 2020, p. 4). Metacognition and reflective thinking are linked. Flavell (1979) defined metacognition as a process of recognition, monitoring, feedback and adjusting factors affecting, for example, learning strategies. A study conducted in the Netherlands (de Vries et al., 2022) examined the effects of a teacher professional development program focusing on assessment for learning (AfL) for secondary math instructors in Belgium, Cyprus, Greece, and the Netherlands. The study found that students' ability to self-assess is closely linked to their capacity for metacognition.

Research indicates that advanced nursing students' self-assessment of clinical competencies can reveal areas needing further education and development (Taylor et al., 2020). However, previous studies highlight that the ability to reflect and perform self-assessment requires experience and substantial time spent in clinical practice (Taylor et al., 2020), and this ability improves annually for baccalaureate nursing students (Kajander-Unkuri et al., 2020). Additionally, studies show that students often rate their competence higher than it may be, likely due to insufficient training in self-assessment during their education (Gardulf et al., 2016; Kajander-Unkuri et al., 2016; Kajander-Unkuri et al., 2020). Panadero's (2015) review on issues related to students' self-assessment (SSA) identified five key components: SSA typologies, accuracy, the role of expertise (professors and clinical supervisors), the expectations of, and the varying effects of SSA on different students. According to Panadero (2013, 2015), the accuracy with which a student can self-assess their own work, or achievement, represents a form of validity in SSA.

Another perspective on self-assessment suggests it may be ineffective for students to demonstrate their strengths in clinical competencies (Baxter & Norman, 2011). According to Kruger & Dunning (1999), low-performing students often overestimate their clinical performance, while high-performing students do the opposite. Known as the Dunning-Kruger

effect, this bias occurs because individuals with limited expertise often lack the metacognitive ability to recognize their own incompetence. This concept underscores the significance of self-awareness and accurate self-assessment across various domains, as those lacking competence may be less likely to perceive their own limitations (Kruger & Dunning, 1999). The support and involvement of supervisors in clinical practice is crucial for fostering students' critical reflection and subsequently self-assessment, particularly during challenging periods of clinical training (Alvsvåg & Førland, 2006, p. 37). In a meta-analysis of 46 studies, Baars et al. (2020) found that for students to make accurate monitoring judgements about the association between their effort during learning and their progress, the need for instruction is essential.

A systematic review on self-assessment in surgical training revealed that time and age are crucial for more accurate self-evaluation, with factors like stress negatively impacting the ability to assess one's clinical skills (Nayar et al., 2019). A study from the Czech Republic, involving 274 final year nursing students assessing their own competence, found that the majority (80.3 %) rated their competence as good or very good. Two key factors positively influenced students' self-assessment: prior work experience in health care and positive experiences with their clinical supervisors. These factors significantly contributed to students' confidence in evaluating their own competence (Zeleníková et al., 2023).

Systematic self-reflection during the learning process can enhance patient safety and care (Ambrose & Ker, 2014; Lucas, 2023; Strandbygaard et al., 2013; Sweet et al., 2019). Pai (2015) conducted a longitudinal study in Taiwan that found six months to be vital for nursing students to improve their learning, nursing competence, and professional socialization. Based on Pai's findings, it is reasonable to assume that time is essential for students to effectively self-assess their clinical performance and professional development. However, previous research also indicates that the ability to reflect and self-assess requires experience, which varies among nursing students in undergraduate programs (Taylor et al., 2020).

