

Designing and Validating Performance Standards for Clinical Instructors at Technical Institutes of Nursing

Fatma A. Abd El-Fatah¹, Harisa M. A. El-Shimy², Sanaa A. Ibrahim³, Marwa M. Abd El-Aleem⁴

¹MS.c. of Nursing Administration, Faculty of Nursing, Port Said University, Egypt.
e-mail: almedan82@gmail.com

²Nursing Administration, Faculty of Nursing, Ain Shams University, Egypt.
e-mail: harissa_elshimy@yahoo.com

³Nursing Administration, Faculty of Nursing, Port Said University, Egypt.
e-mail: sanaaahmed4@gmail.com

⁴Lecturer of Nursing Administration, Faculty of Nursing, Port Said University, Egypt.
e-mail: marwa.mohamed1@gmail.com

Received April 27, 2020, accepted May 15, 2020

doi: 10.47104/ebnrojs3.v2i3.139

ABSTRACT

Context: The nursing program's success depends to a great extent on effective clinical learning experience. Clinical instructors can utilize professional standards to identify areas for improvement in clinical practice. The importance of content validity of the developed standards and its relevance with reliability, have made it an essential step in the standards development.

Aim: This study aims to design and validate performance standards for clinical instructors at the Technical Institutes of Nursing.

Methods: The methodological design was utilized. This study was conducted in two sectors: Technical Institutes of Nursing at Port Said and Ismailia City, and their practical training settings. Two groups of participants were included in the study: clinical instructors and experts' group. The data was collected using two tools: An observational checklist and an expert opinion sheet.

Results: The proposed performance standards had an appropriate level of content validity. The overall value of scale-content validity/universal agreement (S-CVI/UA) was equal to 0.852, and the overall value of scale-content validity/average (S-CVI/AVE) was equal to 0.988. The overall interrater reliability value of the proposed standards was 0.852. There were statistically significant differences between pre and post dissemination of the proposed standards in the total mean percentages in all standards ($p < 0.001$).

Conclusions: This study concluded that the proposed developed standards are acceptable for use in the Technical Institutes of Nursing. The study recommended that the developed standards be applied and communicated to all clinical instructors in the Technical Institutes of Nursing, with clinical instructors' training on its implementation.

Keywords: Clinical instructors, content validity, performance standards

1. Introduction

Clinical education is considered the "heart" of professional nursing training and a critical part of the nursing education program (Khan *et al.*, 2015; Papastavrou *et al.*, 2016). Clinical education provides an appropriate opportunity to convert theoretical knowledge to psychomotor skills for nursing students in the care process and provides professional preparation for nursing students. The nursing program's success depends greatly on effective clinical learning experience (Collier, 2018; Heidari & Norouzadeh, 2015).

Clinical learning experiences are an essential aspect of the nursing education curriculum. These experiences are significant in student progression, attrition, and future employment decisions. Clinical learning opportunities defined as planned learning activities that allow students to know, perform, and refine professional competencies at a suitable program level. It could also be called clinical practice experiences, clinical learning experiences, clinical practice, clinical strategies, clinical activities, experiential learning strategies, or practice (Ironsides *et al.*, 2014; Young *et al.*, 2016).

Since the 18th century, clinical instructors have been a dynamic to the success of clinical education program and have a direct impact on the quality of students' performance, making sure that students achieve positive outcomes within the clinical settings and in future practice. Therefore, the clinical instructors as a cornerstone of nursing education, and play an essential role in preparing nursing graduates for his/her role as competent, capable and caring nurses (Kelly, 2007; Rowbotham, & Owen, 2015).

The clinical instructors are expected to help the students integrate the theoretical concepts learned in class into clinical practice and develop the professional skills and behaviors required in nursing practice (Volk *et al.*, 2013). The clinical instructor's principal role expectation is to facilitate clinical education while supervising nursing students in the clinical setting. Clinical instructors facilitate learning by bridging the gap between theory and practice for nursing students (Dahlke *et al.*, 2012).

Effective clinical instructor (CI) is competent in clinical practice, knowledgeable regarding the clinical facility and students' needs, supportive and encouraging, and uses diverse teaching strategies (Hanson & Stenvig, 2008). Furthermore, Calderwood *et al.* (2014) defined standards as authoritative statements used by the nursing professions to describe the responsibilities for which

¹Corresponding author: Fatma Abdou Abd El-Fatah

practitioners are accountable. Standards encourage clinical instructors to persistently enhance knowledge base through experience, continuing education, and the latest guidelines. Clinical instructors can utilize professional standards to identify areas for improvement in clinical practice and work areas and improve patient and workplace safety (Davis, 2014 & Health Information and Quality Authority, 2012).

2. Significance of the study

The standards developed in this study guide, train, direct, and evaluate the clinical instructors' performance. It ensures that optimal clinical education is taking place, enhance clinical instructors' knowledge, provide guidance in planning the core curriculum and courses, achieve proficiencies, prepare students with the professional knowledge and skills they are needed to practice in the clinical settings, and achieve program outcomes and academic success. Moreover, there had been no evidence of conducting previous studies on designing and validating performance standards for clinical instructors at the Technical Institutes of Nursing at Port Said City and Ismailia City. It is crucial to design and validate performance standards for clinical instructors at the Technical Institutes of Nursing.

3. Aim of the study

This study aims to design and validate performance standards for clinical instructions at the technical institutes of nursing. The following research objectives were formulated to:

- Assess clinical instructors' performance at the technical institutes of nursing.
- Design performance standards for clinical instructors at technical institutes of nursing.
- Validate the developed performance standards for clinical instructors at technical institutes of nursing.
- Test the applicability of the proposed performance standards for clinical instructors at the technical institutes of nursing.

