

Clinical Teaching Confidence, Competence and Effectiveness Among Nurse Preceptors: A Structural Equation Model

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Abstract

Introduction: Clinical teaching is an essential component in nursing education in bridging theory and practice. Nurse preceptors play vital role in guiding nursing interns in clinical practice. **Objectives:** Study aimed to examine the relationship between the perceived levels of confidence, competence, and effectiveness of clinical teaching among nurse preceptors in government hospitals in the southern region of Saudi Arabia. **Methods:** The method used in the study was descriptive quantitative correlation design. Data were collected electronically utilizing adopted questionnaires. Covariance-based structural equation modeling (CB-SEM), using maximum likelihood estimation was conducted to analyze the interrelationships between and among clinical teaching confidence, competence, and effectiveness. **Results:** The dimensions of confidence and competence in clinical teaching were correlated with one another, with correlation coefficients (r-value) ranging from 0.22 to 0.33, and p-value of 0.003. In a similar vein, confidence had moderate to high linear associations with effectiveness in clinical teaching, with correlation coefficients (r-value) varying from 0.24 to 0.44, $\beta=0.48$, $p=0.004$. In contrast, findings showed that the correlation coefficients (r-value) ranged from 0.01 to 0.17 for the competence and effectiveness in clinical teaching, and were not statistically significant ($\beta=-0.06$, $p=0.591$). **Conclusions:** Clinical teaching confidence significantly influences effectiveness, while competence alone does not guarantee teaching quality. Although many nurse preceptors are skilled clinicians, they may lack formal teaching expertise. Structured training programs that strengthen pedagogical skills and emphasize effective clinical teaching practices are recommended to enhance preceptor effectiveness and support the development of students' clinical competency.

Keywords:

Clinical Teaching Confidence, Competence, Nurse Preceptor



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INTRODUCTION

Clinical teaching is an essential component in the education of undergraduate nursing interns as it helps in the transferring and actualization of theoretical knowledge into practice (Mhango et al., 2021). Literature recommends the use of clinical instructors to guide and assist students during their clinical experiences. Clinical teaching is delivered through a preceptorship model or program. This is practiced in Saudi Arabia where it takes place during the nursing internship program of its nursing curriculum. Preceptorship programs are designed to provide: competent clinical teaching, evaluation, appropriate feedback and support, opportunities for working in a multidisciplinary team, development of interpersonal relationships, and theory-practice integration for students (Yung and Johns, 2019).

The preceptorship or clinical preceptor model involves assignment of students to practice, for a defined period, with experienced clinicians employed in the clinical facility (Jayasekara, 2017). This model of teaching and learning in nursing education is a one-to-one pairing of a student nurse with a nurse preceptor. For this reason, educational institutions rely on registered nurses practicing in the specific placement area to take the role of clinical instructors for students allocated within their unit (Mhango et al., 2021). Accordingly, clinical teachers should be role models while supervising students and show that they are prepared for teaching. They must also set an example in the clinical fields. It is important to remember that the quality of student learning is dependent not only on the type of clinical experience but also on the characteristics and skills of the teacher who facilitates that learning (Mutair, 2015).

The Social Cognitive Theory (SCT) and Self-efficacy theory in relevance to the current study, focuses on nurse preceptor's knowledge on clinical education which involved teaching skills, clinical competence, nursing curriculum, relating theory and clinical practice, and professional development. This cognitive aspect affects the behavior particularly the confidence and competence in clinical teaching. SCT suggests that effective clinical teaching involves modeling desired behaviors such as effective communication and clinical reasoning for students. The center of the SCT is self-efficacy that emphasizes its role in effective clinical teaching. Educators who believe in their abilities and adapt teaching practices based on observational learning principles contribute to a positive learning environment. High self-efficacy is more likely to engage in effective teaching practices, adapt to challenges, and positively influence student learning (Dybowski et al., 2017).