When students lack clarity about their path in the learning process, it becomes challenging for them to effectively self-assess their clinical competence. For instance, nursing students often struggle to grasp which learning activities are associated with specific learning outcomes, partly due to the abstract language used in these outcomes (Finstad et al., 2022). A Norwegian quantitative study with 1500 respondents revealed that supervisors in clinical practice have limited time to familiarize themselves with student learning outcomes and to adequately supervise students (Norwegian Nursing Association, 2018). As a result, supervisors may also be unsure about the content of the learning outcomes. However, a Finnish study suggests that learning activities, such as systematic reflections and assessments, have a greater impact on guiding student learning than the descriptions of intended learning outcomes (Hailikari et al., 2022). Additional research recommendations include encouraging nursing programs to emphasize the importance of self-assessment in identifying clinical competency levels (Taylor et al., 2020). A barrier to fostering student self-assessment is the limited understanding of the metacognitive mechanism that underpins it, especially how students monitor and regulate their evaluative judgements. In the absence of this knowledge, designing effective supports to develop students' self-assessment is not yet possible (Richey et al., 2025).

Ontological and Epistemological Approach

This study is grounded in a social constructivist ontology and views reality, including self-assessment and professional development, as socially constructed and context-dependent. Ontology concerns the nature of reality, and in this study approach, self-assessment is seen as an emergent phenomenon, shaped by the interplay between individual agencies and broader social and institutional structures. Thus, this study highlights the importance of contexts, such

as clinical placements, and addresses divergent expectations—where students may need time for reflection, while supervisors often prioritize efficiency.

Aligned with this ontological foundation, the study adopts a constructivist epistemology, which explores how knowledge about self-assessment and professional development is co-constructed. Epistemology concerns how we come to know a certain reality, and in this study, knowledge is recognized as a shared, collaborative process shaped through dialogue, reflection, and experiences. This philosophical stance guided the choice of methodology, focusing on subjective experiences and co-constructed meanings through methods such as semi-structured interviews and observations.

The Rationale of the Study

A multi-database literature search specifically found a lack of studies examining the perspectives of both students, professors, and clinical supervisors, and how these educators facilitate students' ability to reflect on and evaluate their own progress. This gap underlines the need to explore how self-assessment is shaped through social interactions and institutional contexts.

Study Aim and Research Questions

This study aims to explore the experiences of students, professors, and supervisors in reflecting on, assessing, and supporting the students' learning processes and adaptation to the nursing profession during clinical practice. Specifically, the focus is on understanding how students engage in self-assessment of their professional development and how professors and supervisors facilitate this process. Based on this, the study addresses the following research questions:

1. How do students self-assess their own professional development?
2. In what ways do professors and supervisors facilitate students' ability to self-assess their professional development?

Methodology

This study is part of a larger qualitative research project with a hermeneutic approach, focusing on the assessment of nursing students during clinical practice. Rooted in a constructivist epistemology, the overall project includes data from both observations and interviews. This specific study, however, focuses on the analysis of data derived from 30 interviews.

Recruitment and Participants

It was essential to include data reflecting the experiences of nursing students, university professors, and clinical supervisors (registered nurses) to ensure that all three key stakeholders involved in students' assessment during clinical practice were represented.

Information about the study was sent to nursing professors and students at one of the largest universities in Norway, via e-mail and through an oral presentation at a faculty meeting. The professors taught in the bachelor's nursing programme at the university, representing all three years of the programme. Both male and female professors were invited to participate. It was essential that professors participating in the study were actively supervising students in clinical practice during the following months. These professors became gatekeepers to recruit nursing students as participants. Information regarding the focus of the study was presented to students in a pre-clinical setting. The study sample comprised 30 respondents:

The nursing professors included in the study consisted of two males and nine females, aged between 57 and 70 years. They worked with students in different clinical settings,

including elderly care homes, medical, surgical, psychiatric units, and home care services. The student participants included four males and eleven females, aged between 25 and 59 years, all of whom were in clinical practice within one of these settings. The students were enrolled in the first, second or third year of the bachelor's program in nursing. Additionally, six female clinical supervisors, aged 25 to 59 years, agreed to participate in the study. These supervisors were responsible for six of the 16 students who were interviewed.

Table 1

Participant Characteristics.