4. Subjects and Methods

4.1. Research design

The methodological design was used to conduct this study. Methodological design is a process used to develop the validity and reliability of an instrument to measure constructs used as variables in the research (Waltz et al., 2010).

4.2. Research Setting

This study conducted at two sectors:

1. Technical Institutes of Nursing at Port Said City and Ismailia City, for conducting sessions, and namely: Technical Health Institute at Port Said City; Technical Institute of Nursing at Port Said City; Technical Health Institute at Ismailia City; Technical Institute of Nursing at Ismailia City.
2. Practical training places for observing clinical instructors' performance and test applicability of developed

standards. It included Port Said General Hospital at Port Said City, Elnasser Hospital (outpatients) at Port Said City; Elzohor Hospital at Port Said City; Suez Canal University Hospital, Ismailia City; Elshikh Zaid Hospital at Ismailia City.

4.3. Subjects

1. All the available clinical instructors worked at technical institutes of nursing at previously mentioned settings (n=35).
2. Jury group of 30 experts from nursing faculty members specializing in nursing education, nursing administration, medical and surgical nursing, obstetrics and gynecology nursing, pediatric nursing, and community health nursing who work at Faculties of Nursing, and managers of Technical Institutes of Nursing.

4.4. Tools of data collection

4.4.1. Clinical Instructors' Performance Observational Checklist

This tool was designed by the researcher to assess the clinical instructors' performance. This tool was used twice, once before disseminating the standards, and the second time after dissemination. It consisted of the following two parts:

The first part consisted of personal and job characteristics of the clinical instructors' work at previously mentioned settings included name, age, gender, years of experience, qualifications, workplace and span of control, and attending training courses for improving performance.

Based on the literature, the second part was developed Armstrong et al. (2009); Dahlke et al. (2012); Weidner and Henning, (2004); National League for Nursing, (2012); Recker-Hughes et al. (2014) to assess the clinical instructors' performance. This part consisted of 47 items and 13 sub-items under six main dimensions as follow:

- Creating an educational plan (6 items, 9 sub-items).
- Effective instructional/supervisory skills (13 items).
- Effective communication skills (10 items).
- Effective behavior, conduct, and interpersonal relationships (6 items).
- Clinical competence (5 items, and 4 sub-items).
- Assessment/Evaluation skills (7 items).

Scoring system

Scale for this tool was "done," "not done." Scoring: The items "done" and "not done" were scored "1" and "0", respectively. These scores were converted into percent scores, and then means and standard deviations were computed.

4.4.2. Experts' Opinionnaire Sheet

It was developed by the researcher to assess the face validity and content validity of the proposed performance standards for clinical instructors from experts' viewpoints (n=30). It consisted of three parts:

Part 1 consisted of personal and job characteristics of expert panel members. It included name, age, years of

experience, job title, specialty in nursing science, and workplace.

Part 2 was designed to test the jury group's agreement on the general form of the proposed performance standards for clinical instructors (face validity). It consisted of 10 items. The criteria of face validity assessment for this study are based on *Oluwatayo, (2012)* namely: Appropriateness of grammar, the clarity of standards, the correct spelling of words, the correct structuring the sentences, appropriateness of font size, standards statements written in an academic context, standards statements include standard stem and criteria, the structure of the proposed standards look like standards form, criteria associated standards are clear, specific, and measurable, and the structure of the instrument in terms of construction and well thought out format.

Scoring system

The dichotomous scale was used with the categorical options of "Yes" and "No," which indicate favorable and unfavorable items, respectively, where favorable item means that the item was objectively structured and could be positively classified under the thematic category (*Wynd, & Schaefer, 2002*).

Part 3 concerned with the experts' opinions for each criterion (content validity) were recorded in two points scale, namely valid or not valid, with space for any comments. This part consisted of 47 criteria and 13 sub-criteria under six main standards, as follows:

- Standard 1: The clinical instructors should create an educational plan that meets the students' clinical learning experiences needs (6 criteria, 9 sub-criteria).
- Standard 2: The clinical instructors should demonstrate effective instructional/supervisory skills (13 criteria).
- Standard 3: The clinical instructors should demonstrate effective communication skills (10 criteria).
- Standard 4: The clinical instructors should demonstrate effective interpersonal relationships (6 criteria).
- Standard 5: The clinical instructors should have clinical competence (5 criteria, and 4 sub-criteria).
- Standard 6: The clinical instructors should demonstrate effective assessment/evaluation skills (7 criteria).

Scoring system

The criteria "valid" and "not valid" were scored "1" and "0", respectively. These scores were converted into percent scores, and then estimated items' content validity modified by kappa analysis.

4.5. Procedures

The preparatory phase was concerned with managerial arrangements to carry out the implementation phase, as well as the construction, designing, validation and preparation of different data collection tools, review the available literature related to the research and gathering theoretical knowledge on various aspects of the study using textbooks, evidence-based articles, internet periodicals, and magazines, this period extended from March to May 2016.

Official permission to conduct the study was addressed by the dean of the faculty of nursing, Port Said University.

It directed to the managers of the Technical Institutes of Nursing and obtained their permission for conducting this study and collecting data after explaining and clarifying the nature and purpose of the study. Additional oral consent was taken from the clinical instructors, who participated in the study after explaining the nature, aims, and expected outcomes of the study. After explaining the nature, aims, and expected outcomes of the study, written consent was taken from jury members who participated in the study.