Confidence and competence in clinical teaching is associated with self-efficacy, where, a person believes to do a task with conviction. According to Bandura's (1993) Self-efficacy theory, those who have a high sense of efficacy visualize

success scenarios that provide positive guides and support for performance. Moreover, in relation to education, teacher's (nurse preceptor) belief in their personal efficacy to motivate and promote learning affects the types of learning environments (effective clinical teaching) they create and the level of academic progress their students achieve (Bandura, 1993). In addition, competence in clinical teaching is supported by Meiyanti et al. (2022), where competency is termed as pedagogic competence which is the ability of a teacher to carry out the duties and functions of his position to achieve success in the learning process (effective clinical teaching).

Confidence and competence in clinical teaching complement and require each other thereby achieving effective clinical teaching. Once the teacher's presence is strategic in the success of education, it is natural for teachers to try to increase the fighting spirit (confidence) and competence that is carried out as their responsibility in improving the quality of education (effective clinical teaching). Therefore, to support success in the learning process, teachers must have self-efficacy to realize the quality of learning carried out by effective teaching (Meiyanti et al., 2022).

In Saudi Arabia, Bachelor of Science in Nursing Program follow two pathways: regular nursing program (RNP), and the bridging nursing program (BNP). RNP has been designed as four years of academic study, followed by one year of internship. On the other hand, the BNP is a two-year program, followed by six months of internship, for students who are already registered nurses with a diploma certificate. The internship is organized and monitored by the university, while internship sites provide the internship training. Nursing interns undertake their rotations in several nursing departments, including emergency, intensive care, medical-surgical, pediatric, maternity (for female students only), and psychiatric, as well as primary health care clinics. Maternity nursing is delivered through two courses to male and female students. Unfortunately, male students do not have the opportunity to be exposed to real practice in perinatal care settings. However, they get extensive training on high-fidelity simulation manikins and equipment during their undergraduate education to compensate for the lack of such training. Generally, the internships at most Saudi universities utilize the supervised practice internship model in which a staff nurse supervises the student while the academic member works in liaison to ensure the smooth achievement of the internship plan, (Aljohani, 2020).

Preceptorship in Saudi Arabia is merely an additional task to the staff nurse's day-to-day activities such as patient care and administration (Mhango et al., 2021). However, nurse preceptors need to perform their duty in clinical teaching to integrate nursing education into nursing practice. In line with this, clinical teaching in the country has many challenges such as time pressure on the part of nurse

preceptor and potential problems and deficits which may hinder achieving a good environment for clinical teaching (Mutair, 2015). Nurse preceptors have a dual responsibility in patient and learner care which makes it difficult for them to assume the role. They also lack the competence to perform effective learning strategies which have impacted negatively in the teaching process (Mutair, 2015).

The shortage of nurse preceptors affects clinical teaching where the expected 1:1 ratio (nurse preceptor: nurse intern) is not possible. And based on the researcher's personal knowledge, there has been no study yet in the kingdom regarding clinical teaching confidence, competence, and effectiveness among nurse preceptors using structural equation model. In addition, the nurse preceptor training program is not standardized across all hospitals. Some even have no program at all resulting to incompetent nurse preceptor.

The constant data gap in the literature is the lack of preceptorship training program among nurse preceptors, making it difficult for them to be confident and competent in clinical teaching to execute effective clinical teaching. Lack of knowledge and expertise in clinical teaching can have significant implications for both nurse preceptors and nursing interns in healthcare settings. When educators lack the necessary knowledge and expertise in clinical teaching, several challenges may arise such as ineffective instructional strategies, limited ability to assess competencies, difficulty providing constructive feedback, lack of integration of theory and practice, inability to address diverse learning styles, risk of transmitting inaccurate information, challenge in adapting to changing healthcare practices, and difficulty in creating a positive learning environment. To address this gap, a preceptorship training program is recommended by the literature.

The outcome of this study will be a useful tool in the improvement of clinical nursing education and clinical practice and its responsiveness to the demands of the standard in the nursing profession. It provides significant benefits to the following:

Nursing Education Administration and Training Center. The result of the study will be significant in guiding the administrators in developing policies that support effective clinical teaching. This can include setting standards for preceptor training, creating support systems for nurse preceptors, and integrating evidence-based teaching practices into nursing programs.