Who	# & Gender of Participants Interviewed	Year of program in 1 st / 2 nd / 3 rd yr	Age range
Professors	9 (7F/2M)	3/3/3	57-70
Students	15 (11F/4M)	4/3/8	20-58
Supervisors	6 6F	1/2/3	25-59
Total	30	30	20-70

Note. F-female M-male

Setting

Some of the questions in the interview guide focused on experiences with the mid-term assessment (MTA). The MTA takes place midway through the students' clinical placement, typically four to five weeks into their rotation. The three participants in the MTA are the students, the university professor, and the clinical supervisor. The assessment is centered around a form outlining the learning outcomes specific to that clinical placement, which the student completes in advance. The purpose of the MTA is to assess whether the student has reached the expected learning outcomes and to identify areas for improvement during the remainder of the placement. The interviews were conducted after the MTA, either in a private room at the university or in a clinical setting.

Data collection

Thirty in-depth interviews with students, professors and supervisors were conducted. A semi-structured interview guide was used for the interviews. The students were asked about their experiences of being assessed, including self-assessment and its role in clinical practice, their relationship with their supervisor, and their overall experiences related to being a student in clinical practice. The professors and the supervisors were asked questions regarding their experiences of supervising students in clinical practice, including assessing students' clinical practice and their role in facilitating students' self-assessment. The interviews had a median duration of 45 minutes.

The interview guide was not derived from a specific theoretical framework; rather, it was developed collaboratively by the three researchers in conjunction with the broader research group. A pilot test was conducted to evaluate the clarity and relevance of the questions, and the guide was subsequently refined based on the pilot findings.

Table 2*Examples of Questions from the Final Interview Guide.*

Examples of Questions from the Interview Guide	
To Student/s	Can you tell a little about the expectations you had for the mid-term assessment?
To Student/s	Can you tell how you prepared for the midterm assessment?
To Student/s	Did you get help from a clinical supervisor during practice or a professor from university (to prepare ahead of mid-term assessment)
To Student/s	Who spoke during the evaluation? Is there anyone you think should have spoken more/less
To professor/s and Clinical Supervisor/s	Can you describe a typical assessment situation, how it takes place?
To Professor/s and Clinical Supervisor/s	What do you do beforehand (Mid-term assessment), any follow-up work, the contact you have with both the student and the Clinical supervisor/professor during practice?

Ethical Considerations

In August 2017, the Norwegian Centre for Research Data (now SIKT) approved the project (case number 54821). Permission to conduct interviews was also obtained from the programme coordinators for years 1-3 of the University's Bachelor of Nursing programme, as well as from the department head. In addition, the directors and departmental managers of the participating healthcare institutions and units approved to conduct interviews. The purpose and specific objectives of the study were clearly communicated, both verbally and in writing, to all participating students, professors, and clinical supervisors. The researcher emphasized that participation was voluntary and that they could withdraw at any time without negative consequences. Written informed consent was obtained from all participants. All data were securely stored on an encrypted memory stick, which was kept in a locked drawer in accordance with a risk and vulnerability analysis.

Analysis

The six-step thematic analysis method developed by Braun and Clarke (2006/2022) was used to analyze the data. As the interviews were transcribed, the initial reading of the material took place. During the transcription process, comments and preliminary codes were created, with a specific focus on self-assessment and facilitators for self-assessment. All data were uploaded into NVIVO, a qualitative analysis software, to assist in organizing the text.

During the second reading, the data were manually reviewed line by line, and significant text snippets related to various aspects of nursing students' self-assessment in clinical practice were coded in NVIVO. In the initial phase of analysis, an inductive approach was employed, allowing themes to emerge directly from the data. In the second phase, noteworthy excerpts were organized into new codes, with particular attention to themes surrounding self-assessment and its facilitation. During the third reading, the codes were further condensed and refined, aligning them with the research questions. This phase involved an iterative process of moving

back and forth between excerpts, initial codes, and the development of more focused, condensed codes.

