

# Nursing students' and preceptors' experiences with a structure for feedback and reflection in supervision and learning in clinical practice – a pilot study with a qualitative exploratory and descriptive design.

Hilde Syvertsen Plathe (✉ [hilde.plathe@usn.no](mailto:hilde.plathe@usn.no))

Universitetet i Sorost-Norge - Campus Drammen

**Elisabeth Solheim**

Faculty of Health and Social Sciences, University of South East Norway, Grønland 58,3045 Drammen, Norway

**Hilde Eide**

Faculty of Health and Social Sciences, University of South-Eastern Norway, Grønland 58, 3045 Drammen, Norway

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## Research article

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# Abstract

**Background:** There is a need to improve students' learning in clinical practice. Undergraduate students may need help transferring knowledge from reflection and feedback in simulation to clinical practice in community health service. Students and preceptors may need to improve feedback and reflection in supervising.

**Method.** The study was a pilot with a qualitative exploratory descriptive research design. Its aim was to explore students' and preceptors' experiences with a structured tool for reflection and feedback during supervision of clinical skills in practice. Four students in their first year of a bachelor's programme in nursing and four preceptors participated. Data were collected from eight clinical skills performances, audiotaped debriefings, and open-ended questionnaires. Data were analysed by content analysis.

**Result:** The data revealed that participants experienced four categories: "open and honest in debriefing," "reflections on personal learning," "reflection on the situation," and "feedback." Participants' experiences supported structure in feedback and reflection. Participants' experiences of common meaning of concepts supported structure in feedback and reflection.

**Conclusions :** The students and preceptors experienced the clinical tool as an effective supplement to the supervision and learning of clinical skills.

## Background

Nursing is a practice-based discipline, and placement in practice is a vital part of nursing education in bachelor's programmes. In Norway, fifty percent of the nursing programme is clinical, in accordance with European Union requirements.<sup>1</sup> However, graduated nurses show a lack of expertise in clinical skills.<sup>2</sup> Benner et al.<sup>3</sup> argue that major changes in the nursing programme are needed to enable nursing students to provide the specialist healthcare of the future, namely person-centred and evidence-based practice. Patients have complex disorders and challenges that may pose difficulties for novices learning to think like a nurse.<sup>4,5</sup> Students need support, as well as practical training, to become "fit for practice" and transfer learning from the classroom to their practice as nurses.<sup>6,7</sup>

*Transfer of knowledge between different contexts of learning*

The nursing students' learning environment during the bachelor's study programme consists of classrooms, skills centres, where they receive training, and clinical settings. Clinical practice (workplace learning) is both formal and informal.<sup>8</sup> It comprises codified knowledge, skills needed for competence, knowledge resources, understanding, and decision-making.<sup>9</sup> However, workplace learning seldom occurs in isolation. In a sociocultural learning perspective, learning takes place in a fundamentally social context. Knowledge shared between participants through active interaction and collaboration in authentic contexts for learning is called situated learning<sup>10</sup>. The broad trends of workplace learning focus on individual, social, and situated learning.<sup>11</sup> Feedback is most effective in the context of shared a working relationship that includes enhanced learning alongside others, such as in a preceptor culture of mutual support and learning, where learning is discussed in relation to performance.<sup>9</sup> Hattie<sup>12</sup> claims that feedback is the most effective learning strategy to make learning visible to students.

An important issue in pedagogy is whether academic knowledge can transfer to practical work tasks. Transfer of knowledge is "the learning process involved when a person learns to use previously acquired knowledge, skills, competence and expertise in a new situation."<sup>8(p10)</sup> There might be a gap between theoretical and practical knowledge. Nursing students are engaged in different contexts where they have to bring knowledge and skills from one context to another, a process of transformation rather than application.<sup>13</sup> Students need to learn how to transfer knowledge from one setting to another, and there must be a connection between the university and the workplace to help them envision alternative uses of knowledge. Boundary objects may be a solution to this challenge.