Nursing Practice. The outcome of the study provides an opportunity to strengthen nursing skills, and apply knowledge in various clinical practices and demonstrate competence in practical skill and

procedure thereby providing quality nursing care and patient safety.

The findings of this study are expected to positively influence the learning outcomes of nursing interns, supporting their preparation for entry-level nursing positions; ensure patients receive safe and high-quality care; and serve as a foundation for future research by identifying factors that affect confidence, competence, and effectiveness in clinical teaching, thereby addressing challenges related to variability in teaching quality and contributing to a more effective and sustainable nursing education system.

The study was conducted in 2024 which aimed to test if there is a relationship between confidence, competence, and effectiveness in clinical teaching among nurse preceptors in southern region, Saudi Arabia. The results of the study will bring about recommendations for the development or improvement of clinical teaching among nurse preceptors to optimize the transferring and actualization of theoretical knowledge into practice in line with nursing education.

METHOD

1. Design

A descriptive-correlational cross-sectional design was used in this study. The descriptive design was applied to describe the profile of the participants, while correlation was employed to determine the relationship among confidence, competence, and effectiveness in clinical teaching

2. Sample Size and Sampling Technique

The study population consisted of nurse preceptors from selected government hospitals in the southern region of the Kingdom of Saudi Arabia. Simple random sampling was used to select the participants. Samples selected randomly in this manner were not subject to researcher bias. Although representativeness of the population could not be fully guaranteed, random selection ensured that differences between the sample and the population were purely a function of chance (Polit & Beck, 2011). Nurse preceptors were registered nurses working in government hospitals who supervised nursing interns affiliated with their institutions.

The following parameters were used to estimate the projected sample size of the study using a priori power analysis.

Table 1. Parameters to estimate the projected sample size of the study using the priori power analysis

Power:	80.00% (0.80) (Daniel & Cross, 2013)	Number of Observed Variables:	13 Variables
Anticipated Effect Size:	0.30 (Moderate) (Cohen, 1988)	Alpha:	5.00% (Two-Tailed) (Daniel & Cross, 2013)
Number of Latent Variables:	3 Variables		

From the theoretical model and research objectives of the study, there are a total of 13 observed variables (enhancing student learning, relating theory and practice, engaging in scholarship, functioning as a leader, participating in professional development, rating or student evaluation, goal setting and individual teaching, teaching strategies, demonstration of organized knowledge, teacher's professional growth ability, teaching ability, clinical nursing competency, and personal traits) which are reflected by the different dimensions of the three latent variables (clinical teaching confidence, clinical

teaching competence, and clinical teaching effectiveness).

A minimum of 80.00% power was required to detect true relationships and reduce Type II errors to 20.00% (Daniel & Cross, 2013). A moderate effect size of 0.30 was considered necessary to detect clinically and statistically significant results, with a default significance level of 5.00% (Daniel & Cross, 2013).

Variable(s) of Interest: Model of the association of confidence, competence and effectiveness in clinical teaching.

Statistical Printout:

A-priori Sample Size Calculator for Structural Equation Models

This calculator will compute the sample size required for a study that uses a structural equation model (SEM), given the number of observed and latent variables in the model, the anticipated effect size, and the desired probability and statistical power levels. The calculator will return both the minimum sample size required to detect the specified effect, and the minimum sample size required given the structural complexity of the model.

Please enter the necessary parameter values, and then click 'Calculate'.

Anticipated effect size: ?

Desired statistical power level: ?

Number of latent variables: ?

Number of observed variables: ?

Probability level: ?

Calculate!

Minimum sample size to detect effect: 119

Minimum sample size for model structure: 89

Recommended minimum sample size: 119

Figure 1. Determining Sample Size for SEM in Online calculator Computation

3. Result Interpretation and Recommendation

Sample size computation (priori) was conducted using the online sample size calculator for structural equation models of Soper (2024). Using a minimum power of at least 80%, a moderate effect size of 0.30, three (3) latent variables, 13 observed variables, and a significance level of 5% (two-tailed),

a minimum sample size of 119 participants was required. Hence, the final sample size for the study was set at no fewer than 119 participants. However, additional samples were collected to increase feasibility.

