ORIGINAL RESEARCH

Nursing preceptors' attitudes towards the applicability of the five-minute-preceptor-model in practical nursing education: A qualitative descriptive study

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ABSTRACT

Objective: The "Five-Minute-Preceptor Model" (5MP) is a teaching method that is especially useful for teaching students in clinical training and strengthens the clinical reasoning skills of nursing students. Despite its acclaimed utility in clinical environments, there is a notable paucity of research on this model, particularly from the standpoint of nurse preceptors. Therefore, the study aimed to investigate the views of the nurse preceptors towards the applicability of the 5MP in precepting nursing students.

Methods: Adopting a qualitative descriptive design, this study involved 15 problem-centered interviews conducted in February 2022. The participants were nurse preceptors employed at a hospital in Southern Austria. Interviews were audio-recorded, transcribed verbatim, and analyzed. Data analysis was performed through qualitative content analysis following Kuckartz's methodology.

Results: The qualitative content analysis yielded five main categories, further delineated into 14 sub-categories. Nurse preceptors generally had a positive attitude towards the applicability of the teaching method. They expressed it as practicable, supportive, and enhancing for their preceptorship. However, the universal application in every nursing setting and situation as well as the applicability in lower training levels was questioned by the nurse preceptors.

Conclusions: The findings suggest that the 5MP is a viable teaching method for precepting nursing students. While some limitations in its adaptability to diverse settings and situations were identified, several participants noted the method's inherent flexibility for customization. Further research is required to extensively evaluate its effectiveness across varied nursing environments.

Key Words: Five-Minute-Preceptor Model, Nurse preceptorship, nursing education, practical education, clinical teaching

1. INTRODUCTION

Highly educated health professionals significantly impact patient outcomes, evidenced by decreased mortality rates, improved quality of care, and higher patient ratings of hospital services.[1] This underscores the importance of acquiring scientifically grounded knowledge and individual case understanding to facilitate effective nursing practices. Essential to this process is a combination of robust theoretical education and practical training, with nursing preceptors playing a crucial role in the clinical education of nursing students.[2] Preceptorship, a prevalent model in nursing education, assists students in acquiring the knowledge necessary for profes-

sional healthcare roles. It is characterized by a defined relationship between nursing preceptors and preceptees during an internship, with specific learning outcomes established.[3] The design of preceptorship programs can significantly influence student learning. Effective didactical preparation and a positive approach towards learning and students contribute to favorable outcomes, whereas inadequate pedagogical preparation or negative attitudes towards preceptees or practical training can impede student learning.[4, 5]

Furthermore, the effectiveness of preceptorship and, consequently, student learning outcomes are impacted by various challenges faced by nursing preceptors. These include role conflicts, resource limitations, time constraints, and a lack of pedagogical skills.[6–8] The variability in training programs for nursing preceptors, often lacking uniform regulation and clearly defined competencies that must be acquired, results in preceptors who may be inadequately prepared for their roles.[2] Therefore, enhancing the pedagogical skills of nursing preceptors with suitable teaching methods tailored to the clinical learning environment is essential. This approach is vital to improving patient outcomes and satisfaction, as well as equipping nursing professionals with the necessary skills for effective practice.

Research in the realm of clinical education has identified three learning methods — the One-Minute Preceptor Model, SNAPPS (a mnemonic for Summarize history and findings; Narrow the differential; Analyze the differential; Probe the preceptor about uncertainties; Plan Management; Select case related issues for self-study), and concept mapping — as being particularly effective within the demanding clinical environment.[9] Among these, the One-Minute Preceptor Model (OMP) has been adapted for nursing education and renamed the Five-Minute-Preceptor Model (5MP).[10] Studies on the OMP in the context of nursing education have demonstrated its efficacy in enhancing clinical training. This is achieved through evaluating students' clinical reasoning abilities, providing pertinent feedback, and offering corrective support.[11] Additionally, the use of this teaching method by nurse preceptors has been linked to decreased nurse turnover and the creation of a healthier work environment, aiding nurses in acquiring essential skills for their careers or transitioning to different specialties.[12] The 5MP model has also been found effective in various clinical settings.[11]

The 5MP is a teacher-centered method designed to improve the clinical reasoning skills of nursing students. Research indicates that nursing students often graduate lacking these crucial skills, which include data analysis, critical thinking, recognition of potential sources of error, the ability to access their knowledge base, and meta-cognitive problem-solving

abilities.[13, 14] This deficiency is attributed to learning situations that do not adequately foster the development of these skills. As seen in Figure 1 the 5MP method comprises five steps, each essential for enhancing students' clinical reasoning skills. Step 1, *Get the student to take a stand*, involves students assessing the patient's situation, prompted by a broad question from the preceptor. Step 2, *Probe for supporting evidence*, requires students to justify their assessment, with the preceptor asking targeted questions to uncover the evidence behind the students' reasoning. This step is vital for identifying knowledge gaps. In Step 3, *Teach a general rule*, the preceptor becomes more active, addressing two to three core aspects identified from the knowledge gaps. This step is critical to the learning process, as it transitions the method from mere evaluation to education. Steps 4 and 5, *Reinforce the positives*, and *Correct errors and misinterpretations*, focus on feedback, essential for student development and the application of learned knowledge in future care scenarios.[10]
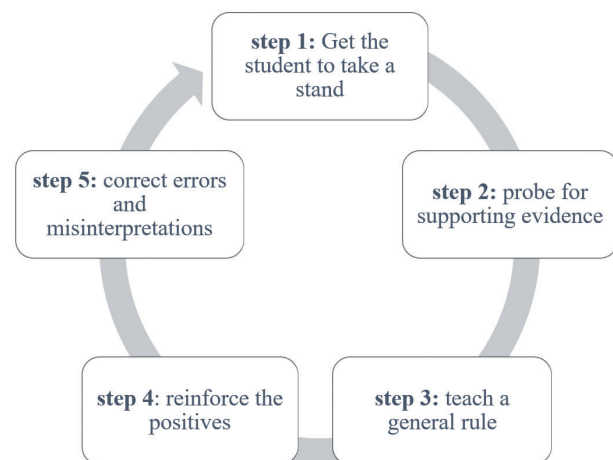