Designing/Developmental Phase included the designing and validation of the research tools and standards.

Design and validate the observation checklist through submitting the developed observation checklist to the jury group, to test face and content validity. Validity is the degree to which the instrument measures what it is supposed to measure. A jury of only 11 experts tested it. The researcher interviewed experts from teaching staff at faculties of nursing in nursing education, nursing administration, medical-surgical, and psychiatric nursing.

The content validity ratio test was used to ensure the content validity of items; the findings of this study revealed that from 65 items and 21 sub-items: 47 items and 13 sub-items had high content validity ratio values. Those items remained in the tool. In contrast, 18 items and 8 sub-items had low values of content validity ratio (less than 0.49), those items eliminated from the tool. This phase lasted 2 months from the beginning of June to the end of July 2016.

Filed work: The researcher and the assistant observed the clinical instructors' performance, while they were training students in the practical training settings at Port Said and Ismailia City. Data collection took the period from October to the end of December 2016.

Design the proposed performance standards for clinical instructors: Based on the results related to the assessment of clinical instructors' performance, the researcher developed the proposed performance standards for clinical instructors at the Technical Institutes of Nursing. This stage was carried out from February to March 2017.

The proposed performance standards translated into Arabic. The Arabic draft was then back-translated into English. The back-translated version was compared with the original English version to verify that the questions were properly translated. All of the back-translated items were worded similarly to the original ones and were comparable in their meaning. This stage was carried out from April to May 2017.

A jury of 30 experts validates and assesses the reliability of the proposed standard (jury judgment). The researcher interviewed with experts who were working in the field of nursing education, nursing administration, medical-surgical nursing, obstetrics and gynecology of nursing, pediatric nursing, and community health nursing at Faculties of Nursing, and managers of Technical Institutes of Nursing, and explained the aim of the study and took their approval for participation before data collection. The time needed to fill the opinionnaire sheet about the proposed performance standards ranged from 1-1:15 hours. Data collection for some experts carried out through the

distribution of opinionnaire sheets to the experts and handed it back to the researcher upon completion. Then the necessary modifications were done. This phase was carried out in a period of 5 months from May to October 2017.

The Item Content Validity Index (I-CVI): Modified kappa analysis was applied to evaluate the extent experts panel members agreed on the item relevancy. It revealed the proportion of the agreement on each item (Polit et al., 2007). To obtain a content validity index for each item, the number of those judging the item as relevant was divided by the number of content experts. Interpretation of item-content validity index was: If the value of the item-content validity index is higher than 79 percent the item will be appropriate; If the value of the item-content validity index between 70 and 79 percent it needs revision; If the value of the item-content validity index less than 70 percent it should be eliminated (Abdollahpour et al., 2010).

Kappa statistics (k) provides information about the degree of agreement beyond chance. To calculate the modified kappa statistic, the probability of chance agreement was first calculated for each item by the following formula: $PC = [N! / A! (N - A)!] * 5^N$. In this formula, N= number of experts in a panel, and A= number of panelists agreed that the item is relevant. After calculating I-CVI for all instrument items. Finally, kappa was computed by entering the numerical values of probability of chance agreement (PC) and content validity index of each item (I-CVI) in the following formula: $K = (I-CVI - PC) / (1 - PC)$. Evaluation criteria for kappa were considered excellent if the values above 0.74 were considered good if values between 0.60 and 0.74 were fair if values were between 0.40 and 0.59 (Cicchetti & Sparrow 1981).

Scale-Content Validity Item (S-CVI) is defined as “the proportion of total items judged content valid (Polit et al., 2007). There are two methods for calculating S-CVI: First method: Scale-Content Validity Item/Universal agreement (S-CVI/UA) in the universal agreement approach, the number of items considered relevant by all the judges (or the number of items with item-content validity index equal to 1) is divided by the total number of items. While the second method: Scale-Content Validity Item/Average (S-CVI/Ave), in the average approach, the sum of item-content validity index is divided by the total number of items (Polit & Beck, 2006). Modifications of standards were performed according to the recommendation of panel members and supervisors. Overall results of this study revealed that the proposed standards had a high value of the item-content validity index; those items were valid and remained in the developed standards.

Inter-rater reliability was used to assess the reliability of the proposed standards by two raters to measure the same group of subjects, and inter-rater reliability relates to the extent of difference between the two assessments. It was carried out on nine clinical instructors selected randomly from among clinical instructors at the Technical Institutes of Nursing. Inter-rater reliability was estimated by calculating the intra-class correlation coefficient (ICC)

between rater one and rater two total scores (Battaglia et al., 2014; Houweling et al., 2014). The intra-class correlation coefficient (ICC) is a reliability index reflecting both degrees of correlation and agreement between measurements. Inter-rater reliability (IRR) is being poor if the intra-class correlation value is less than 0.40; IRR is fair if the intra-class correlation value is between 0.40 and 0.59; IRR is good if the intra-class correlation value is between 0.60 and 0.74, and IRR is excellent if the intra-class correlation value is between 0.75 and 1.0. Koo and Li (2016) indicated that the acceptable value of alpha ranges from 0.70 to 0.95.

Cohen's kappa statistics (K) is a statistical measure of the degree of agreement or concordance between two independent raters that consider the possibility that agreement could occur by chance alone (Miller, & Salkind, 2002). Internal consistency was estimated by calculating the item-total correlation and Cronbach's alpha coefficients (Tavakol et al., 2008). Alpha values ranging between 0 and 1, where 0 indicates no relationship among the items on a given scale, above 0.7 are generally considered acceptable and satisfactory, above 0.8 are usually considered quite well, and above 0.9 to 1 indicates excellent internal consistency (Tavakol & Dennick 2011).

