Research Article

Acceptance of Mini-CEX Use with Technology Acceptance Model (TAM) Theoritical Approach

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Abstract

Aim: Obtain an overview of the level of acceptance of nursing clinic educators using mini-CEX as an assessment method.

Method: This research is a descriptive study with 62 subjects were clinical instructors, conducted training first, then the technique of data collection using 2 instruments namely mini-CEX format and modified TAM.

Result: 98.4% of respondents can use mini-CEX with graduation criteria above 75% and the graduation of 18.6. Product moment correlation test results for all items TAM significance value> 0.25, then all items are declared valid with a significance of 95%. TAM questionnaire reliability with Alpha Croanbach's test is 0.957. The results of data analysis using the t-test with a limit on the acceptance value of using mini-CEX using the TAM questionnaire was 70% found that the test results showed sig 0,000 (<.0.05).

Conclusion: Mini-CEX can be used as a clinical performance appraisal instrument for nursing students, with a high level of acceptance measured by TAM.

Keywords
Clinical learning, mini-CEX, Technology Acceptance Model (TAM)

INTRODUCTION

Clinical or field learning is a learning activity held in a clinical environment including hospitals, clinics, maternity homes, Public Health Care, and the community (1). Nursing education is closely related between classroom learning and clinical learning (2), because clinical learning is a very important element in nursing education (3). Learning in the clinic is also a facility in carrying out learning activities in a real clinical environment (4), this is because in nursing education more than half of the educational goals that must be achieved are during clinical learning (5).

Clinical learning facilitates students to be exposed to various social, cultural, biological, psychological and mental aspects in caring for patients (6), as a process to integrate the theory obtained in the classroom and in the laboratory so as to produce professional skills and attitudes (7), and prepare students for practice the next time they work (2).

An important process carried out in clinical learning is the process of evaluating or assessing students during the clinical learning process or at the end of clinical learning. The evaluation or assessment process is the central point in the medical and health education curriculum, the assessment is also a complement to the learning process by measuring progress and learning outcomes in accordance with the outcomes mandated in the curriculum (8). Effective evaluation can create motivation for students and also assist clinical educators in evaluating their activities (9).

Evaluation of learning outcomes on clinical or field performance needs to be well structured, sustainable, and provide opportunities for students to display optimal professional abilities, so that the competencies that must be achieved at each stage or level can be fulfilled (10). There are various kinds of instruments developed to assess the clinical performance of students, namely performance observation sheets, 360 degree evaluations, objective structure clinical examnination (OSCE), direct operational procedures skills (DOPS) and mini clinical evaluation exercises (mini-CEX) (4) .

Clinical skills such as history taking, physical assessment, professionalism, clinical judgment (clinical judgment), communication skills, organizational skills and clinical competence are easy to demonstrate but difficult to describe, so often clinical skills assessment cannot be carried out objectively, continuously and consistently. This is regularly because almost all clinical educators are busy clinical practitioners (11), clinical educators also usually have the main task of caring for patients, the workload is quite high and must follow the academic calendar that has been set by the educational institution (12), besides that also based on the results of a preliminary study on clinical educators in several clinical settings, it was stated that the clinical performance assessment formats were quite numerous and complicated, making it difficult to provide assessments to students.

The nursing study program at UPI at Sumedang campus in carrying out the clinical learning process is by using the evaluation form of performance observation sheets, 360 degrees evaluation, objective structure clinical examnination (OSCE), direct operational procedures skills (DOPS) which have been modified. The difficulty that has been felt so far is that the assessment format used in clinical learning cannot be completely filled out by clinical educators with various problems. Filling out the format that is not appropriate, incomplete or not on time, so this will certainly have an impact on the objectivity of student performance assessments in the clinic.