The target sample size was 150 participants out of 170 officially designated nurse preceptors. The

list of nurse preceptors, along with the names of their hospitals, was obtained from the nursing education departments of the participating hospitals. Participants were assigned consecutive numbers from 1 to 170. One hundred fifty random numbers were selected using a raffle method. The selected participants' names were forwarded to the corresponding hospital's nurse educator, who then distributed the electronic consent form and questionnaires via social media. A total of 128 responses were received.

4. Data Collection and Instruments

There were three sets of self-assessment tests used in the study. An adopted and validated structured tool or instrument by the main author from the literature was employed for the clinical teaching confidence, competence, and effectiveness.

The first instrument used for the self-assessment of the confidence of nurse preceptors in clinical teaching was from Nguyen et al. (2017), called the Clinical Nurse Educator Skill Acquisition Assessment (CNESAA), which aimed to measure perceived confidence in teaching roles within the clinical setting among clinical nurse educators. It contained 24 items focusing on the educational activities of CNEs (Clinical Nurse Educators) covering areas such as student learning enhancement, bridging theory to practice, engagement in research, leadership, and professional development. A five-point Likert scale was used: 1 = low confidence, 2 = moderately low confidence, 3 = moderate confidence, 4 = moderately high confidence, and 5 = high confidence. This confidence encompassed their ability to facilitate learning, understand curriculum design, evaluate student performance, and provide constructive feedback. The eight subscales were: (i) facilitate learning; (ii) facilitate learner development and socialization; (iii) use assessment and evaluation; (iv) participate in curriculum design and program evaluation; (v) function as a change agent and leader; (vi) pursue continuous quality improvement of clinical teaching; (vii) engage in scholarship; and (viii) function within the educational environment. Cronbach's alpha was calculated to examine the internal consistency of the CNESAA instrument. Prior to the analysis, alpha coefficients ranged from 0.83 to 0.90 for the eight subscales in the CNESAA version 1. After respecification, Cronbach's alpha values remained high: 0.83–0.92 for the five subscales and 0.95 for the overall scale of the CNESAA version 3. All item-to-total correlations exceeded 0.50, and inter-item correlations were >0.30 . According to Hair et al. (2010), these values were meritorious, demonstrating high reliability and consistency of the CNESAA instrument.

The second instrument for the self-assessment of the competence of nurse preceptors in clinical teaching was taken from Hsu et al. (2014). The Clinical Teaching Competence Inventory for Clinical Nursing Preceptors (CTCICNP) contained a total of

53 items regarding four aspects of their teaching performance: student evaluation, goal setting and individual teaching, teaching strategies, and demonstration of organized knowledge. The scale for rating the competency of nurses ranged from 1 = in need of much improvement to 5 = no need for improvement at all. The Cronbach's α values for the four factors ranged from 0.82 to 0.87, which indicated a reliable set of items because α values were greater than 0.70 (Hsu et al., 2014).

The third instrument employed for the self-assessment of effectiveness among nurse preceptors in clinical teaching was taken from Wu et al. (2022), called the Clinical Nursing Teacher Self-Efficacy Scale (CNTSS). It consisted of 35 items with four subscales. The scoring range for each item was 0–4; participants were instructed to rate all items on a 5-point Likert scale (4 = strongly agree, 3 = agree, 2 = neutral, 1 = disagree [there is disagreement regarding the effectiveness in clinical teaching], 0 = strongly disagree). The Cronbach's coefficient of the overall scale was 0.92.

The instruments were in the form of an electronic survey. The sets of questionnaires were written in English and Arabic, with the latter translated by a Saudi national nurse educator, who was bilingual and had 15 years of experience in nursing education and practice. The translation was reviewed by three experts, two Saudis and one Filipino. The experts reviewed the instruments for relevance, clarity, sufficiency, and appropriateness of every item individually and in relation to its subscale, and finally the fit of each item to the overall scale. Face validity was established for the three instruments.