A boundary object can be defined as "the potentially shared or jointly constructed object" between two activity systems.<sup>14(p136)</sup> This may make the knowledge gap between two individuals or different contexts visible and support collaboration for communication, translation, and standardisation of meaning.<sup>15,16</sup> To support the supervisory relationship between preceptor and student in clinical skills, the authors of this article designed a new

reflection and feedback tool called Competence Development of Practical Procedures (COPP). This is a generic and holistic tool applicable as a support for teaching many clinical skills and specifies expected learning outcomes.<sup>17</sup> The tool is intended to support reflection and systematic feedback. COPP was inspired by and developed from the Model of Practical Skill Performance,<sup>18</sup> person-centred practice in nursing,<sup>19</sup> guidelines, and clinic-based knowledge. Table 1 provides an overview of the tool.

*The content of Competence Development of Practical Procedures (COPP)*

Insert table 1 here
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COPP includes three columns to tick “Excellent,” “Partially completed,” or “Missing” and a fourth column for writing additional comments.

*Supervision*

Supervision in clinical practice has traditionally involved registered nurses acting as preceptors to guide student nurses, mediating knowledge and skills.<sup>24</sup> Supervision is essential to ensure that nursing students can provide safe and competent care before they graduate. Vygotsky emphasises language and communication as important tools for thinking, problem solving, learning, and development.<sup>25</sup> A preceptor has more experience and can help less experienced students to reach their learning potential and achieve learning outcomes in clinical practice in what is termed the student’s proximal zone of learning.<sup>25</sup> Clinical supervision aims to assist students in applying the theory of nursing in real-life situations and integrating theoretical knowledge and clinical skills.<sup>26</sup>

Effective learning in clinical practice requires that students have a broad experience base and an opportunity to reflect on and analyse situations in which they are involved.<sup>27</sup> Action and reflection are closely linked elements. Reflecting on action means thinking about what one does while doing it. Systematic reflection after the action, in the form of

debriefing, will increase learning and further develop competence.<sup>28</sup> Without systematic reflection, learning will occur, but it will be random and may be deficient.<sup>29</sup>

### *Clinical reasoning*

Before, during, and after clinical skills training, students and nurses must conduct a number of clinical assessments based on a process of clinical reasoning. Studies shows that nurses are engaged in up to fifty significant instances of clinical reasoning in one eight-hour shift in a medical admissions unit.<sup>30</sup> Clinical reasoning is the way clinicians think about the problems they deal with in clinical practice, and it is an essential component of competence.<sup>31</sup> Novices and expert nurses often have different cognitive thinking strategies.<sup>32</sup> Novices require more time and training to reach a higher level of clinical reasoning. The top three reasons for adverse patient outcomes are failure to properly diagnose, failure to institute appropriate treatment, and inappropriate management of complications.<sup>32</sup>

Clinical skills are complex, requiring technical aspects, theoretical and practical knowledge, caring intention attuned to both patient and environment, and ethical consideration.<sup>18</sup> Although students evaluated a tool for reflection and feedback in excellent high fidelity practice<sup>17</sup>, we cannot assume that students are competent to transfer this knowledge from the skill centre into clinical practice.

## **Methods**

### *Aim*

The aim of this study was to explore students' and preceptors' experiences with COPP as a support tool for feedback and reflection in the supervision of clinical skills in practice.

## *Design*

This is a pilot study conducted to select a design for a larger study in the future. We used a qualitative approach with an exploratory and descriptive design. Qualitative design is suitable for this study because it focusses on aspects of meaning and the experiences of selected participants, and the purpose is to develop multiple perspectives enabling a larger picture to emerge.<sup>33</sup> Exploratory design is appropriate when little is known about the phenomenon under study.<sup>33</sup> Descriptive design aimed to describe characteristics of the phenomenon and provide the reader with a picture of the situation as it naturally happens.<sup>33</sup>

## *Participants and context*

Fifteen nursing students and his/her preceptors invited in the study. Four nursing students and four preceptors volunteered to participate in the study in Autumn 2017 during clinical practice. As preceptors, nurses are responsible for assessing students in cooperation with a professional teacher from the university. During daily work, a nurse assistant may supervise the students. Nurse assistants in Norway are qualified with a degree from upper secondary school. As shown in table 2, two preceptors were nurse assistants in nursing homes, and both had long professional experience. Both nurses in homecare nursing had completed the university's five-hour educational course in supervision. In addition, one nurse had recently begun further training in supervision (30 ECTS Credits).