Figure 1. Five Minute Preceptor Model (own illustration based on Bott et al. 2011)

The foundational learning theory for this study is Burnard's Experiential Learning Cycle, which is specifically tailored for Nurse Education. This theory facilitates self-directed learning in students through experiences and reflections on real-life situations.[15]

The 5MP is particularly commended for its suitability in the clinical environment due to its adaptability to the demanding nature of clinical settings. However, the creators of the model cautioned in 2011 that its comprehensive implementation in practice should be contingent on verifying its applicability in practical nursing education.[10] A recently conducted scoping review indicates that this verification process is still ongoing.[16] While literature suggests positive impacts of the 5MP on learning outcomes, student knowledge assessment, structuring of preceptorship, and feedback provision, its practical

applicability in nursing education is sparsely addressed, with only two publications discussing its benefits in terms of time efficiency and reduced educational effort.[16–23] A study by Hariyono et al. (2023), conducted after this review, also indicated the 5MP has a positive impact on nursing students' clinical reasoning skills.[24] Implementing 5MP training programs may facilitate the integration of this teaching method into preceptorship. However, a pilot study in Austria found no significant change in the application of the 5MP steps by nurse preceptors before and after participating in such training. Notwithstanding, high quality of the 5MP was observed when all steps were implemented in conjunction.[25] There is a notable gap in research regarding nursing preceptors' perspectives on the 5MP's applicability in preceptorship. To the best of the authors' knowledge, no previous study has explored nursing preceptors' attitudes towards the integration of the 5MP in preceptorship for baccalaureate nursing students. Therefore, this study aims to initially investigate nursing preceptors' attitudes regarding the applicability of the 5MP in the preceptorship of baccalaureate nursing students.

2. METHODS

To fulfill this objective, the following research questions were formulated:

1) How do nurse preceptors perceive the applicability of the 5MP in the clinical education of baccalaureate nursing students?

2) Which identifiable factors may influence the applicability of the 5MP in the clinical education of baccalaureate nursing students?

2.1 Design

A qualitative descriptive design[26] was employed to address the research questions, particularly suitable for contexts where limited knowledge exists about the subject and in-depth insights are required from individuals directly experiencing the phenomenon.[27] Given the scant information on the applicability of the 5MP in baccalaureate nursing education, and the study's goal to obtain a detailed understanding of its usage and perceived applicability by nursing preceptors, this design was deemed appropriate.

2.2 Study setting and sampling

The study was conducted in a 2500-bed hospital located in Southern Austria, which employs 260 nurse preceptors across various departments. Of these, 95 had undergone training in the 5MP and were thus considered eligible for participation in the study. Due to the exploratory nature of the research, purposive sampling was utilized to select interview participants.[27] This method was chosen for its ability to target individuals with specific knowledge about the investigated phenomenon.[27] Eligibility for participation required nurse preceptors to have been trained in the 5MP and to have implemented it for at least six months, ensuring their capacity to provide relevant insights into its applicability. The study received approval from the hospital's chief nursing officer. Nurse preceptors were invited to participate through their company email addresses, and additional efforts to encourage participation included direct motivation from the hospital's coordinator of nurse preceptors. Ultimately, 15 nurse preceptors (13 women and two men) participated in the interviews. Their ages ranged from 30 to 54 years, with professional preceptorship experience varying from 1 to 25 years. Notably, only two participants had formal education in nurse preceptorship. Table 1 presents the sociodemographic variables of the participants.

2.3 Data collection

In February 2022, the first author conducted 15 problem-centered interviews to delve into the perceptions of nursing preceptors regarding the application of the 5MP in the preceptorship of baccalaureate nursing students. This interview method was chosen for its ability to integrate both inductive and deductive approaches, facilitating the exploration of personal views on a specific subject area.[28, 29] The focus of the interviews was to elicit nursing preceptors' perspectives on the application of the 5MP in their clinical practice. The duration of the interviews ranged from 16 to 42 minutes. A semi-structured interview guide (see Table 2) was developed by the first author, adhering to the five-phase framework proposed by Kallio et al. (2016).[30] This framework encompasses the identification of prerequisites for using semi-structured interviews, the integration of existing knowledge, the formulation of a preliminary guide, pilot testing, and the presentation of the complete guide.[30] Various pretesting methods exist,[30] but internal testing within the research team was chosen for this study, ensuring the guide comprehensively addressed all relevant aspects necessary for answering the research questions. Internal testing was done by DD. During this phase, two questions were revised due to ambiguities. To minimize bias in data collection and enhance data quality,[31] the audio recordings of the first two interviews were reviewed by DD, who provided recommendations for conducting subsequent interviews. Owing to the COVID-19 pandemic, all interviews were conducted online via MS Teams, utilizing audio-only recording to ensure privacy and focus.[32] To facilitate participation and maintain implementation fidelity, interviews were scheduled during participants' duty hours. A separate room within the hospital was reserved to guarantee anonymity and minimize disturbances. Data were securely stored on an external hard drive and a password-protected