5. Data Collection Process

Data collection commenced after approval from the SPUM REC and after permission was obtained from the directors of nursing of the participating government hospitals. The researcher then contacted the nurse educators in the Nursing Education Departments to obtain the list of nurse preceptors. Out of 170 nurse preceptors, 150 participants were randomly selected using a raffle method. The names of the selected participants were forwarded to the respective nurse educators, who then disseminated the electronic consent forms and questionnaires through Google Forms to the participants.

Consent to participate was obtained, and completed responses were submitted electronically via a web link shared through the nurse educators' social media groups. Participants were given sufficient time to complete the questionnaires. Data collection was conducted over a one-month period. Participants were assured of confidentiality, and they were informed that the data would not be used to identify individuals or hospitals. A total of 128 responses were received.

6. Data Analysis

Statistical analyses were conducted using IBM SPSS Statistics for Windows and AMOS version 20.0 (Armonk, NY: IBM Corp.). A p-value of 0.05 was considered statistically significant. Descriptive statistics included mean, standard deviation, frequency, and proportions to describe the demographic characteristics, clinical teaching confidence, clinical teaching competence, and clinical teaching effectiveness among the participants. Comparative analyses of clinical teaching confidence, clinical teaching competence, and clinical teaching effectiveness according to the different demographic characteristics were conducted using independent t-tests and one-way Analysis of Variance (ANOVA) (Daniel & Cross, 2013). The one-way ANOVA analyses were only used to compare the three variables (confidence, competence, and teaching effectiveness) according to demographic characteristics. Since some of the demographics had ≥ 3 categories (e.g., age group, educational attainment, duration of experience, duration as a preceptor), analysis of variance (ANOVA) was the statistical test of choice, as the data had met the univariate normality assumption upon analysis using the Shapiro-Wilk Test. Pearson's R was also used to test the assumption of linearity as a preliminary step of the CB-SEM approach, and it was the test of choice since the data were normally distributed. All univariate data normality tests were analyzed using the Shapiro-Wilk Test, while multivariate data normality tests were analyzed using the Doornik-Hansen test. All data were analyzed for normality, as this was a crucial step and assumption in CB-SEM.

For multichotomous demographic characteristics, post-hoc ANOVA was conducted using the Bonferroni adjustment (Daniel & Cross, 2013). In addition, the linear associations of clinical teaching confidence, clinical teaching competence, and clinical teaching effectiveness were initially analyzed using Pearson's R (Daniel & Cross, 2013).

Covariance-based structural equation modeling (CB-SEM) was employed in the study, since it had been highlighted in educational theories that educator competence and confidence were precursors to teaching effectiveness. As such, there were already sufficient theoretical bases to confirm the association of variables in the model, and model testing was applicable rather than model building (PLS-SEM), which was exploratory. CB-SEM was selected according to the following criteria: (1) objective of model testing/confirmatory purpose, (2) >200 samples or depending on the parameters, (3) parametric assumptions were met, and (4) the model was factor-based. In contrast, PLS-SEM was considered ideal if the above criteria were not met.

In the current study, all the requirements of CB-SEM (confirmatory objective, univariate and multivariate normality, and factor-based model) were met, except for the ideal sample size. However, it

should also be noted that the study only involved three variables and paths. The sample size was computed to account for the model parameters and was sufficient. Covariance-based structural equation modeling (CB-SEM), using maximum likelihood estimation, was then conducted to analyze the model of interrelationships between and among clinical teaching confidence, clinical teaching competence, and clinical teaching effectiveness. The following model fit parameters were used to appraise the hypothesized and emerging models: $\chi^2/df \leq 3.00$, root mean square error of approximation (RMSEA) ≤ 0.08 (Byrne, 2010), comparative fit index (CFI) ≥ 0.90 , goodness-of-fit index (GFI) ≥ 0.90 , and a higher parsimonious normed fit index (PNFI) (Huang et al., 2010).