During the analysis process, themes related to students' reflections and self-assessment of their clinical competencies were identified and coded. Additionally, themes concerning how professors and supervisors facilitated students' understanding of clinical competencies were also coded. Through further rounds of theme condensation, three overarching themes emerged, guided by the research question. These themes were: i) Students' self-assessment and reflection on their professional development, ii) Preparedness, and iii) The role of professors and supervisors in facilitating students' self-assessment. All three authors of this article reached a consensus on the final themes as requested by Braun and Clarke (2022).

The following section will elaborate on the findings. Quotations will be cited using codes to identify the participants: students will be labelled as ST1, ST2, professors as P1, P2 and clinical supervisors as CS1, CS2.

Findings

Students' Self-assessment of Professional Development

While students reflected on their professional development within the nursing profession, they provided various examples of how they had integrated and applied their theoretical knowledge. These examples ranged from communication and interaction skills to specific procedures like measuring blood pressure. As they shared their reflections, they appeared surprised at their ability to manage different skills learned in school and apply this knowledge in clinical practice. To illustrate this ongoing reflection, a first-year student stated during an interview:

“Everything from heart rate and blood pressure to respiration. We have practiced a lot of the concepts we went through in school here (in clinical practice), and I feel like I have excellent control over them” (ST1). The student's expression of having “excellent control” over these skills serves as a form of self-assessment, highlighting their professional growth in clinical competencies. Another example is the application of communication to clinical abilities, as described by one student: “But now that you see the many perspectives of communication, how to act around someone who has dementia, and requires more time [...] it has become apparent” (ST2).

These findings indicate that clinical practice provided students with valuable insights into the nursing profession and various approaches to patient care, although these were not always apparent in the initial weeks. This was particularly noted in psychiatric units due to the lack of concrete tasks. Initially, the students viewed supervisors and co-workers as merely sitting with residents in the living room. However, they gradually realized that these professionals were actively employing clinical observations, knowledge, and interaction skills, even when they appeared to be ‘sitting still.’ This understanding was exemplified by a second-year student during an interview:

“You feel like you're just sitting around doing nothing, so it took me a while to grasp what they're actually doing here [...]. Simply watching how a resident seems today and then discussing it. Then I reflected, ‘Oh yes, they have noticed, sure, right.’ ... there is a lot more (of nursing skills/clinical competencies) than you might imagine” (ST3).

Thus, being able to understand the rationale behind activities, such as why and how to interact with patients, or how to communicate with patients in settings like a psychiatric ward or with individuals with dementia, was described as essential to be able to reflect on relevant personal skills. As one student stated:

“There is now greater clarity regarding communication theories, including guidance on appropriate interaction with individuals with dementia who may require additional time” (ST4).

In other words, understanding the reasoning behind patient interaction and communication, particularly in complex settings like dementia care, was seen as crucial for fostering self-reflection and personal skill development.

Preparedness for the MTA

Students who familiarized themselves with the assessment form and were prepared in advance of the MTA demonstrated a stronger understanding of self-assessment. In terms of preparations for the mid-term evaluation, where students are expected to perform a self-assessment of their professional development, there was considerable variation in their preparatory activities and overall readiness. The findings revealed a spectrum from students who were thoroughly prepared to those who were inadequately prepared for the mid-term evaluation. Illustrating the lack of preparation, a first-year student commented during an interview:

“I wasn't prepared at all... I just showed up” (ST5).

A student shared a similar perspective on not being adequately prepared: “I hadn't spoken with my clinical supervisor about the mid-term assessment because I thought she could simply show up to the assessment and observe how it unfolded. [...]. I approached the mid-term evaluation with an open mind and few expectations” (ST6).

Conversely, some students reported being well-prepared, as exemplified by one student's statement:

“I had generally noted every single learning outcome and what I had done in relation to it, along with the theoretical aspects” (ST2).

This approach could help students connect learning situations and activities to the learning outcomes in the ward, enabling them to better self-assess whether they have achieved the expected outcomes.