computer, accessible only to the study's authors. To ascertain the validity and trustworthiness of the data, data collection continued until data saturation was achieved.[33] Upon completing 15 interviews, MB noted redundancy in the last interviews, leading to the consensus among the authors that no additional information was forthcoming, and therefore, no further interviews were required. For quality aspects, field notes were taken by MB directly after the interviews to be able to comprehend interview situations or possible disturbances.[34]

Table 1. Sociodemographic variables of the participants

Participant number	Sex	Age	Experience as a nurse preceptor (no. in years)	Formal preceptorship education	Assumption of preceptorship*
DA1	male	42	19	no	supervisor
GB2	male	41	7	yes	voluntary
NC3	female	47	20	no	voluntary
HD4	female	46	1	no	supervisor
IE5	female	45	10	no	supervisor
SF6	female	45	10	no	supervisor
MG7	female	46	20	no	colleagues
GH8	female	57	30	no	voluntary
CI9	female	30	1	no	voluntary
AJ10	female	46	2	no	supervisor
NK11	female	39	20	yes	supervisor
AL12	female	41	13	no	voluntary
SM13	female	38	17	no	voluntary
EN14	female	37	16	no	colleagues
EO15	female	54	25	no	voluntary

*This refers to the basis on which the activity as nurse preceptor was assumed by the participants (voluntary, through suggestion of the colleagues or determined by management).

Table 2. Interview guide

Question number	Questions
1	How do you describe the applicability of the teaching method in precepting nursing students?
2	Has the application of the 5MP changed the teaching situation for you? If yes, why? If not, why?
3	Does 5MP help to better align preceptorship with the supply mandate?
4	Could you describe the influence of the 5MP on your didactic portfolio as a nurse preceptor?
5	Were there any challenges in implementing the 5MP and how would you describe them?
6	Could you name the positive and negative aspects of the 5MP?
7	What kind of support would you have needed in the stage of implementation of the 5MP?
8	If you were nursing director of the hospital, would you train all nurse preceptors in using the 5MP?
9	Is there anything else you want to mention about the 5MP which we haven't discussed in the interview?

2.4 Ethical considerations

Prior to data collection, participants provided written informed consent, and their participation was entirely voluntary. To ensure confidentiality, interviews were coded using pseudonyms. The study met the criteria for exemption from institutional review board approval, as confirmed in writing by the Ethics Committee of the Province of Carinthia following their review of the ethics proposal. No financial or other incentives were offered to participants for their involvement in the study.

2.5 Data analysis

Data from the interviews were transcribed verbatim and anonymized by the first author using MAXQDA Analytics Pro Student 22.4.0, adhering to the transcription rules established by Kuckartz et al.(2007)[35] and Drehsing and Pehl (2018).[35, 36] The classical approach of qualitative content analysis, as described by Kuckartz (2022),[37] was employed

for data analysis.[38] This method is particularly suited for exploring human experiences in areas with limited prior research,[37] such as the assessment of the 5MP's applicability by nurse preceptors. Due to the fragmented nature of existing knowledge on this topic, analysis was conducted openly, focusing primarily on themes outlined in the semi-structured interview guide.[39]

The qualitative content analysis process entailed seven stages: I) initiating text work, II) developing main categories, III) first coding process using main categories, IV) developing sub-categories, V) second coding process using sub-categories, VI) analyzing the data, and VII) documenting the results and analysis process.[37] MAXQDA Analytics Pro Student 22.4.0 was also utilized for the content analysis. Stage one involved familiarization with the material and developing a hermeneutic understanding in line with the research questions.[37] This was achieved by MB, who reviewed the transcripts and noted case summaries and memos for each interview. In stage two, main categories were developed, either deductively from the research question and interview guide or inductively from the data.[37] MB identified five main categories, with three developed deductively out of the interview guide (general attitude towards applicability; factors influencing the applicability; desired support when introducing the teaching method) and two (universal to limited applicability; applicability in the design of learning situations) inductively out of the transcripts. The transcripts were coded by MB according to these main categories in stage three.[37] Sub-categories were created in stage four, using an inductive approach.[37] 14 sub-categories were created by MB. The entire dataset was coded according to these sub-categories in stage five.[37] The first author managed the coding process and developed a coding scheme to ensure the quality of categorization. To guarantee coding reliability, KS independently coded the data. MB and KS then reviewed the coded data for consistency and discussed any discrepancies. In cases where consensus was not initially reached, the coding was deliberated upon by the entire team (MB, KS, and DD) until consensus was achieved.[37]