7. Research Ethics

Permission to conduct the study was sought from the Review of Ethics Committee (REC) of St. Paul College University Manila to ensure that the study adhered to the university REC guidelines. The study was granted Ethics Review Clearance No. 2024-27-IDA-CNAHS. Permission and approval were obtained from each Director of Nursing of the government hospital facilities prior to the administration of the questionnaire. Proper communication between the nurse educators and participants was established to ensure a smooth flow of data collection. Consent was obtained from the participants before data collection. The participants were provided with an opportunity to ask questions, which were answered to the best of the researcher's ability. Participation was voluntary, and participants could opt out should they have chosen not to participate. In the event that a participant withdrew during data collection, the data were not included, and the individual was removed from the list of participants in the study. Consent to participate was given freely by the participants. Confidentiality and anonymity of the participants and their responses were ensured throughout the entire data-gathering process

RESULT

1. Profile of nurse preceptors in terms of: age, sex, educational level, years of clinical work experience, and years of work experience as nurse preceptors

The profile of the participants is presented in Table 2. Results showed mean age of the participants was 37.73 years old (SD = 8.67), females (86.00%) Bachelor degree (86.50%), and had been a clinical preceptor for ≥ 5 years (55.50%). It can also be noted that the mean duration of clinical working experience was 12.91 years (SD = 7.32), with the majority having an experience of greater than 10 years (60.90%).

Table 2. Demographic Profile of Participants (n = 128)

Characteristics	Frequency (f)	Percentage (%)	Mean (SD)
Age (years)			37.73 (8.67)
Age Groups			
≤30 Years	28	21.90%	
31 to 40 years	62	48.40%	
41 to 50 years	23	18.00%	
>50 years	15	11.70%	
Sex			
Male	13	10.20%	
Female	115	89.80%	
Educational Attainment			
Diploma	25	19.50%	
Bachelors	88	68.80%	
Masters	15	11.70%	
Duration of Working Experience (years)			12.91 (7.32)
1 to 5 Years	28	21.90%	
6 to 10 Years	22	17.20%	
>10 Years	78	60.90%	
Duration as a Nurse Preceptor (years)			
1 to 2 Years	43	33.60%	
3 to 4 Years	14	10.90%	
≥5 Years	71	55.50%	

2. Association of Confidence, Competence and Effectiveness in Clinical Teaching

Figure 2 depicts the emerging model of the associations of clinical teaching confidence and clinical teaching competence with clinical teaching effectiveness after one round of model re-specification and trimming, and this final emerging model showed good model fit (Table 3). Results showed that the dimensions of confidence and competence in clinical teaching were correlated with one another, with correlation coefficients (r-value) ranging from 0.22 to 0.33, and p-value of 0.003. In a similar vein, confidence had moderate to high linear associations with effectiveness in clinical teaching, with correlation coefficients (r-value) varying from 0.24 to 0.44, $\beta=0.48$, $p=0.004$. In contrast, findings showed that the correlation coefficients (r-value)

ranged from 0.01 to 0.17 for the competence and effectiveness in clinical teaching, and were not statistically significant ($\beta=-0.06$, $p=0.591$). The null hypothesis for the correlation between the confidence and competence, and confidence and effectiveness in clinical teaching is rejected. There is a significant relationship between the confidence and competence of nurse preceptors in clinical teaching, which means that, the more confident they are, the more competent they are in clinical teaching. There is also correlation between the confidence and effectiveness in clinical teaching which means that, the more confident a nurse preceptor is in clinical teaching, the more effective the clinical teaching is. Null hypothesis is accepted for the competence and effectiveness in clinical teaching which signifies that competence in clinical teaching does not affect its effectiveness.