<i>Insert Table 2 here</i>
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## *Procedures and data collection*

Students and preceptors used the tool to support reflection and feedback after clinical skills training. Each student performed two clinical skills. The first, chosen by the researchers, involved students caring for a patient that needed "personal hygiene" assistance. The

second, chosen by the student, consisted of either measuring blood sugar (two) or performing subcutaneous injections (two).

*Insert Figure 1 here*

Figure 1 gives an overview of supervision for one clinical skill. Reflection before action using COPP, helped the students and preceptors to make a plan and use common language. While the student performed one clinical skill, the preceptor used the tool for observation and assessment, evaluating students on concepts by ticking the appropriate box and adding comments when applicable. Shortly after performing the skill, the students assessed themselves using the COPP tool. This data collected at this stage consisted of sixteen completed tools, eight from the students and eight from the preceptors. Each student then met with his or her preceptor for a debriefing using the completed COPP tool, and the meeting was audiotaped. The students operated the audio recorder. An audio recording contains nonverbal and verbal elements along with communication cues, omitting visual nonverbal cues.<sup>33</sup> After supervision, each student and preceptor answered eight short open-ended questions (Appendix 1). Open-ended questions allow participants to answer freely and spontaneously.<sup>33</sup> They were thus used to gain a deeper understanding of each student's and preceptor's experience of COPP following debriefing.

### *Analysis*

Data were systematised, categorised, and analysed by qualitative content analysis inspired by

Graneheim and Lundman.<sup>34</sup> Qualitative text analysis emphasizes the linguistic, inductive, or text-driven search for patterns. The subtext interpretation or "red thread" latent in the

material was also included in the analysis. All the collected data from eight performed clinical skills was used for the qualitative content analysis.

The first author of this study transcribed this data word for word from eight audiotaped debriefings. The audio recordings were between six and sixteen minutes long, resulting in twenty-four transcribed pages.

### *Analysis in four steps*

*First step:* The first author listened to the audio recordings several times, systematically read the transcribed text, and completed tools for each debriefing. Having gained a comprehensive impression of the data, researchers discussed the material and then identified “meaning units.” This step consisted of naive reading and was inductive with a low degree of interpretation at the textual level.<sup>34</sup>

*Second step: Recontextualisation.* “Meaning units” were further condensed and coded to organise the material, meaning units were derived through an inductive process and understood in relation to context. Codes are coded data that seem to cluster as a result of condensing in first step.<sup>34</sup> Different codes were compared to the surrounding text and the transcribed text in its entirety was read in relation to the study aim. Interpretation consisted of moving between the whole and the part in what is known as the hermeneutic circle.<sup>35</sup>

*Third step: Forming categories.* Codes were abstracted into broader categories. A category is an abstraction of condensed text that is interpreted in light of learning, one’s own experience, and the researcher’s comprehension, shaping an overall understanding and interpretation of the material. A comparison of the codes identified similarities and differences that were consolidated into categories and subcategories while at the same time opening for a latent and interpretive level of analysis, the so-called red thread in the material.<sup>34</sup>

*Fourth step: Choosing sub-categories.* The data were further analysed, and codes from all participants were compared. New dimensions emerged, and new subcategories were created. Through this extensive analytical work involving reflection on the meaning of participants stories, we identified four main categories. Table 3 shows an example of an analysis sequence.