2.6 Rigor

To ensure trustworthiness in qualitative research, various measures are essential to establish credibility, dependability, confirmability, and transferability.[40] Credibility in this study was achieved by audio recording and verbatim transcription of interviews. Additionally, research triangulation was implemented through independent data analysis followed by consensus discussions on the categories.[41] Dependability was addressed by employing a semi-structured interview guide, ensuring transparency in the data collection process.[41] The interviewer (MB) further enhanced data collection quality by reflecting on the interview situations and evaluating the initial interviews with DD. Confirmability was increased using standardized methods in coding and analysis, along with maintaining transparency in the research process.[41] This was accomplished by formulating a detailed semi-structured interview guide, and creating transcripts, a coding scheme, and memos for all interviews. Anchor examples from the interview data were also presented to exemplify the participants' statements more effectively. Transferability was achieved by providing a detailed description of the study's context, as well as the selection and characteristics of the participants.[41] Awareness of the researchers' positions, which could influence the research process and findings, was another critical aspect considered.[41] MB as a lecturer in nursing was cognizant of potential influences on data collection, including follow-up questions and potential blind spots due to familiarity with the field. In addition, she carried out the 5MP training with the nurse preceptors which was prerequisite for taking part in the interviews. KS and DD, lecturers with extensive experience in nurse education and preceptorship, also maintained awareness of their pre-understandings to minimize bias. In addition to focusing on the trustworthiness criteria, adherence to quality standards in presenting the findings was ensured by employing the Consolidated Criteria for Reporting Qualitative Research (COREQ).[42]

3. RESULTS

Data analysis yielded five main categories and 14 sub-categories detailed in Figure 2. Five major themes emerged during data analysis: General attitude towards applicability, concerning the general aspects nurse preceptors mention about the applicability of the 5MP; Universal to limited applicability, describing aspects of applicability in different settings and for nursing trainees with different training levels; Applicability in the design of learning situations, reflecting on how applicable the 5MP is seen in creating learning processes; Factors influencing the applicability, speaking about factors which can inhibit the applicability of the teaching method and Desired Support when introducing the method considering information nurse preceptors' gave about additional measures which could have been set during the implementation phase of the 5MP. The findings are presented in the subsequent subchapters, augmented with anchor examples from the participants' interviews.
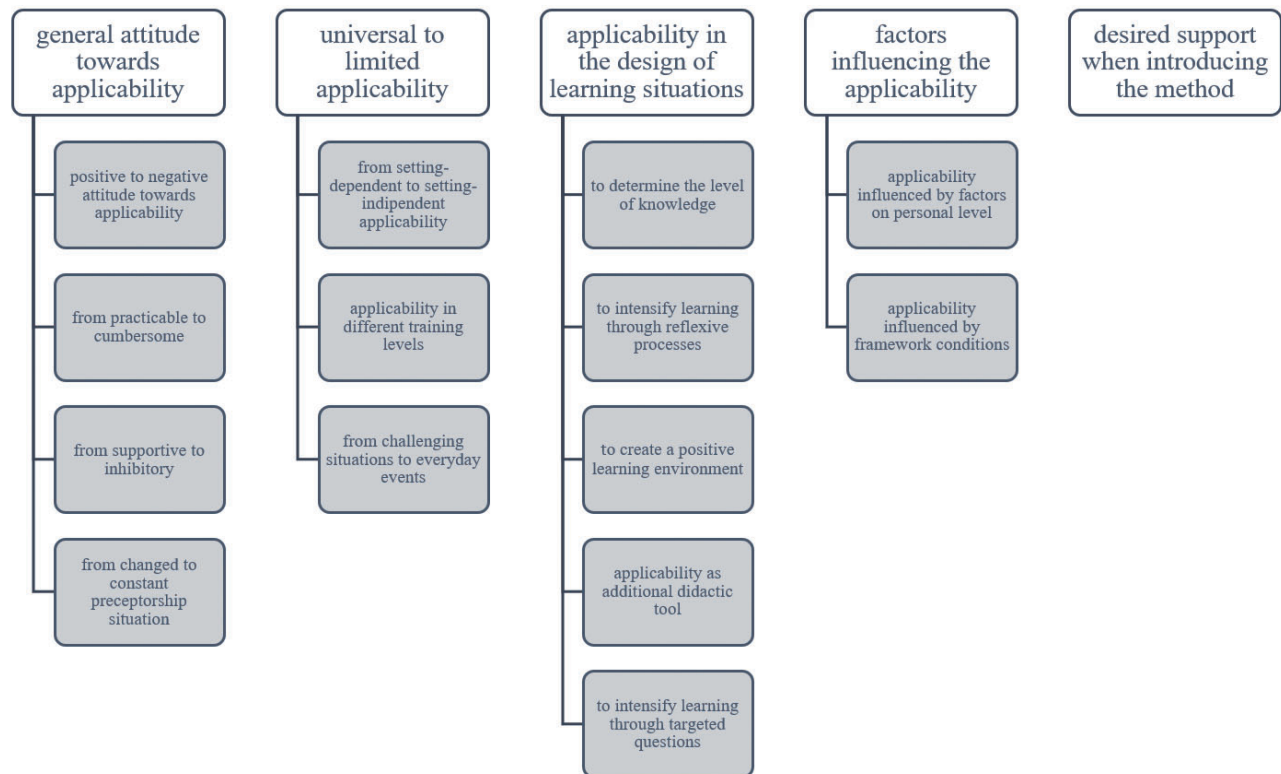
general attitude towards applicability	universal to limited applicability	applicability in the design of learning situations	factors influencing the applicability	desired support when introducing the method
positive to negative attitude towards applicability	from setting-dependent to setting-indipendent applicability	to determine the level of knowledge	applicability influenced by factors on personal level	
from practicable to cumbersome	applicability in different training levels	to intensify learning through reflexive processes	applicability influenced by framework conditions	
from supportive to inhibitory	from challenging situations to everyday events	to create a positive learning environment		
from changed to constant preceptorship situation		applicability as additional didactic tool		
		to intensify learning through targeted questions		