Another student highlighted the use of theoretical knowledge as a method of preparation for the mid-term evaluation, expressed during an interview:

“I had read extensively” (textbooks related to the curriculum) (ST7). The student emphasized the value of reading to be prepared, and thus also being able to respond to the learning outcomes with a deeper and contextual understanding. Other students prepared for the mid-term evaluation by engaging in discussions about their learning experiences with their clinical supervisor. One student shared how she prepared for her self-assessment to be demonstrated during the midterm evaluation: “Before the mid-term evaluation, the supervisor and I discussed my views regarding my experiences with the others, and when I was working independently, how it went, and my thoughts on it” (ST8).

Students were self-assessing their perceived performance in relation to specific assessment criteria, as addressed by another student:

“I summarized my perceived performance against the criteria established beforehand. I felt confident about meeting these criteria and maintaining control, which was subsequently confirmed as satisfactory” (ST9).

Some students considered how they might have been better prepared for the mid-term assessment, which would assist in evaluating their professional development. One student identified a potential area for improvement:

“Perhaps I should have read more or engaged in further discussions with my nursing supervisor” (ST10).

Another student shared her thoughts while considering possible improvements:

“I could perhaps have been even more explicit about the nursing concepts (in the learning outcomes), as those concepts eventually encompassed quite a lot” (ST11).

This statement reflects a student’s realization about the complexity and breadth of nursing concepts embedded within the learning outcomes. It illustrates the student’s awareness of the challenges in mastering comprehensive nursing concepts and her commitment to enhancing her professional development.

To summarize, students’ preparedness for the mid-term assessment (MTA) varied widely, ranging from thoroughly prepared to inadequately prepared. Those who reviewed the assessment form and prepared in advance demonstrated stronger self-assessment skills. Effective preparation strategies included mapping clinical experiences to learning outcomes, extensive reading of relevant theory, discussing progress with clinical supervisors, and summarizing performance against predefined criteria. Some students arrived unprepared, expecting to ‘see how it unfolds,’ while others later identified gaps, such as needing more reading, discussion, or clearer articulation of nursing concepts. Overall, readiness enhanced the quality of self-assessment and facilitated a deeper, more contextual understanding of learning outcomes.

Professors and Supervisors’ Role in Facilitating Students’ Self-assessment

Some professors and supervisors believed that encouraging students’ independence would enhance their ability to connect learning outcomes with related clinical tasks, thereby facilitating self-assessment. To cultivate this independence, students needed opportunities to experience, reflect, and understand the connection between theoretical knowledge and clinical practice. Professors saw it as their duty to assist students in applying theoretical knowledge to clinical tasks pertinent to the ward, guiding them in interpreting their knowledge during patient interactions and enhancing professional development. One supervisor said during an interview:

“It was quite productive because when the teacher bases the evaluation on the student rather than a set of standardized questions, I think it is more beneficial for the students in terms of what they should focus on moving forward” (CS1).

Several supervisors highlighted the role of language as a key element in bridging the gap between theoretical knowledge and practical application, offering a clear connection. To ensure coherence for students, supervisors stressed the importance of using everyday language, particularly for those whose first language was not Norwegian. A supervisor emphasized this during an interview:

“Maybe we just have to use ordinary words” (CS2), referring to the general language in the learning outcomes, and how a practical language could be more suitable for clinical activities.

One supervisor gave a concrete example during an interview:

“Students knew a lot about it (aesthetics), but they were not familiar with the word. Before understanding the content of the word aesthetics (through teacher and

supervisors' explanation), they were completely paralyzed and didn't dare mention it" (CS3).

This example illustrates how the supervisor and teacher facilitated students' self-assessment of clinical competencies by providing practical examples of words like aesthetics in clinical practice. Supervisors also acknowledged the difficulty of translating theoretical concepts into practical activities, drawing from their own experiences as students. One supervisor highlighted this challenge during an interview:

"I understand as a student, and I remember well as a student myself that...just decoding the concepts in the assessment form is a process" (CS4).