Insert Table 3 here
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### *Open-ended questions*

The answers of each of the students and each of the preceptors to open-ended questions evaluating their use of COPP after debriefing were transcribed. The answers were then systematized for all students and all preceptors in an attempt to identify variations.<sup>33</sup>

### *Research ethics*

The researchers orally informed department administrators before the students' clinical practice. The follow-up debriefing with students and preceptors took place after contact with patients and in a suitable room. The participants were informed of the study design; they provided written consent and were free to withdraw at any time. Participation had no effect on the student's practice course. The Head of Faculty of Health and Social Sciences at the University of South-Eastern Norway gave permission for the study. The study can be classified as an educational evaluation: no patients were involved, and therefore no ethics committee approval was required. The Norwegian Social Science Data Service approved this study February 2017 (53190). Notes and audio files were scanned immediately and stored securely, and the data were deidentified.

## **Results**

The data revealed four main categories: “open and honest debriefing,” “reflection on personal learning,” “reflection on situation,” and “feedback.”, Table 4.

Insert table 4 here
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The participants’ own expressions are highlighted in the following text, with reference to the numbers and letters from Table 2. A summary of the open-ended questions follows the presentation of the results.

The first clinical skill related to “Personal hygiene” for all students, involved students caring for patients in bed, sitting by the sink, or taking a shower. The second clinical skill involved students caring for patients, either by measuring blood sugar (two) or performing subcutaneous injections (two).

### Open and honest debriefing

This category is based on debriefing between students and preceptors conducted in an atmosphere of respect, acceptance, and encouragement. The preceptors’ tone of voice remained calm when they insisted on change. The students responded with words, but also with silence. Silence was sometimes followed by a shared giggle, which seemed positive for both.

The students and the preceptors were open and honest during debriefing when they talked about situations they had just experienced. The tone was friendly, calm, and pleasant. They showed each other respect through their language. The students were sometimes concerned about the quality of their care and believed the patients may have noticed their lack of confidence. They talked about not being sure how to behave with patients. The students expressed surprise about unexpected situations with patients. They talked openly about what they had forgotten. The preceptors accepted this openness and acknowledged the student by saying “I understand” or making small utterances like “Yes” or

"Mm" to confirm statements the students made. The students were open and honest about their weaknesses in dialogue with the preceptors.

Students and preceptors used the tool systematically as a guide to structure their conversations. The shared objective was to review all the concepts in the tool to find a common meaning. Specific goals and learning outcomes were consistently included in communication. For example, when assessing communication the student (1) said:

"It was done with a mix of fluency, without hesitation and unnecessary breaks. I think it was excellent and without hesitation and with ease". Preceptor (a) responded, "You are empathic and use non-verbal communication when the patient is unsure. I think it was excellent". This student and preceptor used concepts from the tool found in "Overall assessment" as a common meaning, as language.

During the debriefing, one preceptor in (d) sometimes asked questions to invite the student to provide deeper insight, summarize, conclude, or move on, including comments like, "What do you think you could do differently, then?", "Do you have anything else to add?", "Tell me more about this," or "Can you sum up?". This preceptor had the most formal pedagogical training in supervision.

A topic like ethics showed in "Knowledge of clinical skills" discussed in debriefing. There were complex, challenging situations involving patients. Students and preceptors tried to find explanations and deepened knowledge about indication, observation, complication, and ethics. Nevertheless, two students (1 and 4) could not identify any ethical challenges. Later, in dialogue with the preceptor, they decided to learn more about ethics in relation to patient care.

### Reflection on personal learning

The students reflected about their own learning when responding to concepts in COPP. During debriefing, "knowledge of clinical skills" was highlighted. One student (1) stressed

the importance of observations: "I feel I have become better at doing observations and not just doing the procedures". This student learned about assessing observations while caring for a real patient. Another student (3), who helped a patient who needed a subcutaneous injection, reflected, "It is not quite the same on humans as it is on dolls". The student discovered a gap between learning through simulation in a lab setting and learning in clinical practice.