Figure 2. Main categories and sub-categories after data analysis (own illustration)

3.1 General attitude towards applicability

From positive to negative attitude towards applicability: In general, the nurse preceptors expressed a positive attitude towards the applicability of the 5MP within preceptorship. The positive attitude towards applicability was mentioned in the context of preceptorship itself highlighting the simplicity of the teaching method and the opportunity to bring in more structure but also in the context of the students by involving them more actively in the learning situation. One nurse preceptor mentioned:

"Absolutely! Because you are just, that mainly affects the older colleagues, they are just still on this track, on this old track. Like we just said pretalk everything, being impatient and so on, and I think that would be important, as I said for the further development of the student, who will be my colleague in the future." (NK11)

Nurse preceptors who have a negative attitude towards applicability justified this with the students being overwhelmed by being examined through the questions and with the additional work the method entails through needed preparation.

"[. . .] But when I test them in the situation and (.) no matter if they are somehow moving in that direction (.) they always are irritated, I have to say. What does she want from us now? Am I doing them a favor?" (CI9)

From practicable to cumbersome: Time efficiency and the ability to convey substantial content briefly made the 5MP practicable for the participants. As one participant stated, *"The most practical thing for us is what is practical."* (GH8) Also, the simplicity of transporting the method to other colleagues and to use it without much preparation was mentioned.

"And that helped me a bit because you can get to the result step by step and um I think the way it's elaborated is relatively um so it's very easy to apply in practice." (SM13)

However, nurse preceptors noted the method's name suggests a misleadingly short time frame and highlighted the initial need for preparation, as one participant noted *"[. . .] Um but it were not the named five minutes (laughs), it was a quarter of an hour, half an hour [. . .]."* (GB2) Some preceptors found the method cumbersome, particularly in terms of adjusting their preceptorship approach and dealing with the learning curve associated with the new method.

"[. . .] You just have to give the trainee the time to come up with the solutions themselves. And that is one of those things, we have a very specialized field and (..) yes (.) some people don't figure things out so quickly (laughs) to say it nicely. And at some point, you just don't have the patience to say Ok, I'll wait 5 minutes until I get the answer [. . .]." (CI9)

From supportive to inhibitory: Preceptorship was seen en-

hanced through the structural approach the teaching method entails. The clear process and the fostering of reflection through 5MP made preceptorship easier for the participants. *"It helps that you finally have a structure in preceptorship and that it's not something that happens on the side, but you have a process that you can stick to."* (DA1)

Conversely, some viewed the five-step structure as inhibitory, reducing flexibility in handling diverse learning situations and being blocked by the process. As one participant mentioned *"[. . .] I'm just not the type of person for that. I do try, because time changes, you know. But writing down everything in models and processes and quality and this and that (.) um (.) it tends to block me a bit in the way I do things. [. . .]."* (EN14)

From changed to constant preceptorship situation: Nurse preceptors discussed the influence of the 5MP on their preceptorship approach and noted positive changes, such as more purposeful and confident preceptorship. The application also led to the departure from old teaching methods used in preceptorship by taking a step back and letting the students make the first steps. Also, the necessity of giving feedback was encouraged when using the 5MP. One nurse explained *"What I can say is that you stop to anticipate everything, so when you precept you tend to go and show them first. But with the method, you take a step back and let them do it themselves. [. . .] It has already changed by giving students more freedom to try things out a bit."* (NK11) However, some reported no change, attributing this to their prior use of similar methods before the 5MP training as shown by the statement of SF6 *"Um because I had the feeling that I was already doing it a bit like that anyway. You know, over the years."*

3.2 Universal to limited applicability

Another main category (universal to limited applicability) emerged when participants talked about possible limitations in the applicability of the teaching method. Participants expressed various views on the 5MP's applicability across different settings, nursing situations, and student training levels.

From setting-dependent to setting-independent applicability: The degree of specialization and patient turnover in specific settings were mentioned as determining factors for applicability. Those who estimated the teaching method as setting-dependent worked in inpatient and outpatient pediatric nursing care.
"It's a problem, but they only get a brief insight everywhere, right? In all our special outpatient clinics e.g., in the pulmonary outpatient clinic. Some day you have completely uncomplicated children where there is a simple check-up to do *[. . .] And the next moment there is a child with a complicated situation, where there is a lot more to do (.). I think that this is a bit difficult. So, in this (.) just in the outpatient clinic."* (HD4)

Others didn't see a setting dependency on the applicability because teaching must occur in all clinical settings nursing students are taught. This is explained by SM13 who said *"[. . .] Because it is always the same, you always want to teach somebody, and I believe that you always can use it. So, I can't think of anything right now (..) I think that you can use the method broadly diversified."* (SM13)