The supervisor reflected on her prior experiences as a student, including how to navigate the assessment form, informing her understanding of the challenges students encounter when completing it. Professors reported that clinical supervisors often described students as 'intelligent,' 'skilled,' and 'fitting in well' when evaluating their professional development during the MTA. Although professors understood the intended context of these remarks—typically referring to effective communication with patients and colleagues—they regarded such characterizations as insufficiently specific to support students' self-assessment and achievement of learning outcomes. Interview data indicated that professors facilitated greater precision by encouraging supervisors to specify behaviours, provide concrete examples, and reference criteria when evaluations were vague. Professors interpreted general remarks about students' performances such as 'so effective,' 'it goes so smoothly,' and 'the student is so bright'—as reflections of the students' ability to assess their own skills. As one professor explained:

"I have to challenge the supervisor, (and ask) 'what does that mean?'" (P1).

An alternative approach for professors in facilitating students' self-assessment of their professional development was through engaging in a dialogue with the student during the mid-term assessment. This was highlighted by a student in an interview:

"There weren't many concrete questions; instead, it felt like a conversation around topics so he could assess whether I had gained anything and learned from the situations I had encountered" (S12).

This quote underscores the importance of time and flexibility in the learning and assessment process. Rather than adhering to a rigid format with specific questions, the supervisor opted for a more conversational approach. This flexibility allows for a deeper exploration of the students' experiences and understanding, fostering a more comprehensive assessment of their personal development.

Providing time during mid-term assessments for students to reflect and self-assess their professional development was therefore described as essential. The quote below reflects a student's perception of the balance of contributions between themselves and the teacher during the assessment. By expressing this interaction in percentages, the student indicates that they feel they are taking a slightly larger role in their assessment:

"If I were to express it in percentages, I would estimate that it was 60-40, with me contributing 60% and the teacher contributing 40%" (ST13).

The interviews also show the need for structured support and clearly defined expectations to facilitate meaningful self-assessment and active engagement in clinical practice. By setting clear expectations and providing consistent feedback, teachers and supervisors seem to be better able to make students take their clinical placements seriously and engage deeply in their learning process, ultimately fostering the development of skilled and

reflective practitioners. However, such conditions were not always present. Some students emphasized how the lack of expectations from the teacher and/or supervisor prevented students from entering a critical self-assessment process, as exemplified by a student in the quote below:

“I suppose I would have taken this clinical placement much more seriously (with higher expectations). Unfortunately, I haven’t managed to take it very seriously” (ST14).

Similarly, another student emphasized how the lack of expectations of theoretical knowledge was something that did not encourage active preparedness:

“We asked whether there was anything we needed to read before the mid-term evaluation, and he said, ‘No, no, we won’t be discussing anything like that’” (ST15).

Overall, these quotes highlight the importance of setting expectations that encourage students to engage with both the theoretical and practical aspects of their education. By offering clear guidance and emphasizing the relevance of theoretical knowledge, educators can support students in becoming more active and prepared participants in their clinical learning experiences, while also facilitating the assessment of their professional development.

Discussion

This study explores nursing students’ self-assessment of their professional development, from the perspectives of both students, professors, and clinical supervisors. Further, the study also explores how these educators facilitate students’ ability to self-assess their progress. As Baars et al. (2020) and de Vries et al. (2022) underline, the students’ ability to self-assess depends on their capacity for metacognition. When students are well-prepared, they are better able to engage in metacognitive activities such as planning, self-monitoring, and reflecting on their clinical performance (Baars et al., 2020; de Vries et al., 2022). One dimension of self-assessment was related to preparedness. Our findings show that preparation for mid-term evaluations revealed a wide range of readiness among students, with some feeling thoroughly prepared and others being inadequately prepared. Well-prepared students reported a deeper understanding of learning outcomes during mid-term assessment. Conversely, a lack of preparedness can hinder metacognitive thinking, leaving students feeling unsupported and stressed. Accordingly, fostering preparedness through clear guidance, time for reflection, and structured assessment tools is essential in helping nursing students develop both their practical skills and their metacognitive abilities.