The students reflected on the emotions involved in learning. They felt uncertain, somewhat scared and hesitant, and inexperienced enough not to feel completely safe. This varied from student to student depending on experience with patients, procedures, and contexts. One student (2) in homecare nursing said: "I have not helped so many people with hygiene during the evening shift here. Therefore, I am a bit unsure how to do it". Another student (4) managed her situation with ease because she was experienced and felt secure. "I think I am safe in the situation. I know how to perform the clinical skill, and I know why. I feel I can tell the patient what I know". This student provided safe care for the patient during subcutaneous injection.

### Reflection on the situation

The students cared for patients in homecare nursing and nursing home settings. Patients with composite disorders had cognitive impairment, and the students were not fully prepared to handle such situations. During the debriefing, one student (1) reflected on a meeting: "Presenting and checking ID, that is difficult to prepare. I have not written anything". Care settings and communications with elderly patients, particularly those suffering from dementia, present ethical challenges for novice students.

Communication with patients was challenging for students. One student (3) reflected during debriefing about communication after caring for personal hygiene.

"I've never been to [see] this patient before. After all, it is a challenge to get to know the patient. I think it went well. I asked the patient but I think it went very well. I asked her a lot to get to know the patient better, about what she wanted to do herself and if she had any routines".

Another student (4) reflected that she had mastered the technical aspect of a clinical skill in action with a patient. The student provided care for the patient in terms of the “subcutaneous injection” and showed knowledge and assessment during the debriefing. “I chose to put the syringe at 45 degrees instead of 90 degrees. She is of normal weight so I could set it 90 degrees, but her skin was so thin”.

### Feedback

Students used COPP to assess themselves after performing a skill and before debriefing. They rated themselves “excellent” or “partially completed” in “Preparation and planning” and “Overall assessment.” The students’ answers related to “Knowledge of clinical skills” ranged from “excellent” to “missing.” Two students did not use this part of COPP at all b, instead indicated they were waiting for the debriefing. One novice student (2) was not always certain about “knowledge of clinical skills” and did not tick any boxes or write any comments in the tool but instead waited for the debriefing: “I don’t know what to say.... This is more something we are supposed to do together..., indications or purpose of the procedure”. Knowledge about clinical skills was limited and needed to be developed in debriefing.

The preceptors’ assessments of students’ performance of clinical skills varied from excellent to missing. All the preceptors actively used the additional comments column. They wrote, “ no plastic aprons”, “student asks the patient too much”, “somewhat uncertain due to the situation”, “helped student because she had not performed this procedure”. Words they noted for remembering and use in debriefing.

One of the preceptors (b) noted shortcomings: “I have written missing. You do not introduce yourself. You did not ask if this is the right patient in front of you”. This student forgot to ensure patient safety for subcutaneous injection, and the preceptor deepened knowledge on purpose to ensure this student's responsibility.

Another preceptor also provided clear feed-forward messages during debriefing. Preceptor (c) said in debriefing “Continue to work on this and manage more injections. It is something you need to do a bit more of “.

On the other hand, while the preceptors stated what was deficient and needed to be changed next time around, they were able to acknowledge what was excellent. Despite the students’ practice needing to change in order to ensure care in their future work as nurses, this dialogue bolstered a positive common experience of a shared sense of direction.

### *Students’ and preceptors’ evaluations of COPP used in clinical training*

Data from open-ended questions (Appendix 1) answered by students and preceptors are summarized in the following:

Students reported knowing the tool from self-assessing clinical skills and peer-assessment in debriefing simulation at the university’s lab. The students noted that the guidance tool was appropriate to use for self-assessment in practice as it helped them be aware of their own actions, proposed concepts to systematize performance, made it easier to put into words what they still needed to learn more about. In conversation with the preceptors, all three columns (excellent, partially completed, and missing) were helpful as feedback. Students reported that the preceptors allowed them to be active in self-assessing their performance. Together, students and preceptors systematically compared completed feedback tools in conversation in terms of strengths and weaknesses in performance and reflected on and deepened relevant aspects such as hygiene, overall assessment, and knowledge of clinical skills.