Applicability in different training levels: The nurse preceptors rated the 5MP as more suitable for students with substantial prior knowledge, typically in the later stages of their education.
"I believe that the method is best if you are already in your final year e.g., the last two semesters. Because you simply have more knowledge. [. . .] Otherwise, you'll just be overwhelmed. I also think that you can't expect someone in the first two years of education to put so much thought into the details. And that's why I think it is better to use the teaching method in the final year." (AL12)

Also, the phase of the internship can influence the applicability of the 5MP as stated by the participants who see the method as better suited to a later phase of the internship because students must have the opportunity to acclimatize to the internship first.
"The better they are, the faster the teaching method works. And it is particularly difficult at the beginning of the internship in the induction phase. In this phase I want them to get to know the daily routine, and what we pay attention to. I think it is better to use the teaching method once they adapted to the new environment." (AJ10)

From challenging situations to everyday events: Not only different training levels but also different nursing situations could have an impact on how applicable the 5MP is for nursing preceptorship. Many described it as less suitable for emergencies or complex care situations.
"Of course, it doesn't work in acute situations, um that means it doesn't work in a situation where somebody is restrained for example, which means it can't be used in every situation." (GB2)

Others also saw the potential for using 5MP in difficult situations to debrief and clear the situation the nursing student was in. As NC 3 described *"[. . .] It was quite a stressful situation, but I can't say exactly anymore what it was about. And then I thought to myself I have to get the student out of the situation, and I used the method to talk to her again*

about everything that happened. That she simply realizes um why, what was positive about the whole thing and what was negative."

3.3 Applicability in the design of learning situations

The 5MP also aided nurse preceptors in crafting learning situations that are seen as useful for the students.

To determine the level of knowledge: Many nurse preceptors felt that the 5MP was useful for assessing students' knowledge and identifying possible gaps, which makes it easier to stimulate the learning process and thereby facilitate more effective learning situations.

"Because with this method you really can consider their knowledge level and, um, it's just easier if you already know a bit and then add to it (.) It's much more effective than if somehow (.) hmm And as I said you can pick up the students where they are and that's the nice thing." (GB2)

To intensify learning through reflexive processes: Also, the enhancement in learning through reflective processes was highlighted, with preceptors noting its value in preparing students for independent decision-making in their future careers. This is seen as positive for their development and for being able to fall back on responsible new colleagues, which impacts the companies they are working in. The reflexive processes help them to make critical decisions in different caring situations and to connect their knowledge to prior experiences and learning outcomes, which is critical for their learning process.

"As I said, I think that you simply encourage students to think for themselves, to give themselves a solid base for their future decisions. [. . .] And I think the 5MP really helps here, that you prepare them for their later professional life. I think that's a very good aspect of it." (NK11)

To create a positive learning environment: Almost all participants agreed that the 5MP fosters a positive learning environment by encouraging a more collaborative, trust-based relationship between preceptors and students. This eye-level communication helps to reflect and discuss with the students, what helps them find their professional role and enhance self-confidence. Even if there is fear of saying something wrong, the teaching method creates a relationship based on trust which decreases the fear of nursing students of doing or saying something wrong.

"[. . .] But it's still a different level of conversation that you are having. And I believe that you simply build more trust there. As a student, I believe that you might have more confidence to open up. You know, there are a lot of people who are simply afraid to say something because they are afraid it is wrong. But if you can solve this fear, which I think works

well with this method, it creates more trust and encourages learning. I can imagine that, yes." (NK11)

Applicability as an additional didactic tool: Preceptors saw the teaching method as a valuable additional teaching tool, useful for deepening students' understanding of the subject. Many of the participants also stated that the 5MP is not the overall didactic tool for every situation, but is very useful as an additional method.

"And if you also have this teaching method, it complements the whole thing beautifully and you can use it very often in practice." (GB2)

In this context nurse preceptors also expressed worries that it could be seen as the only teaching method by some colleagues with the result of being restricted in their way of teaching. As EN14 described *"Exactly and that is good to see as an additional tool! And I'm afraid that some people will see it as the only tool, you know what I mean? And then certain nurses are completely blocked in their way of teaching when thinking that they can only precept with this method instead of using it as an additional tool. Combining different precepting methods is great."* (EN14)

To intensify learning through targeted questions: The use of targeted questions within the 5MP was believed to aid students in developing a deeper understanding of the topics and memorizing more information by critically reflecting on situations by themselves. Furthermore, the structured questions from the model helped students foster their development and made situations more memorizable to them.

"If you convey the topics better to the students, they also understand it better." (SF6)

3.4 Factors influencing the applicability

The applicability of the 5MP can be influenced by various personal and environmental factors.

Applicability is influenced by factors on a personal level: Students' willingness to learn are described as inhibiting the applicability of every teaching method, as well as the 5MP.

"I put that a bid badly now. But the students lacking initiative are a disaster, aren't they? You can do whatever you want, the easiest teaching method doesn't work with them. Cause you have to push them in every possible direction and just hope that the internship ends without a catastrophe." (CI9)

Not only students' willingness but also their language skills were mentioned as influential. So, one nurse preceptor noted *"Firstly, I don't think she had the language skills (. . .), so she just didn't understand. Her German wasn't quite good, and I think she just didn't understand a lot of things. And you think, just do it and nothing comes and then you just do it yourself (sighs). But I think that was because of the language."* (HD4)

Not only the students' willingness to learn was discussed, but also the preceptors' attitudes towards teaching and their patience levels were noted as influencing the 5MP's applicability.