Overall results of reliability revealed that the proposed standards had excellent ICCs values indicate higher IRR, these values indicating excellent reliability of developed performance standards, and indicating that coders had a high degree of agreement. Cronbach's alpha values indicated that the proposed standards had excellent internal consistency (≥ 0.840) (Streiner et al., 2015). This phase lasted one month from January to February 2018.

The implementation phase lasted one month from January to February 2018. In this phase, the researcher handed the developed performance standards to clinical instructors at the Technical Institutes of Nursing. The researcher interviewed with clinical instructors and conducted sessions to communicate, clarify, and discuss the developed standards. Every group attended two sessions. The total number of sessions was 16. This phase was achieved over eight weeks at the end of April to June 2018.

Evaluation phase: The researcher tested the applicability of the developed performance standards for clinical instructors at the Technical Institutes of Nursing. The researcher and assistant were observed clinical instructors' application for developed standards at practical training places. This method helped to evaluate the outcome of the implemented standards. After intervention (communicated standers), three months (during the first semester of the academic year 2018), data collection was carried out. This phase took about three months, from October to December 2018.

Ethical Considerations: Informed consent was gained from the study participants by eliciting the study purpose before asking them to participate. They also assured about the anonymity and confidentiality of the information collected, and that it would be used only for scientific research. The investigator emphasized that their participation would be voluntary, and each participant had

the right to refuse to participate and withdraw from the study at any time without giving any justification.

5. Results

Table 1 shows that slightly more than two fifths (42.9%) of clinical instructors' ages were between 31-35 years. Also, it was noticed that the majority of the clinical instructors (88.6%) were females. Consequently, regarding years of experience, the highest percentage of clinical instructors (34.3%) has experience as a clinical instructor between 1-5 years.

Concerning qualifications, the highest percentage of clinical instructors (45.7%) had a master's degree in nursing science. The highest percentage of them (34.3%) was working at the Technical Institute of Nursing at Ismailia City. Regarding the span of control, the majority (80%) of clinical instructors have supervised 21-30 students. Regarding the attendance of courses and training programs, the highest percentage of the clinical instructors (62.9%) attended courses and training programs to improve clinical instructors' performance.

Table 2 shows that the highest percentage of experts (46.7%) aged between 51-60 years, while the lowest percentage of them (13.3%) was ≥ 61 years. Consequently, regarding years of experience, three-fifths of experts (60.0%) have experience ≥ 31 years, while the lowest percentage of them (10.0%) have experience from 5-10 years. Concerning job title, one-third of experts (33.3%) had a professor degree in nursing science, while the lowest percentage of them (6.7%) were consultants in nursing education. About nursing specialty, more than half of the experts (53.3%) were specialized in nursing administration. Regarding the workplace, the highest percentage (26.7%) of the experts was working at the Faculty of Nursing, Alexandria University.

Table 3 shows that all jury members agreed that all criteria included in standard 1.0 are valid (except for developing a time log for daily activities including pre and post-conference and break time, only 29 experts agreed on its validity). I-CVI values for those criteria were ranging between 0.967:1. According to the interpretation of I-CVI, those criteria are appropriate and showed excellent k indicating excellent content validity.

Table 4 shows that all jury members agreed that all criteria included in standard 2.0 are valid (except for assign the students to clinical units according to the previous plan, only 27 experts agreed upon its validity). Values of I-CVI for those criteria were ranging between 0.9:1.

According to the interpretation of I-CVI, those criteria are appropriate and showed excellent kappa indicating excellent content validity.

Table 5 displays that all jury members agreed that those all criteria included in standard 3.0 are valid (except for encouraging dialogue with students to communicate and feedback their information exchanged, and initiate communication that may be difficult or confrontational. Only 27 experts are agreed on its validity). Values of I-CVI for those criteria ranging between 0.9:1. According to the

interpretation of I-CVI, those criteria are appropriate and showed excellent k indicating excellent content validity.

Table 6 illustrates that all jury members agreed that all criteria included in standard 4.0 are valid (except for developing collegial working relationships with students, faculty colleagues, and clinical agency personnel to promote positive learning environments, only 27 experts agreed on its validity). Those criteria had high values of I-CVI which were ranging between 0.9: 1. According to the interpretation of I-CVI, those criteria are appropriate and showed excellent k indicating excellent content validity.

Table 7 shows that all jury members agreed that all criteria included in standard 5.0 are valid (except for help students to initiate correct behavior that does not meet standards and discuss with students the scientific rationale for each of the chosen interventions, only 27 experts agreed on its validity). Those criteria had high values of I-CVI, which were ranging between 0.9:1. According to the interpretation of I-CVI, those criteria are appropriate and showed excellent k indicating excellent content validity.

Table 8 shows that all jury members agreed that all criteria included in standard 6.0 are valid (except for keep records of students' clinical performance evaluations, which include anecdotal notes, progress reports, and summative clinical evaluation, only 29 experts agreed on its validity). Those criteria had high values of I-CVI, which were ranging between 0.967: 1.0. According to the interpretation of I-CVI, those criteria are appropriate and showed excellent k indicating excellent content validity.

Table 9 shows that the overall value of S-CVI/Ave was equal to 0.988, and the overall value of S-CVI/UN was 0.852. In general, content validity revealed that the proposed performance standards had an appropriate level of content validity.