The assessment format that is most often used to assess students' clinical performance internationally in the medical and health fields (13) but has never been applied to the nursing study program at UPI Sumedang campus is mini-CEX. The American Board of Internal Medicine (ABIM) has developed a quality assessment instrument, namely a mini clinical evaluation exercise (mini-CEX) that can be used to assess the clinical competence of students with various clinical skills (14)(15). Mini-CEX

is used by 1 evaluator by observing students by focusing on history taking, physical examination, professionalism, clinical judgment, communication skills, organization and efficiency as well as overall clinical competence (16)(17). The results of the mini-CEX assessment can be used as basic information to provide direct constructive feedback to students (18–20). It is also known that it can directly improve student learning at the time of learning in the clinic (21,22). Mini-CEX improves student learning through information about progress or lack of competence, direction on required materials and learning resources that can facilitate learning and motivation for appropriate learning activities (22).

In Indonesia, the use of mini-CEX is recommended by the Ministry of Health. This is stated in the attachment to the Decree of the Minister of Health No: 659/MENKES/PER/VIII/2009 dated August 14, 2009, standard 5 is the hospital as a partner of educational institutions for doctors/specialists using the mini-CEX method in assessing students (Ministry of Health, 2009). The use of mini-CEX is not only used for the medical profession, but can also be used in the nursing profession. The implementation of mini-CEX in the nursing profession has been implemented in Taiwan, England and Indonesia in 2011. The university that first implemented mini-CEX in the nursing profession in Indonesia was Universitas Muhammadiyah Yogyakarta (UMY) (23).

Assessment of student performance in addition to being able to improve student learning and as a medium to provide constructive feedback for students must also be used objectively, easily and efficiently by evaluators, in this case clinical educators. Based on the description above, it is very important to know the extent to which the mini-CEX can be used by clinical educators in assessing their students during clinical learning.

The existence of mini-CEX as a method of assessing student performance during the learning process in the clinic, in order to be used as an assessment method in addition to having to have 4 requirements that must be tested, namely validity, reliability, impact on students and practicality (24), as well as an assessment instrument which will be used should also be tested for its acceptance to users in this case are clinical educators (25).

Nursing educators and administrators are increasingly concerned about issues of nurse competence, therefore designing a new nurse assessment is becoming more vital. It is critical to maintain society's safety and nursing profession's standards. (*McMullan M, Endacott R, Gray MA, Jasper M, Miller CM, Scholes J, Webb C,* Portfolios and assessment of competence: a review of the literature, *J Adv Nurs. 2003 Feb; 41(3):283-94.).* Because of its efficiency, dependability, validity, and practicality, the nursing mini-CEX was approved in Taiwan. (Walter C, Lin CC, Ching HC, Tsai CH, Tsai CH. Implementation of the mini-CEX (clinical evaluation exercise): experiences and preliminary results. *J Med Educ.* 2006;**10**(3):232–239).

In other studies, the students who used mini-CEX were more satisfied than those who used the standard way (Hasanali Jafarpoor, Meimanat Hosseini, Maryam Sohrabi, and Masoomeh Mehmannavaza. The effect of direct observation of procedural skills/mini-clinical evaluation exercise on the satisfaction and clinical skills of nursing

students in dialysis. J Educ Health Promot. 2021; 10: 74. The investigation of Hoseini et al into the clinical experiences of undergraduate students with mini-CEX in Iran found that midwifery undergraduate students were somewhat satisfied with mini-CEX, which is consistent with the findings of a recent study. The pupils mentioned its motivational benefits as a result of its objectivity, as well as the relatively favourable comments on its practicality. Although some students claimed that the mini-CEX was time-consuming, it was suggested that sequential examination of all talents in this test might bring this up. (Hoseini B, Jafarnejad F, Mazloum S, Foroughipour M. Practical experience of the mini-CEX in undergraduate trainees. *Procedia Soc Behav Sci.* 2013;83:803–7). According to the conclusions of another study by Lörwald et al., mini-CEX and DOPS had a good impact on student performance. *(Lörwald AC, Lahner FM, Nouns ZM, Berendonk C, Norcini J, Greif R, Huwendiek S.* The educational impact of Mini-Clinical Evaluation Exercise (Mini-CEX) and Direct Observation of Procedural Skills (DOPS) and its association with implementation: A systematic review and meta-analysis. *PLoS One. 2018; 13(6):e0198009.)*

Mini-CEX has been proven to be a valid, reliable and positive research method for students, but the user's acceptance of the method has never been measured, namely clinical educators, can the method be used, is it easy to use and is it possible to use it?