"It will certainly also depend on the nurse. How much patience she has and how little stress she has or how much stress (.) I don't know, so that she can pass things calmly. Because when I'm stressed, I don't convey things well, I tend to get annoyed." (CI9)

Applicability influenced by framework conditions: Environmental factors like time constraints and day-to-day work processes, were described as impacting the method's application in nursing preceptorship. Also, continuity problems in preceptorship, where students don't have access to their nurse preceptors all the time were reported as framework conditions that inhibit the applicability of the method. This resulted in falling back into old patterns where students don't learn much because things must be done quickly and there is no time for explanations when preceptors don't have a high intrinsic motivation to do a good preceptorship.

"And in these situations, you fall back on old forms of teaching and act differently as the method would be used. Simply, because you want to get your work done quickly or because you must make sure you can cope with the work. And those are factors that hinder the application of the teaching method if you don't say to yourself That's fine, I'll do it differently and not the way I have always done preceptorship." (SM13)

Within the context of framework conditions nurse preceptors also discussed the applicability of the teaching method in the presence of patients' relatives during care. Concerns were expressed about using the 5MP in such situations, citing potential insecurity among relatives when students explain their actions or receive corrections from the preceptors shown by the citation *"But the question how the student assesses the patient is a bit difficult because the parents are involved. Then maybe they get insecure, and think Can she even do that? That is the thing, you know?"* (SF6) Another more nuanced perspective also quoted was, that relatives do not generally impede the method's applicability. Some relatives view the preceptorship situation as a learning opportunity for themselves. But there may be specific situations where precepting in their presence is not advisable. The decision to use the 5MP in these circumstances relies on the nurse preceptor's judgment and experience.

"Let me give you an example: We had a husband who cared for his wife and for him, it was always interesting when I explained something, because he wanted to learn a lot about home care, and he always found it interesting when he heard why and how something was done." (SM13)

3.5 Desired support when introducing the method

As a newly implemented teaching method there are also questions regarding additional measures that would facilitate the applicability of the 5MP. Many nurse preceptors reported that additional support during the introduction of the method would not have enhanced its applicability. They referenced the adequacy of the 5MP training, the learning materials provided, and the availability of post-training support from the trainer as sufficient resources for effectively implementing the method.

"Well, I really have to say that you explained it really good in the training (.). It was all clear to me. There was nothing I didn't understand. And there are 5 really easy steps. So, you don't have to go to a hundred training courses to understand or learn it. So, you explained it really well that day and I left the training really motivated." (NK11)

However, some expressed a desire for further support. Suggested forms of additional support included networking meetings to discuss method implementation, supplementary learning materials for the trainings such as pocket cards detailing steps and pertinent questions and an instructional video for method reinforcement, as well as bifurcating the 5MP training into two sessions – one for foundational learning and the other for reinforcement and addressing application challenges. Another wish expressed was to observe the 5MP being applied in actual ward settings, guided by experienced instructors, to better understand the integration of theory and practice of the method.

"Maybe that someone would have shown the procedure in real ward routine, directly on site. Maybe with practice instructors, right? I would have liked to have seen that, how they do it. Whether theory and practice can be really combined." (SF6)

4. DISCUSSION

The objective of this study was to explore the viewpoint of nurse preceptors on the practicality of integrating the 5MP into the preceptorship of baccalaureate nursing students while identifying any obstacles that may impede its effective implementation.

Overall, nurse preceptors evaluated the 5MP's applicability positively, particularly highlighting its practicality due to time efficiency in preceptorship. This aligns with findings by Shagioli et al. (2018)[20] and Lazarus (2016),[18] who also noted time savings and increased frequency of preceptorship sequences. Lazarus (2016)[18] specifically mentions five minutes per preceptorship sequence, a detail not corroborated by other literature. Our study findings suggest that while time savings are evident, assigning a fixed duration of five minutes

to each sequence is impractical, reinforcing the notion that the method's duration should not be rigidly defined as five minutes, as also not specified in the original work of Bott et al.(2011).[10] Nurse preceptors additionally highlighted the simplicity and minimal preparation time required for the 5MP, findings that are consistent with those of a scoping review conducted by the authors of this study.[16] Previous research has underscored the structured nature of the 5MP and its positive influence on preceptorship, particularly in organizing the approach to students' clinical reasoning skills and increasing confidence among less experienced preceptors.[18, 19] However, attitudes towards the structure of the 5MP in our study were mixed; some preceptors found it helpful for maintaining a consistent process and facilitating reflection, while others indicated that the method's structure could impede flexibility in preceptorship. The implementation of the 5MP also appeared to modify the nature of preceptorship, encouraging self-reflection and a more active role for students. Yet, this finding was not universal, as some preceptors reported no significant change in their precepting approach, attributed to their prior familiarity with the method before the 5MP training. This observation aligns with Breznik et al.(2023),[25] who reported no significant change in the usage of the 5MP before and after training, despite high ratings for the novelty of the training content. This discrepancy might stem from nurse preceptors' self-assessment of their prior use of the method, potentially overestimating their earlier adherence to its steps.