In general, the findings highlight the importance of nursing students’ self-assessment in the process of developing their nursing skills. The findings also underscore the vital role of clinical practice in bridging theoretical knowledge with practical skills. The importance of integrating theoretical knowledge with practical application was underscored, and students recognized the need for clear expectations and structured support from professors and supervisors to facilitate meaningful self-assessment.

Students were pleasantly surprised by their ability to apply communication skills and clinical procedures in real-world settings. Through reflective practice, they gained deeper insights into their growing proficiency and understanding of various nursing competencies. This reflection not only reinforced their theoretical knowledge but also highlighted their progression in effectively bridging theoretical knowledge with practical patient care. Our findings are in accordance with Manning (2020), who underscored the importance of reflection during clinical practice and how self-assessment plays an important role in identifying strengths and areas for improvement, ensuring continuous learning, thus contributing to continuous professional development and secure patient care. Further, continuous self-assessment enhances personal accountability and ownership of decisions made in clinical practice.

Our study also highlighted challenges, such as the lack of clear expectations from educators, which hindered students' ability to critically assess their progress. By setting expectations and providing consistent feedback, educators can encourage students to engage with both theoretical and practical aspects of their education, ultimately fostering skilled and reflective practitioners. It is, however, important to note that some students were capable of ensuring their progress, without any expectations from their professors in assessment situations, such as mid-term assessment, underlining the importance of taking responsibility for their own professional development. As our findings indicated, another study demonstrated that increased competence and experience in the skill or knowledge being evaluated is a significant factor in enhancing the accuracy of self-assessment (Panadero et al., 2015).

According to Kruger & Dunning (1999), those who are low-performing students tend to overestimate their clinical performance, whereas high-performing students tend to underestimate it. This phenomenon, known as the Dunning-Kruger effect, arises because those with limited expertise often lack the metacognitive ability to recognize their own shortcomings. However, our findings do not provide a clear link between students' performance levels and their capacity to accurately evaluate themselves against the learning outcomes. Instead, the issue seems to revolve around preparedness, thus responsibility, and the extent to which supervisors and professors facilitated the students' professional development.

Thus, students should be provided with genuine opportunities to prepare, develop, and practice their self-assessment skills (Kajander-Unkuri et al., 2020). According to Taylor et al. (2020), the capacity for reflection and self-assessment necessitates experience, which includes significant time engaged in clinical practice. This ability is observed to enhance annually among nursing bachelor students (Kajander-Unkuri et al., 2020). This is in accordance with the findings in our study, where time was seen as essential to be able to reflect and thus gain a deeper understanding of the different nursing tasks and related skills.

However, the students' need for time often conflicts with supervisors' expectations for efficiency in tasks such as patient communication or morning care, where efficacy is considered a key nursing skill. This discrepancy between supervisors' and professors' expectations and the students' learning needs may potentially create a gap between learning and performing concrete nursing tasks. According to Taylor et al. (2020), there is a necessity for a transitional space between learning and working. To integrate the student into this transitional space, the supervisor plays a crucial role by assisting students in reflecting and critically evaluating their own or their co-workers' clinical performances. Furthermore, engaging in self-assessment also helps the students to identify their professional development needs. Our findings show that professors and supervisors play a crucial role in facilitating students' self-assessment by encouraging independence and providing opportunities to connect theory with practice. Engaging students in dialogue during assessments further promoted a deeper exploration of experiences and personal development. However, supervisors often used vague expressions such as 'so effective,' 'it goes so smoothly,' 'the student is so bright,' or 'slides right into the environment' when assessing students. These ambiguous phrases made it difficult for students to critically evaluate their professional development or measure their performance against specific learning outcomes.

These findings align with a study by Zeleniková et al. (2023), which highlights the critical role of supervision during clinical practise as a key factor influencing students' ability to evaluate their own competencies. Similarly, other studies suggest that a contributing factor to challenges in self-assessment may be the lack of systematic integration of self-assessment practices within the formal education system (Gardulf et al., 2016; Kajander-Unkuri et al., 2016; Kajander-Unkuri et al., 2020).