One of the most popular and used theories to assess user acceptance of technology is the technology acceptance model (TAM) theory (26). Several studies have also identified and explained the factors that influence new technologies to reduce resistance and resistance to novelty (25,26). Based on the description above, it is deemed necessary to examine the acceptance of mini-CEX as a method of assessing student performance in the learning process in the clinic from the user's point of view, namely clinical educators, with the hope that this method can be used as a reliable assessment instrument.

Socializing the clinical performance assessment method of students to clinical nursing educators using the mini-CEX. Obtain an overview of the level of acceptance of clinical nursing educators in using the mini-CEX as an assessment method.

METHODS

The study was conducted in 2019 in several hospitals and health centers in West Java. This study uses a descriptive research method that will provide an accurate description of the use of mini CEX as a method of assessing students' clinical performance from the perspective of clinical educators based on the Technology Acceptance Model (TAM) theory. Mini CEX was the most frequently used quostionaire to assess the performance in workplace. The quostionaire contains 9-point rating scale organized in three levels of unsatisfactory (1–3), satisfactory (4–6), and high satisfactory (7–9). An expert, usually a faculty member, observes the actual performance of trainees, rates their history taking and physical examination skills, and provides feedback to them (Norcini JJ, Blank LL, Arnold GK, Kimball HR. The mini-CEX (clinical evaluation exercise): a preliminary investigation. Ann Intern Med. 1995;123(10):795–9). This tool has been used in medical education both for

undergraduate and postgraduate programs (Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE guide no. 31. *Med Teach.* 2007;**29**(9):855–71. doi: 10.1080/01421590701775453), both for formative and summative purposes (Weston PS, Smith CA. The use of mini-CEX in UK foundation training six years following its introduction: lessons still to be learned and the benefit of formal teaching regarding its utility. *Med Teach.* 2014;**36**(2):155–63. doi: 10.3109/0142159X.2013.836267).

The Mini CEX can be seen from various variables, namely perceived usefulness, perceived ease. of use, attitude toward using and behavioral intense to use. The research subjects are clinical educators or in nursing better known as clinical instructors (CI) who have or are currently carrying out clinical guidance processes both in hospitals with a total sampling technique of 62 clinical educators, as assigned by their respective institutions.

According to The American Board of Internal Medicine (ABIM), the instruments used in this study were 3 research instruments. The first instrument is the mini-CEX, which is an assessment method that will be tested for usability, ease and possibility to be used in assessing the clinical performance of students. Mini-CEX as described in the literature review consists of 7 assessment items, namely skills in history taking, physical examination, professionalism, clinical judgment, communication and health education, work organization/efficiency and overall clinical competency assessment. Each assessment item will be graded from a range of 1-9 with the following classifications: a range of 1-3 is in the unsatisfactory category, a range of 4-6 is a satisfactory category and a range of 7-9 is a superior or very satisfactory category. (Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE guide no. 31. *Med Teach.* 2007;**29**(9):855–71. doi: 10.1080/01421590701775453). In addition, in the mini-CEX, feedback from assessors to students must be written and at the end of the assessment there is a satisfaction rating range for both assessors and students with the same range, namely 1-9.

The second instrument is an instrument used for evaluation at the clinical educator training stage in using mini-CEX, in a checklist (observation sheet) to assess the ability of clinical educators to use mini-CEX as a method for assessing students' clinical performance.

The third instrument is a questionnaire to measure the acceptance of clinical educators in using the mini-CEX as a new method that will be used to assess the clinical performance of students. This questionnaire is a modification and development of the Technology Acceptance Model (TAM) theory which is a theory that explains the formation of individual attitudes towards a particular system or technology consisting of: perceived usefulness, 4 statement items; perceived ease of use consists of 4 statement items; attitude consists of 3 statement items and intention to use which consists of 3 statement items. Statements are measured on a Likert scale of 1-5 from strongly disagree with the lowest score and strongly agree with the highest score. So the total number of statements is 14 statement items.