In discussing the applicability of the teaching method across various settings and situations, our study revealed differing views among nurse preceptors. While some did not perceive limitations in diverse settings, others specifically noted the inapplicability of the 5MP in specialized areas such as outpatient clinics or pediatrics. This aligns with Smith's (2020)[22] findings and may be attributed to the specific competencies required in such specialized fields, as also mentioned by our study participants. Interestingly, the study also uncovered variations in the method's applicability across different care situations, with emergencies cited as unsuitable for the 5MP's application. The influence of the trainee's level and internship phase on the method's applicability, not previously reported in 5MP literature, emerged as a new insight. Regarding the method's impact on learning environments, nurse preceptors highlighted its utility in better-assessing students' knowledge levels and enhancing the overall learning experience. The use of the 5MP in preceptorship was perceived to bolster student confidence in decision-making. These findings resonate with prior research underscoring the 5MP's contribution to environments conducive to the development of critical thinking and understanding of students' strengths and weaknesses.[17, 19, 21]

Despite generally positive attitudes towards the 5MP's applicability, factors potentially impeding its use were identified. Organizational constraints such as time limitations, staff shortages, and continuity challenges in preceptorship were noted. While no prior studies specifically address nurse preceptors' views on factors hindering the 5MP's applicability, our findings seem to parallel known barriers to effective preceptorship.[4, 5] Notably, the influence of patient relatives on the method's applicability emerged as an unexpected factor, with no comparable findings in the existing literature. Personal factors, such as negative attitudes of students or preceptors towards learning situations, were also seen as detrimental to the method's effectiveness, aligning with previously identified preceptorship challenges.[4, 5] Language barriers were additionally noted as a hurdle, potentially slowing the learning process and affecting not just the 5MP but any teaching method. Because of missing studies about nurse preceptors' attitudes towards the applicability of the 5MP also here evidence is missing, but nurse preceptors may be frustrated because of the slow learning process that occurs through the language barriers.[7] It can be assumed that not only the applicability of the 5MP is negatively affected by those language barriers, but any other teaching method also could be restricted. When queried about additional support needs for the 5MP's implementation, most nurse preceptors felt no further assistance was necessary. However, a minority expressed a desire for more support, suggesting tools like networking meetings, supplementary pocket cards, a second training session, or instructional videos could facilitate the method's integration.

The study is subject to several limitations that warrant acknowledgment. Firstly, by conducting interviews online via MS Teams there could have been undue focus on technical aspects during the interviews, potentially affecting data collection. On the other hand, the absence of non-verbal cues, often vital in qualitative research, could have impacted both data collection and analysis.[32] The ongoing COVID-19 situation and hospital restrictions precluded the possibility of face-to-face interviews. To mitigate this, nurse preceptors confirmed their information at the interview's conclusion, affirming there was nothing more to add. Additionally, non-verbal language cues were observed, as the camera was activated with the participants' consent, allowing the interviewer to note non-verbal aspects. Fortunately, no technical issues were encountered during the interviews, and the interviewer's familiarity with MS Teams, due to her role as a lecturer, likely reduced any potential technical insecurities. Furthermore, the study was only conducted at one site, which might constrain its general applicability. Another limitation

pertains to the study's rigor, particularly regarding credibility. The absence of member checking of the transcribed interviews could have affected credibility;[27] this approach was not feasible due to the challenges posed by the COVID-19 situation in re-establishing contact post-interview. To enhance credibility, investigator triangulation was employed to ensure comprehensive data analysis. Considering that the current study involved interviews with only 15 nurse preceptors, the views of the remaining 80 nurse preceptors trained in the 5MP at the hospital remain unknown. Therefore, it is not clear how extensively the teaching method is currently being used within the hospital. A previous conducted study of the application of the 5MP model steps prior and 6 months after attending 5MP trainings showed that 39 nursing preceptors use the 5MP in their preceptorship. Still, it remains unclear how many nurse preceptors actually use the teaching method, because many participants didn't responde to the questionnaire at t2 (6 months after the 5MP trainings).[25]

5. CONCLUSION

The findings indicate that the 5MP is widely acknowledged as an effective tool for precepting baccalaureate nursing students. While some of the results corroborate existing literature and align with perspectives previously gathered from nursing students, the study also unveiled novel insights, particularly pertaining to the 5MP's potential applicability in various nursing situations and different phases of internships. However, to gain a more comprehensive understanding of how specific nursing situations and internship phases influence the 5MP's applicability, further research is necessary. Larger-scale quantitative studies would be beneficial, as they could provide more generalizable data. This is particularly pertinent given the lack of prior research addressing the impact of diverse settings and care situations on the 5MP's applicability. Additionally, exploring the setting-dependency of the 5MP in a broader sample could help resolve the discrepancies observed in this study and differences with earlier research. Future research could also focus on investigating any changes in the behavior and practice of nurse preceptors with regard to the 5MP, which would provide valuable insights into its long-term effectiveness and adoption in clinical education.

AUTHORS CONTRIBUTIONS

MB and DD were responsible for the conception and design of the study. MB was responsible for conducting and transcribing the interviews. MB, KS, and DD were responsible for data analysis. MB was responsible for drafting the manuscript. DD and KS were responsible for revising the manuscript and providing critical revision to the draft. All authors read and approved the final manuscript.

CONFLICTS OF INTEREST DISCLOSURE

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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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT

No additional data are available.

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