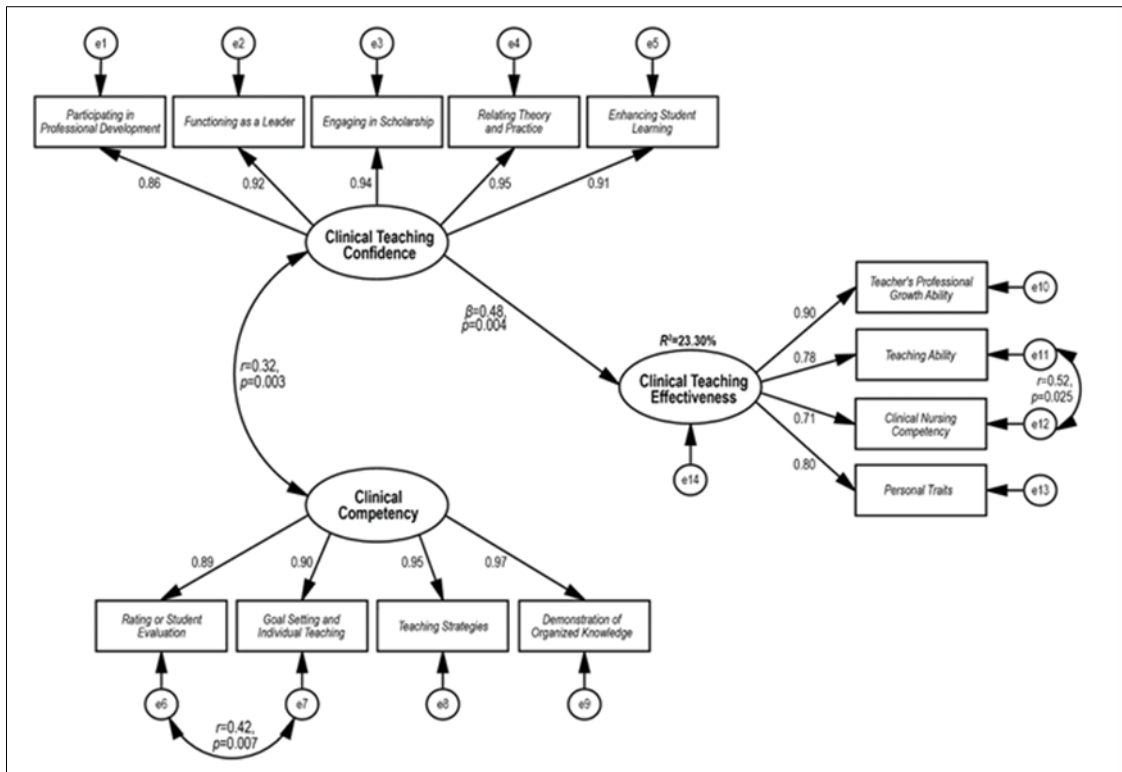


Figure 2. Emerging Model of the Associations of Confidence, Competence, and Effectiveness in Clinical Teaching

DISCUSSION

According to Bandura's self-efficacy theory, teachers who have a high sense of belief in their teaching capabilities achieve higher goals, while those with low self-belief remain overshadowed by fear of failure (Hussein & Khan, 2022). In the context of clinical teaching, participants with high confidence are more likely to engage effectively with students, use diverse innovative strategies, and adapt to learners' needs. Confidence in clinical teaching plays a key role, as demonstrated in the study of Almekkawi et al. (2020). Understanding effective behaviors and supporting instructors during students' clinical experiences fosters a productive teaching-learning environment that improves motivation, expands learning opportunities, and enhances hands-on skills. In addition, educators who attended effective teaching courses reported substantial increases in their confidence to apply evidence-based practices (Cincinnati State, 2023).

However, in Vietnam, due to a shortage of clinical nurse educators, non-nurses (physicians) and inexperienced BSN graduates were recruited to assume this role (Nguyen et al., 2018). Interestingly, although confidence ratings in clinical teaching were moderate to high across professions, experienced nurses reported lower confidence compared to other groups, including those without prior nursing experience before becoming educators.

The study also revealed a positive association between clinical teaching confidence and

competence. Based on Benner's Novice to Expert Model, nurses with more clinical experience tend to demonstrate higher competence and, in turn, greater teaching confidence. Similarly, Bandura's self-efficacy theory supports that when nurses feel confident in their clinical skills, they are more likely to mentor and guide students effectively, thereby reinforcing their teaching confidence.