Table 10 summarizes that the intra-class correlations (ICCs), and Cronbach's Alpha were calculated to assess the internal consistency and the inter-rater reliability of the proposed performance standards. The overall value of ICCs was 0.852, and the overall value of Cronbach's Alpha was 0.932. Higher ICCs' values indicate high IRR. These values indicate excellent reliability of developed performance standards and indicate that coders had a high degree of agreement and suggest that the independent coders introduced a minimal amount of measurement error.

Table 11 illustrates the overall performance of clinical instructors before and after the dissemination of the standards. It was noticed that the overall mean percent of clinical instructors' performance pre/post dissemination of the standards was increased from 39.7% to 68.9% with a statistically significant improvement in all standards' dimensions ($p < 0.001$).

Table (1): Frequency and percentage distribution of clinical instructors' personal and job characteristics at Technical Institutes of Nursing (n=35).

Personal and Job Characteristics	No.	%
Age		
25 –	8	22.9
31 –	15	42.9
36 –	7	20.0
≥ 41	5	14.3
Min. – Max.	25.0 – 44.0	
Mean ± SD.	33.26±5.28	
Gender		
Female	31	88.6
Male	4	11.4
Years of experience as a clinical instructor		
1-	12	34.3
6 -	4	11.4
11-	10	28.6
≥ 16 years	9	25.7
Min. – Max.	1.0 – 23.0	
Mean ± SD.	10.14±6.80	
Qualifications		
Baccalaureate of Nursing (B.Sc)	13	37.1
Technical nursing institute diploma	1	2.9
Master degree in nursing science (M.Sc)	16	45.7
Doctorate in nursing science	5	14.3
Workplace		
Technical Health Institute at Port Said City	8	22.9
Technical Institute of Nursing at Port Said City	8	22.9
Technical Health Institute at Ismailia City	7	20.0
Technical Institute of Nursing at Ismailia City	12	34.3
Span of control		
10 –	5	14.3
21-	28	80.0
≥ 31	2	5.7
Min. – Max.	10.0 – 34.0	
Mean ± SD	27.09±5.58	
Attended training courses for improving clinical instructor's performance		
Yes	22	62.9
No	13	37.1

Table (2): Frequency and percentage distribution of experts' personal and job characteristics (n=30).

Basic information of experts group	No.	%
Age group		
30-	5	16.7
41-	7	23.3
51-	14	46.7
≥61	4	13.3
Range	30.0 – 61.	
Mean ± standards	51.27 ± 8.61	
Years of experience		
5-	3	10.0
11-	4	13.3
21-	5	16.7
≥ 31	18	60.0
Range	5.0 – 31.0	
Mean ± standards	21.03 ± 7.95	
Job title		
Consultant	2	6.7
Professor	10	33.3
Assistant Professor	9	30.0
Lecturer	9	30.0
Specialty in nursing science		
Nursing administration	16	53.3
Nursing education	5	16.7
Surgical and medical nursing	3	10.0
Obstetrics and gynecology nursing	1	3.3
Pediatric nursing	1	3.3
Community health nursing	4	13.3
Workplace		
Faculty of Nursing at:		
Alexandria University	8	26.7
Cairo University	6	20.0
Ain Shams University	5	16.7
Port Said University	6	20.0
Beni Suef University	1	3.3
El Fayoum University	1	3.3
Edinburgh University	1	3.3
Technical Institutes of Nursing:		
Technical Institute of Nursing at Port Said City	1	3.3
Technical health Institute at Ismailia City	1	3.3

Table (3): Agreement of jury members upon standard 1.0, "Clinical instructors should create an educational plan that meets the students' clinical learning experiences needs."

	Clinical instructors should create an educational plan that meets the students' clinical learning experiences needs.	Valid I- (n=30)	I-CVI***	Pc**	K***
1.1	Assess students' clinical learning needs by identifying the targeted learner.	30	1	0.093	1
1.2	Assess the current level of student's knowledge and performance.	30	1	0.093	1
1.3	Use a valid tool to identify students' needs.	30	1	0.093	1
1.4	Develop clinical learning plan (course plan):	30	1	0.093	1
1.4.1	Determine the aim of clinical learning experiences.	30	1	0.093	1
1.4.2	Write down appropriate intended learning outcomes.	30	1	0.093	1
1.4.3	Sequence the contents of clinical learning experiences according to priority within a reasonable time frame.	30	1	0.093	1
1.4.4	Determine teaching/learning activities that are in line with the learning outcomes and contents.	30	1	0.093	1
1.4.5	Select a variety of evaluation methods that will provide evidence of the achievement of the learning outcomes.	30	1	0.093	1
1.4.6	Design an assessment/evaluation schedule that determines the dates and weights of assessments during the semester.	30	1	0.093	1
1.5	Collaborate with students to plan the clinical learning experiences.	30	1	0.093	1
1.6	Develop a time log for daily activities including, pre and post-conference, and break time.	29	0.967	0.028	0.966
1.7	Design remedial plan to improve students' weakness areas and their practical performance.	30	1	0.093	1
1.8	Plan the orientation program for the facility.	30	1	0.093	1

*I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa).

Table (4): Agreement of jury members upon standard 2.0, "Clinical instructors should demonstrate effective instructional/supervisory skills."