These challenges in self-assessment, compounded by the use of vague feedback, highlight the critical role of professors and supervisors in creating a supportive learning environment. One key finding in this study is that when professors and supervisors fail to recognize the importance of time and reflection, students may feel unsupported in their learning journey, potentially prolonging their development due to a lack of guidance and feedback on their clinical performance. Research indicates that stress adversely affects learning (Nayar et al., 2019). Consequently, pressuring students to prioritize efficiency over reflection can hinder learning, causing additional stress as they strive to meet supervisors' expectations. Providing students with adequate time for reflection to self-assess their clinical competence not only strengthens their professional development but also enhances patient safety and quality of care (Ambrose & Ker, 2014; Strandbygaard et al., 2013; Sweet et al., 2019).

Conclusion

In conclusion, this study underscores the critical role of self-assessment in nursing students' professional development, highlighting how educators can facilitate this process. The findings reveal that while clinical practice is indispensable for bridging theoretical knowledge with practical skills, the integration of reflective practice and structured support from professors and supervisors is equally vital. Students' abilities to apply communication skills and clinical procedures in real-world settings were enhanced through reflection, reinforcing their theoretical knowledge, and advancing their practical proficiency.

However, the study identifies challenges such as inconsistent expectations from educators, which can impede students' ability to critically assess their progress. Educators need to establish clear expectations and provide consistent feedback to promote effective self-assessment. The variance in student preparedness for mid-term evaluations further illustrates the need for genuine opportunities to develop self-assessment skills. The research also explores the Dunning-Kruger effect, where less experienced students may overestimate their abilities, while high-performing students might underestimate theirs. Despite this, no definitive link was found between performance levels and self-assessment accuracy, suggesting that the focus should be on preparedness and the role of educators in facilitating professional growth. Insufficient preparation may impede metacognitive processes, leading students to perceive inadequate support and heightened stress.

Overall, this study advocates for a more structured approach to self-assessment within nursing education, emphasizing the critical role of educators in bridging the gap between theoretical learning and practical application, as well as facilitating meaningful reflections on clinical experiences.

Implications

This study highlights the importance of structured self-assessment processes in nursing education to facilitate the development of clinical competencies. Educators should prioritize creating clear expectations and providing consistent feedback to help students effectively integrate theoretical knowledge with practical application. By incorporating regular opportunities for reflection and dialogue, both in the classroom and clinical settings, educators can enhance students' ability to critically assess their progress. This approach not only aids in bridging the gap between theoretical learning and practical application but also supports students in identifying their professional development needs. Furthermore, balancing the demand for efficiency with the need for reflective practice can mitigate stress and improve learning outcomes, ultimately leading to better patient care. Supervisors should recognize the importance of transitional spaces for learning and working, where students can critically

evaluate their clinical performance, thereby fostering skilled, reflective practitioners who are well-prepared for the complexities of patient care.

Limitations and Suggestions for Future Research

Limitation

This study primarily relies on qualitative data from one educational institution in Norway, which may limit the transferability of the findings across different educational contexts and institutions. Additionally, the study focuses on self-assessment processes within a specific cultural and educational framework, potentially overlooking variations in practices and expectations in other regions. The sample size and the diversity of participants may also affect the breadth of insights, as they may not fully capture the range of experiences encountered by nursing students globally. On the other hand, self-assessment is a significant topic in many professions, and the findings may therefore be beneficial for other educational programs.

Future Research

Further research should explore the impact of structured self-assessment processes on long-term clinical competence and professional development across diverse educational settings. Quantitative studies could provide a broader understanding of how different self-assessment approaches affect learning outcomes and patient care. Additionally, examining the role of technology and digital tools in facilitating self-assessment and reflection could offer innovative strategies for enhancing educational practices. Research should also investigate the perspectives of educators and supervisors on the challenges and benefits of integrating self-assessment into nursing curricula, providing insights into effective implementation strategies across various contexts.

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