Preceptors reported that although COPP was new for them, it was easy to use, and they used all categories with subcategories and went into more depth during the debriefing. COPP made it possible to give concrete feedback and feed-forward and showed many aspects of a performance. Nurse (d) wrote, “The tool made me more aware of everyday procedures like personal hygiene.” In assessing the students, the preceptors highlighted

criteria related to the students' performance of excellent care of the patient, ethical communication, and proper patient hygiene. Preceptors reported writing comments and ticked box wanted to exclude an entry. Written comments were used in addition to the mark of excellent, partially completed, or missing. Preceptors reported having first asked students about their self-assessments in COPP before discussing further and deepening knowledge together. One nurse (c) noted the importance of highlighting what was missing in the student's performance of the care task and helping them understand how they could improve.

## Discussion

The aim of this pilot study was to explore students' and preceptors' experiences with COPP as a supporting tool for feedback and reflection in supervision of clinical skills in practice.

The major findings reveal that students and preceptors experienced this tool as useful for supporting supervision and learning skills in clinical practice.

Support learning of clinical skills in clinical practice

As stated by Carlile,<sup>15</sup> boundary objects can provide a language for articulating people's knowledge and competence and can even transform their knowledge. Both students and preceptors may be aware of what students actually know and what they should know. In supervision, preceptor two together can promote change. Students in this study assessed themselves before being debriefed using COPP. Self-assessment allowed them to gain insight into their own learning needs and to visualise concepts.<sup>36</sup> They revealed their own strengths and weaknesses through scores or comments in COPP. Students scored themselves excellent in "Overall assessment" and "Preparation and planning." It is interesting that students` in first their practice situation are satisfied with their efforts. What does it mean?

Benner et al.<sup>3</sup> claims there is a lack of critical reflection among students. Alternatively, could the answer be that they do not have the skills to assess themselves? Thus, having a preceptor who can give concrete and constructive feedback is important in assessing concepts since students are not yet able to cope reflectively. This is in line with Vygotsky's<sup>25</sup> call for a proximal zone in which students must be supervised by someone more competent while learning together.

Formative assessment, underpinned by a robust conceptual framework and good principles of practice for feedback, is more successful.<sup>37</sup> Educational assessment that puts the student at the centre of the assessment process will improve learning.<sup>12,36</sup> Clinical skills are complex, and COPP as a tool identifies different concepts in "Preparation and planning," "overall assessment," and "knowledge" in many clinical skills and may promote increased support for learning and supervision in clinical practice.

## How enhancing clinical reasoning and deepen

Results from our study show that COPP, as a tool that helps preceptors supervise students, can be helpful in learning clinical skills. A higher order of cognitive skills, such as discussion and reflection, and strategies, such as planning, analysis, and self-assessment, seem to facilitate an effective and trenchant approach to learning.<sup>38</sup> An important intention behind most assessment or supervision tools is to make students aware of good quality in skills.<sup>23</sup> Zarifsanaiey<sup>39</sup> found that students who focused only on the steps performed had a poorer level of competence when performing skills than those who were involved in discussion and systematic thinking in parallel with training. An advanced level of understanding is necessary to recognize the complexity of clinical skill.<sup>40</sup>

According to Benner,<sup>40</sup> “knowing that” is essential to describing and providing reasons for “knowing how” in developing nursing skills and knowledge. A novice is a newcomer and has no or little experience in handling clinical skills in real-life situations. The concepts in COPP clarified excellent quality in practice based on what students need in terms of “knowing that” and “knowing how.” Through supervision based on common sense in the clinical setting, the student, in a process over time, is able to acquire a higher level of the analytic skills needed for clinical reasoning.<sup>41</sup>