	Clinical instructors should demonstrate effective instructional/supervisory skills.	Valid I- (n=30)	I-CVI*	Pc**	K***
2.1	Clarify clear clinical learning experiences' objectives and activities of the students.	30	1	0.093	1
2.2	Orient students to clinical facilities.	30	1	0.093	1
2.3	Assign students to clinical units according to the previous plan.	27	0.9	0.01	0.899
2.4	Implement a clinical learning experience plan with students with suitable resources.	30	1	0.093	1
2.5	Be available in clinical practice when students need assistance.	30	1	0.093	1
2.6	Utilize various clinical teaching strategies and learning activities to stimulate student interest and meet students' individual needs.	30	1	0.093	1
2.7	Explains clearly ethics, values, concepts, and theories applicable to patient care.	30	1	0.093	1
2.8	Guide students while performing nursing care for patients.	30	1	0.093	1
2.9	Observe students in the performance of simple and complex procedures.	30	1	0.093	1
2.10	Modify clinical learning experiences on time based on the quality of the student's performance.	30	1	0.093	1
2.11	Provide frequent, constructive, and timely feedback on student progress.	30	1	0.093	1
2.12	Record positive or negative student's behaviors to support him during student evaluation.	30	1	0.093	1
2.13	Strengthen the students' weakness area using a remedial plan based on students' needs.	30	1	0.093	1

*I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa).

Table 5: Agreement of jury members upon standard 3.0"Clinical instructor should demonstrate effective communication skills."

3.0	The clinical instructor should demonstrate effective communication skills.	Valid (n=30)	I-CVI *	Pc**	K***
3.1	Use verbal, non-verbal, and written communication skills.	30	1	0.093	1
3.2	Communicate clearly to students about the outcomes of learning and expectations of students in clinical practice.	30	1	0.093	1
3.3	Listen attentively to students.	30	1	0.093	1
3.4	Attentive to the student's non-verbal communication, indicators, and expression.	30	1	0.093	1
3.5	Encourage dialogue with students to communicate and feedback their information exchanged.	27	0.9	0.013	0.899
3.6	Determine times and a place for the ongoing professional conferences with students.	30	1	0.093	1
3.7	Initiate communication that may be difficult or confrontational.	27	0.9	0.013	0.899
3.8	Ask open-ended questions and directed problem- solving.	30	1	0.093	1
3.9	Demonstrate the ability to control the communication exchange with students and groups.	30	1	0.093	1
3.10	Communicate with different categories in the clinical education field to help the student to learn and practice.	30	1	0.093	1

*I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa)

Table (6): Agreement of jury members upon standard 4.0, "The clinical instructors should demonstrate effective interpersonal relationships."

4.0	The clinical instructors should demonstrate effective interpersonal relationships	Valid (n=30)	I-CVI*	Pc**	K***
4.1	Develop collegial working relationships with students, faculty colleagues, and clinical agency personnel to promote positive learning environments.	27	0.9	0.013	0.899
4.2	Demonstrates confidence in and respect for the student.	30	1	0.093	1
4.3	Demonstrate negotiation/conflict management skills.	30	1	0.093	1
4.4	Demonstrate respect for gender, religious, and individual differences when interacting with people.	30	1	0.093	1
4.5	Facilitate learning in the clinical environment by encouraging and supporting and making students feel they are part of the team.	30	1	0.093	1
4.6	Encourage collaboration between students (small group tasks and encourage them to learn from each other).	30	1	0.093	1

: *I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa).

Table (7): Agreement of jury members upon standard 5.0, "The clinical instructors should have clinical competences."

5.0	The clinical instructors should have clinical competences.	Valid (n=30)	I-CVI*	Pc**	K***
5.1	Show a sufficient level of knowledge and clinical skill experience in the area of specialty.	30	1	0.093	1
5.2	Demonstrate sound of clinical decision making and systematic approach to problem-solving.	30	1	0.093	1
5.3	Demonstrate effective clinical skills and procedures.	30	1	0.093	1
5.4	Help students to initiate correct behavior that does not meet standards.	27	0.9	0.013	0.899
5.5	Encourage students to become increasingly more independent and autonomous professionals:	30	1	9.3	1.000
5.5.1	Ask higher-level questions that assist students in thinking through complex clinical situations and cases requiring critical thinking.	30	1	0.093	1
5.5.2	Encourage students to set their own learning goals.	30	1	0.093	1
5.5.3	Provide the student with opportunities to practice different clinical skills for patients.	30	1	0.093	1
5.5.4	Discuss with students the scientific rationale for each of the chosen interventions.	27	0.9	0.013	0.899

: *I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa).

Table (8): Agreement of Jury Members upon Standard 6.0, "The Clinical instructors should demonstrate effective assessment/evaluation skills."

6.0	Clinical instructors should demonstrate effective assessment/evaluation skills.	Valid (n=30)	I-CVI*	Pc**	K***
6.1	Use a variety of strategies to assess and evaluate learning in the clinical settings in all domains of learning (cognitive, psychomotor, and affective domains).	30	1	0.093	1
6.2	Use a valid evaluation tool based on the intended learning outcome taught for the students.	30	1	0.093	1
6.3	Keep records of students' clinical performance evaluations, including anecdotal notes, progress reports, and summative clinical evaluation.	29	0.967	0.028	0.966
6.4	Permit the student to review these notes, evaluation results, and have the opportunity to comment on them.	30	1	0.093	1
6.5	Inform students of the standards by which their performance will be judged.	30	1	0.093	1
6.6	Encourage students to evaluate their performance (self-assessment).	30	1	0.093	1
6.7	Use the student's assessment and evaluation results to modify clinical expectations or design further quality learning experiences.	30	1	0.093	1

*I-CVI: item-level content validity index, **pc (probability of a chance occurrence) ***K (Modified Kappa).

Table (9): Overall items' content validity by S-CVI/UA and S-CVI/AVE.