This research was carried out in several stages, the stages of the research will be carried out as follows:

Stage 1

Research subjects who meet the inclusion criteria will be invited to be given training on the assessment of students' clinical performance using the mini-CEX. By first preparing the presentation of the research design to policy makers in hospitals and health centers to obtain permission to conduct research.

Stage 2

Clinical performance assessment training for 100 minutes to explain the theory and concepts of mini-CEX, 170 minutes for practice using mini-CEX as a method to assess student clinical performance and 50 minutes for evaluation of the training that has been given. In the initial training session, it will also be explained about the research design that will be carried out and the willingness of research subjects to participate in research by filling out informed consent first, as a legal and ethical aspect in this study. Mini-CEX training evaluation using learning videos of vital signs examination with a duration of 7-8 minutes which has been developed by the research team and adapted to research needs and content validation is carried out by the research team and other experts, then assessed by each trainee (clinical educator) using the trained mini-CEX. The results of filling out the mini-CEX by the trainees will be assessed by the researcher and the team using a checklist that has been prepared.

Stage 3

Implementation of mini-CEX as a method for assessing student clinical performance, for 1 month or approximately 4 assessments for students who are in the clinical learning process.

Stage 4

Completing the TAM questionnaire by research subjects to examine perceived usefulness, perceived ease of use, attitude toward using and behavioral intense to use mini-CEX as a method of assessing students' clinical performance.

RESULTS

Demographic Data of Research Respondents

Of the 70 samples, only 62 respondents were successfully recorded and participated in the entire series of research activities, because as many as 8 respondents did not complete the entire series in this study. The results of univariate analysis showed that there were more female respondents (75.8%) than male respondents (24.2%). The number of respondents with middle adulthood (40-49 years) had the largest proportion, namely 54.8%. While the highest level of education is Bachelor of Nursing, which is 66.1% with experience as a Clinical Instructor for more than 10 years (91.9%) and the most specialization in guidance is in the Inpatient Room (54.8%).

Table 1.
Sociodhemografic of Respondent

Dhemografic	Number	
	n	%
Sex		
Male	47	75.8
Female	15	24.2
Age		
20-29	3	3.0
30-39	14	22.6
40-49	34	54.8
50-59	10	16.1
60-69	1	1.6
Education Level		
DIII	13	21.0
S1	41	66.1
S2	8	12.9
CI Experience		
<5 years	1	1.6
5-10 years	4	6.5
>10 years	57	91.9
Work Area		
Inward room	34	54.8
Outpatient	7	11.3
Emergency	13	21.0
Others	8	12.9

Mini-CEX Charging Evaluation

The second stage of this research is training in filling out the mini-CEX as an assessment format for nursing students during the learning process in the clinic with the following training duration for 100 minutes of interactive lectures and 170 minutes of student assessment practice with mini-CEX with evaluation media in the form of learning videos. been prepared beforehand. When evaluating the use of mini-CEX, the results showed that almost all respondents (98.4%) could use mini-CEX with graduation criteria above 75% and an average passing rate of 18.6. With these results, all respondents can be included in the next research stage, namely the implementation of mini-CEX when guiding students in carrying out the learning process in the clinic.

Tabel 2.
The Mini-CEX Evaluation Post Training (n=62)

Categori	Frequency	Percent	Valid Percent	Cumulative Percent
Not able to asses student using Mini-CEX	1	1.6	1.6	1.6
Able to asses student using Mini-CEX	61	98.4	98.4	100.0
Mean	18.6			
Standar Deviation	1			

Evaluation of the Use of Mini-CEX with the TAM Questionnaire

In this study, the validity of the TAM questionnaire was tested first by testing the validity of the construction using the Pearson's Product Moment correlation test. The results of the product moment correlation test all significance values> 0.25, then all items are declared valid with a significance of 95%.