Previous studies highlight the lack of pedagogical competence of preceptors.<sup>26, 42</sup> Skaalvik et al.<sup>43</sup> found that students experienced a lack of supervision from and professional dialogue with preceptors who could help them link theory and practice. Ravik<sup>38</sup> suggests preceptors need to be nurses with pedagogical education in supervision to help students achieve a professional standard in clinical skill. Our study shows that preceptors’ competences vary, and it seems to influence the quality of the supervision. COPP provided support for preceptors and the students in terms of establishing a common language and structuring the guidance between the student and the preceptor, as confirmed by an earlier study of COPP.<sup>17</sup> Formalized strategies or educational models are needed to enhance students’ learning experiences.<sup>44</sup>

## Coherence of concepts—bridging the gap?

To bridge the gap between theory and practice, there is a need for coherence between the theoretical approaches used in school and the approaches used in practice so that students “speak the same language” at university and in practice.<sup>45</sup> The core of professional education is to bridge this gap.<sup>46</sup>

Experienced nurses with prior knowledge automatically collect significant data, engage in clinical reasoning, and initiate appropriate management.<sup>3</sup> Because of embodied knowledge, nurses and students find it difficult to verbalize thoughts and explain their cognitive process.<sup>38</sup> COPP gave the students and preceptors some common concepts, and it may have been easier for preceptors to verbalise tacit embodied knowledge and clinical reasoning in discussion with the student. Verbalising and reflecting cognitively on actions performed helps students to increase cognitive reflection about unconscious, intuitive reasoning.<sup>9</sup>

Coherence, as a concept, is closely related to meaning. COOP, as a boundary object, supports supervision to create “a common meaning between minds”<sup>15,16,47</sup> and provide students and preceptors with common concepts and a framework for communication. Knowledge might transfer more easily between university and clinical practice if students and teachers maintain close connections and working links with practitioners and introduce relevant theory to facilitate learning processes.<sup>8</sup> COPP provides structure for supervision and is used at our university. Its concepts are flexible and can be transformed and adapted to different contexts, different students, or staff in clinical practice. Translation of knowledge is a process that takes time and is enhanced by appropriate support and formative assessment from preceptors.<sup>23</sup>

## Strengths and Limitations

First author transcribed and analysed data. To enhance the quality of the analyses, all authors discussed analysis, results and obtained consensus. Establishing credibility means choosing the most appropriate meaning units, categories, and subcategories to cover the data.<sup>48</sup> Dependability was strengthened by using a coding list to prevent chances in meaning between coding and decoding. Transferability is difficult in qualitative studies because the focus is on acquiring deeper knowledge and the sample is small.<sup>48</sup> We used different methods of collecting data: a feedback tool (COPP for students’ self-assessments and preceptors’ assessments of students), open-ended questions, and audiotaping of supervision. Audiotaping is used more frequently in qualitative studies than videotaping or live interviews because participants are often more willing to communicate during audio recording.<sup>49</sup> The present study resulted in rich, expanded, and varied data providing insight related to the aim of study. Confirmability was strengthened by the researchers’ self-reflection about their role as teachers and nurses with knowledge of different contexts and continued awareness of these differences.

A weakness of this study is that the preceptors were not familiar with all the concepts and with COPP as a tool for reflection. If the preceptors had been accustomed to using COPP, they would probably have used it even more actively for reflection with the students during clinical practice. The findings of this study were limited to one University in Norway, therefore were local and context specific. However, these findings add to the understanding of students and preceptors experience of learning clinical skills during education.

## Conclusion

Students and preceptors experienced that COPP provided support and structure for feedback and reflection in clinical reasoning and learning of clinical skills. The tool was useful for supervision by supporting the coherence of concepts, enhancing clinical reasoning, and promoting deeper reflections about learning clinical skills. COPP seemed to be useful for supporting transfer of knowledge and bridging the gap between university and clinical practice. Further studies may be needed to evaluate this tool with a broader sample or in other contexts in nursing education.

## Abbreviations

Competence Development of Practical Procedures (COPP). This is a generic and holistic tool applicable as a support for teaching many clinical skills and specifies expected learning outcomes.<sup>17</sup> The tool is intended to support reflection and systematic feedback.