No.	The proposed performance standards for clinical instructors	S-CVI/Ave*	S-CVI/UN**
1	Clinical instructors should create an educational plan that meets the students' clinical experiences needs.	0.997	0.93
2	Clinical instructors should demonstrate effective instructional/supervisory skills.	0.992	0.93
3	The clinical instructor should demonstrate effective communication skills.	0.980	0.800
4	The clinical instructors should demonstrate effective interpersonal relationships.	0.983	0.833
5	The clinical instructors should have clinical competences.	0.978	0.778
6	The clinical instructor should demonstrate effective assessment/evaluation skills.	0.995	0.857
	Total	0.988	0.852

*Scale-Content Validity Item/Average **Scale-Content Validity Item/Universal agreement.

Table (10): Inter-rater reliability of the proposed performance standards modified by intra-class correlation (ICC), and Cronbach's alpha.

No.	The proposed performance standards	ICC	Cronbach's Alpha
1.0	The clinical instructors should create an educational plan that meets the student's clinical learning experiences needs.	0.862	0.918
2.0	The clinical instructors should demonstrate effective instructional/supervisory skills.	0.957	0.992
3.0	The clinical instructors should demonstrate effective communication skills.	0.791	0.934
4.0	The clinical instructors should demonstrate effective interpersonal relationships.	0.920	0.969
5.0	The clinical instructors should have clinical competencies.	0.870	0.939
6.0	The clinical instructor should demonstrate effective assessment/ evaluation skills.	0.716	0.840
	Overall	0.852	0.932

Table (11): Overall clinical instructors' performance before and after dissemination of standards.

No.	Clinical instructors' performance	Before (n=35) % Mean±SD	After (n=35) % Mean±SD	T-test	P-value
1.0	The clinical instructors should create an educational plan that meets the student's clinical learning experiences needs.	31.0±25.5	70.4±34.9	6.616	<0.001
2.0	The clinical instructors should demonstrate effective instructional/supervisory skills.	36.3±25.8	63.3±22.9	6.296	<0.001
3.0	The clinical instructors should demonstrate effective communication skills.	49.1±29.3	69.1±29.6	4.199	<0.001
4.0	The clinical instructors should demonstrate effective interpersonal relationships.	47.1±44.2	76.7±30.0	6.299	<0.001
5.0	The clinical instructors should have clinical competencies.	37.1±25.3	60.0±30.5	5.648	<0.001
6.0	The clinical instructors should demonstrate effective assessment/evaluation skills.	46.9±24.1	80.8±17.0	8.521	<0.001
	Overall	39.7±19.5	68.9 ± 16.2	11.655	<0.001

6. Discussion

Nowadays, there have been no research-based standards and associated criteria for clinical instructors. In this study, evidence supporting the content validity of proposed standards was based on literature review, clinical observation, and the jury group's judgment. According to the present study findings, most experts agreed that the general form of proposed standards was valid (face validity). This step is considered an essential criterion for the adoption of standards.

Concerning the validation of the standard 1.0, all jury members in the present study agreed that the clinical instructors should create an educational plan that meets the students' clinical learning experiences needs. This finding could be due to the importance of creating an educational plan that gives the clinical instructor a visual picture of what he/she needs to accomplish term by term, and a good idea of how long it will take to meet students' needs and academic goals.

These findings corresponded with *Thomas et al.*, (2016) study which indicated six steps approach to develop an educational plan as follow: Problem identification and general needs assessment; targeted needs assessment, and reported that educational program across the continuum should develop and use reliable, a valid tool for assessing the cognitive, skill, and behavioral competencies of trainees; determine goals and objectives, set achievable learning outcomes, once the needs of targeted learners have been identified. Goals and objectives can be written, objectives, and should include cognitive (knowledge), affective (attitude), or psychomotor (skill). Besides, determine teaching strategies and content. Clinical instructors should select educational methods that will most likely achieve the educational objectives; implement, evaluate, and give feedback.

Regarding validation of standard 2.0, all the jury group members agreed that the clinical instructors should demonstrate effective instructional/supervisory skills. From the researcher's point, effective instructional/supervisory skills essential to reinforce and enhance clinical teaching practices would contribute to improved student learning. These findings are in agreement with *Medallon and Fernande* (2017), who conducted a study to develop and validate clinical instructors' performance evaluation tools at Cabrini College of Allied Medicine. It revealed that items included in the evaluation tool had the appropriate level of validity and reliability which included: clinical instructors should orient students to organizational/unit structure, physical set-up, ward personnel, and policies and regulations; clinical instructors address the learning needs/concerns and problems of the students; clinical instructors discuss clinical focus, requirements, grading system and expectations of the clinical exposure.

Ismail et al. (2016) conducted a study to assess the clinical instructor's behaviors and nursing students' perceptions of effective clinical instructors' characteristics facilitating the learning process. It revealed that instructors who remain accessible to students are good role models, so

the clinical instructors who emphasize what is important, direct students, and help them learn.

Regarding validation of standard 3.0, all the jury group members agreed that "the clinical instructor should demonstrate effective communication skills." From the researcher's point, this standard is a vital life skill and should not be overlooked, and good communication is important to understand, and be understood and can help to foster good working relationships, which can, in turn, improve morale and efficiency.

These findings are in the same line with *Yosif*, (2015) study about students' perceptions of the quality of nursing courses at the Palestine College of Nursing at Gaza Strip. It revealed that students propose that supportive clinical settings have clinical instructors who provide constructive feedback, use good communication skills. Also, *Rakap et al.* (2015) study findings revealed that the clinical instructors should maintain a commitment to professional ethics, communicates effectively. Besides, *Wormley et al.* 's (2017) study revealed that clinical instructors should facilitate communication with the student through active listening and communicate with the academic coordinators of clinical education/director of clinical education regarding student performance.