In clinical teaching effectiveness, teaching ability and clinical nursing competency are closely associated. The most important characteristics of an effective clinical instructor were intrinsic motivation, teaching skills, adequate clinical competence, professional ethics, sufficient clinical experience, appropriate communication skills, professional acceptability, appropriate appearance, and faculty status (Soroush, 2021). These characteristics were essential in clinical teaching. In a similar study, the most effective clinical teaching behaviors were nursing competency and teaching ability as perceived by nurse preceptors and students (Biftu et al., 2018). Paying attention to solid professional competence and advocating personalized teaching was of vital importance (Zhang et al., 2022). The development of professional competence, defined as the provision of nursing services according to professional standards, was crucial. Thus, professional competence was an essential requirement, and nursing teachers needed to be increasingly competent and committed to both nursing practice and clinical teaching (Wu et al., 2022).

Furthermore, in the study of Abdelkader et al., (2021), nursing students perceived high levels of

teaching ability and nursing competence among their clinical educators. The authors stated that clinical nurse educators were responsible for using their teaching and clinical competencies to support student nurses and help them apply the knowledge they gained during theoretical classes, laboratory sessions, and simulation activities to the complex clinical conditions. However, evidence shows that students still struggle to apply classroom learning in real practice due to a persistent theory–practice gap (Angue et al., 2025). This highlights the need for instructors to actively bridge this gap through effective teaching strategies. In addition, clinical instructors are expected to be organized, able to answer precise questions, show self-confidence, emphasize what is crucial for the students to learn, and take responsibility for their actions (AlMekkawi et al., 2020).

In clinical teaching competence, rating or evaluation of student and goal setting and individual teaching are associated with one another. Utilizing student evaluations for goal setting allows preceptors to personalize their teaching strategies to better meet the needs of their students. This approach, discussed by Hattie and Clarke (2019), ensures that teaching methods are aligned with student needs and learning styles. Furthermore, feedback from student evaluations is crucial for educators to identify areas for improvement and set specific goals to enhance their teaching practices. According to Winstone and Carless (2019), effective feedback can drive goal setting by highlighting areas where educators can refine their teaching methods.

The lack of significant relationship between competence and effectiveness in clinical teaching implies that competency measures must be reevaluated and more importantly, it calls for a broader understanding of what makes an effective preceptor. Additional skills and attributes should be integrated into training and evaluation processes to enhance both teaching quality and student outcomes. A preceptorship training program is necessary which focuses on teaching methods and strategies. Effective teaching may rely more on pedagogical skills rather than just clinical competence.

The implications for nursing practice provide opportunities to strengthen nursing skills, apply knowledge in various clinical settings, and demonstrate competence in practical skills and procedures, thereby ensuring quality care and patient safety. For future researchers, the results of the study will be made use as a basis for further studies. Identifying factors that influence confidence, competence, and effectiveness in clinical teaching can help address challenges in nursing education, centering on variability in teaching quality. Research can provide solutions and recommendations to mitigate these challenges, ultimately leading to a more effective and sustainable educational system.

CONCLUSION

The study found that most nurse preceptors were female, aged 31–40 years, BSN graduates, with more than 10 years of clinical experience and at least five years of preceptorship. These characteristics are commonly valued in healthcare institutions due to their association with advanced clinical skills, leadership, and safe patient care outcomes.

Structural equation modeling demonstrated that clinical teaching confidence significantly predicted teaching effectiveness, and confidence and competence were positively interrelated. Furthermore, teaching ability and clinical nursing competence were correlated under teaching effectiveness, while student evaluation and goal setting were correlated within competence. However, competence alone did not significantly predict effectiveness, indicating that confidence plays a more critical role in achieving effective clinical teaching.

Overall, the study concludes that while competence provides the foundation for clinical teaching, confidence enhances its application, thereby shaping effective teaching practices. Many nurse preceptors, although expert clinicians, may lack formal teaching expertise. Hence, structured training programs focusing on pedagogical skills, evidence-based teaching strategies, and self-efficacy enhancement are recommended to improve the quality of clinical teaching, support nursing interns' competency development, and strengthen patient care outcomes.

Clinical Trial Number

Not applicable.

Conflict of Interest

There was no conflict of interest by the author, financial support and relationship from anyone or any organization.

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