ECTS Credits is a standardized system of credits used by European higher education system in countries that have signed the Bologna process.

## **Declarations**

### *Ethics approval and consent to participate*

The researchers orally informed department administrators before the students' clinical practice. The follow-up debriefing with students and preceptors took place after contact with patients and in a suitable room. The participants were informed of the study design; they provided written consent and were free to withdraw at any time. Participation had no effect on the student's practice course. The Head of Faculty of Health and Social Sciences at the University of South-Eastern Norway gave permission for the study. The study can be classified as an educational evaluation: no patients were involved, and therefore no ethics committee approval was required. The Norwegian Social Science Data Service approved this study February 2017 (53190). Notes and audio files were scanned immediately and stored securely, and the data were anonymised.

### *Consent for publication*

Not applicable, no patients were involved and participant's data were anonymised.

### *Availability of data and materials*

The dataset used and analyzed during the current study are available from the corresponding author on reasonable request.

### *Competing interests*

No competing interests.

### *Funding*

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### *Authors' contributions*

All authors conceived the study. First author transcribed and analysed data, and drafted the manuscript. All authors met to discuss open-minded their own preconceptions to enhance the quality of the analyses. Establishing credibility means choosing the most appropriate meaning units, categories, and subcategories to cover the data. All authors discussed results and obtained consensus. All authors have read and approved the final manuscript.

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## Tables

COPP	Competence Development of Practical Procedures
First part	“Overall assessment” with categories “Fluency” and “Caring comportment” each with subcategories inspired by the Model of Practical Skill Performance <sup>18</sup> and person-centred practice in nursing. <sup>20</sup>
Second part	“Knowledge of clinical skill” with categories “Indication/purpose of the procedure,” “Complications that may arise,” “Observations,” “Documentation,” and “Ethical challenges,” all with subcategories. Related to the students’ learning platform. <sup>21,22</sup>
Third part	“Preparation and planning,” “Performance,” and “Supplementary work,” all with subcategories. Inspired by updated guidelines <sup>21,22</sup> and the Model of Practical Skill Performance. <sup>18,23</sup>

Table 1. Overview of COPP.

Student			Preceptor				
	Age	Context		Age	Education	Nursing experience	Number of earlier supervision of students
1	21-25	Nursing home	a	>55	Nurse assistant and chiroprapist	34 years	0
2	20	Nursing home	b	>55	Nurse assistant	30 years	6 -10
3	21-25	Homecare nursing	c	20-25	Nurse, course in supervision, commenced education in supervision	4 years	6-10
4	<20	Homecare nursing	d	20-25	Nurse, course in supervision	3 years	6-10

Table 2. Students (1-4) and preceptors (a-d) together in different contexts.

<b>Original unit</b>	<b>Condensed meaning unit</b>	<b>Code</b>	<b>Subcategory</b>	<b>Category</b>
<i>I think I introduced I knew it was him. Oh, I to introduce myself.... I written missing. You could been a bit clearer to the about who you are and you were going to do. I written missing.</i>	You could have been a bit clearer to the patient about who you are, and what you were going to do.	Missing	Clarify goal	Feedback
<i>It was excellent that you heard so much about listening from feet to skin, and the patient felt. It was not to observe.</i>	I think the observation was excellent.	Excellent	Clarify goal	Feedback

Table 3. Example of an analysis schedule

<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
<i>Open and honest writing</i>	<i>"Reflections on personal learning"</i>	<i>"Reflection on the situation"</i>	<i>"Feedback"</i>
<i>Category</i>	<i>Subcategory</i>	<i>Subcategory</i>	<i>Subcategory</i>
Openness to observation	Own knowledge of clinical skills	Ethical challenges	Clarify goal
Meaningful observation	Own emotions involved	Communication with patient	Feed-forward

Table 4. Results of categories and subcategories.

## Figures



**Figure 1**

Supervision of one students' clinical skill.

## Supplementary Files

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- [Appendix1.docx](#)