Regarding validation of 4.0, all the jury group members agreed that "the clinical instructors should demonstrate effective interpersonal relationships because the ability to work together as a team is precious in every workplace. The preceding result is supported by *Yousif*, (2015) study findings, which reported that students propose that supportive clinical settings have clinical instructors who help students develop self-confidence; clinical instructors should make sure that everyone is accepted and their differences are valued and resolve group conflicts, struggles or disagreements. Collaborative relationships between the students and clinical instructors provide students with a wide-ranging clinical skillset while enhancing their ability to prioritize and organize patient assignments. Students gain both confidence and competence through these relationships and can more readily actualize the role of the professional nurse when they enter the workforce.

Concerning the validation of criteria included in standard 5, all the jury members agreed that the clinical instructors should have clinical competencies. This finding could be because clinical instructors play a vital role in the acquisition of nursing students' clinical competencies. The findings of many researchers support these findings. *Singapore Nursing Board* (2017) establish standards for clinical nursing education, indicated that clinical instructors should give students opportunities to set their learning objectives, and reflect on their clinical learning and evaluate whether their learning objectives have been achieved.

Recker-Hughes et al. (2014) study to define qualifications and essential characteristics of clinical instructors and practice environments revealed that promoting student self-reflection during the clinical

experience has been highlighted as an essential clinical instructor's characteristics.

Moreover, participants in study *Nazari and Mohammadi (2015)* believed that a qualified clinical instructor should possess training competence. Besides the effective transfer of concepts and experiences to students. They should strive to train thoughtful nurses by creating learning opportunities and promoting problem-finding skills.

Concerning the validation of standard 6.0, the present study findings showed that all the jury members agreed that the clinical instructors should demonstrate effective assessment/evaluation skills. This finding could help to build an educational program, assess its achievements, and improve upon its effectiveness. It serves as an in-built monitor within the program to review the progress in learning from time to time. It also provides valuable feedback on the design and the implementation of the academic program.

Oermann and Giberson (2016) reported that clinical instructors should keep records of their evaluations of student clinical performance. These records may include anecdotal notes, progress reports, and summative clinical evaluation. These records help document that students received feedback about their performance, areas of teacher concern, and information about student progress toward correcting deficiencies. An anecdotal is a narrative description of the student observed behavior concerning specific learning objectives. In this context, *Elliott & Higgins (2005)* reported that clinical instructors should permit students to review anecdotal notes and have the opportunity to comment on them and should inform standards by which their performance will be judged. Besides, the development of student critical thinking, self-assessment skills are needed.

These findings are contrary to *Rafiee et al. (2014)* study that indicated that clinical instructors do not evaluate student performance through direct observation in the clinical units, clinical instructors had to use the clinical evaluation forms for grading the students, and some of the instructors were not willing to use them for assessing their students. Besides, they did not give the students feedback after the examination; thus, the nursing students are not willing to take this examination. Also, a study by *Vaismoradi and Parsa-Yekta (2011)* revealed that Iranian nursing students are dissatisfied with the evaluation process and reported that no connection could be made between their scores and clinical work because they were not seen when caring for patients.

Lastly, concerning test applicability of the proposed standards, it was noticed that the overall mean percent of clinical instructors' performance before and after disseminating the standards was significantly improved after the dissemination of the standards in all standards' dimensions. The present study findings revealed that the proposed standards are applicable to all clinical instructors at technical institutes of nursing at Port Said and Ismailia City.

Until this time, there has been no research-based test applicability of the performance standard for clinical instructors. However, *Kohn et al. (2000)* reported that standards establish minimum levels of performance or establish consistency or uniformity across multiple individuals and organizations. The process of developing standards can set expectations for the organizations and health professionals affected by the standards. The publication and dissemination of standards additionally help to set expectations for consumers and purchasers.

7. Conclusion

In light of the study findings, it is concluded that the proposed developed standards are acceptable for the Technical Institutes of Nursing. Content validity revealed that the proposed performance standards had an appropriate level of validity and reliability.

Clinical instructors' performance before dissemination of standards generally demonstrated low mean percentages of adequate performance. Improvement of clinical instructors' performance after disseminating the standards showed a statistically significant difference between pre and post dissemination of the proposed standards, which points to its applicability.

8. Recommendations

Based on the findings of this study, it was recommended that:

- The developed standards should be applied and communicated to all clinical instructors in the Technical Institutes of Nursing, with clinical instructors' training on its implementation.
- The standards/criteria developed in this research could be used to foster and augment quality clinical education.
- Establish an orientation program to prepare new clinical instructors about clinical learning principles, effective clinical instruction, how to assess students' needs, and evaluate student performance.
- Workshops should be organized for clinical instructors on their roles in clinical teaching and plan for remediation programs and orientation programs.
- Managers of Technical Institutes of Nursing should use the developed standards to evaluate clinical instructors' performance to incorporate unused behaviors into practice.
- Clinical instructors should use the developed standards as a self-assessment and seek to incorporate behaviors not previously used or infrequently into their practice.
- The developed standards must be used for initiating the academic quality system and assuring its effectiveness.
- Future researchers should validate these standards/criteria among clinical instructors representing different types of clinical settings.
- Replication of this study using a large probability sample with a broader demographic and geographic area is needed to confirm and generalized the findings. Furthermore, to be tested in different higher education faculties and for the different specialty of nursing.

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