Table 3.
Item Analysis of Technology Acceptance Model (TAM) Tools

No	Question	Corelation total score	Sig. (2-tailed)
1	Using mini-CEX very helpfull for assess the students	,752**	0.000
2	Using mini-CEX increase enthusiasm to assess the students	,834**	0.000
3	Using mini-CEX can enhance my time efficiency	,704**	0.000
4	I find that mini-CEX make me easy to assess the students	,731**	0.000
5	Using mini-CEX was clear and easy to be understand	,872**	0.000
6	Using the mini-CEX doesn't take up too much of my time	,782**	0.000
7	Using mini-CEX is very easy to use	,891**	0.000
8	Using the mini-CEX very helps me in my work as a clinical instructor	,724**	0.000
9	Using mini-CEX was a good idea in assess students in clinical setting	,713**	0.000
10	Using mini-CEX was a good idea in assessment was a lot of fun	,849**	0.000
11	Using mini CEX in students assessment is very usefull for students and me as a instructor	,806**	0.000
12	I intend to use mini-CEX to assess students in the clinical setting	,889**	0.000

The reliability of the TAM questionnaire with Croanbach's Alpha test is 0.957, meaning that all items are reliable and all tests consistently have strong reliability. The results based on skewness and kurtosis obtained skewness/stdEr Skewness or Kurtosis/stderor kurtosis = Normal Distributed Data.

Tabel 4.
The Data Distribution Test of TAM

			Statistic	Std. Error
TAM total score	Mean		60.89	0.690
	95% Confidence Interval for Mean	Lower Bound	59.51	
		Upper Bound	62.27	
	5% Trimmed Mean		60.72	
	Median		59.00	
	Variance		29.512	
	Std. Deviation		5.432	
	Minimum		52	
	Maximum		70	
	Range		18	
	Interquartile Range		9	
	Skewness		**0.651**	0.304
	Kurtosis		**-1.000**	0.599

The results of data analysis using the t-test with the limit value of acceptance of the use of mini-CEX using the TAM questionnaire was 70%, it was found that the test results showed sig 0.000 (<.0.05) meaning that the average value of respondents was very good around 70%.

Tabel 5.
The t-Test of TAM quostionaire

	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TAM total score	17.230	61	**0.000**	11.887	10.51	13.27

DISCUSSION

Based on the results of the study, researchers found that the demographic data of Clinical Instructors were mostly women in the age range of 41 to 50 years, this is also in accordance with the fact that most people still think that nurses are a profession that is identical to women, so this is in accordance with a fact that occurs in all nursing education institutions, students are dominated by nursing students with a female gender with a percentage of around 80%. The above also explains that the characteristics of clinical instructors are different from those of clinical instructors in Ethiopia because in Ethiopia most clinical instructors are male with the largest age range being 24-34 years, but the educational characteristics are almost the same, namely Bachelor of Nursing with more work experience. than 5 years (27).

Most of the clinical instructors have an educational background of bachelor Nursing, and DIII Nursing and only a small number have an educational background of S2 Nursing, this is certainly very influential on the quality of the learning process in the clinic, because to get a high-quality guidance process, a Clinical instructors must also have high educational qualifications (28), research respondents have the most work experience more than 10 years, then in second position with work experience between 5-10 years and some respondents with work experience less than 5 years. Meanwhile, several studies have stated that clinical experience is a major component in nursing education (29,30). In Japan, nurses can become clinical instructors if they have a minimum of 5 years of work experience in their field and must have attended the 240-hour Clinical Instructor training organized by the Japanese Nursing Association (31), so that actually this criterion is in accordance with the standards of being a Clinical Instructor.

Facts obtained from research respondents, there are still clinical instructors who have less than 5 years of work experience but have S1 Nursing + Nurse education, or those whose education is still DIII Nursing but have work experience in accordance with their field for more than 10 years. So that the application in determining the nurse who is entitled to become a clinical instructor in its implementation there is still an element of subjectivity and is not in accordance with the specified standards. In addition, this also happens because the number of nurses who meet the standards to become clinical instructors is still limited. The clinical learning process is also determined by the output of good learning outcomes and requires clinical supervisors who have educational qualifications, skills and behavior, learning styles, professional development and research so that a competent clinical supervisor is absolutely necessary (32). The clinical instructor's experience regarding the special characteristics needed when becoming a clinical educator includes preparing for effective education, increasing abilities in research, improving managerial skills, becoming a role model in accordance with local culture, motivating and modifying the student learning environment (33).

Respondents were then required to attend one day training with material on the concept of clinical performance assessment, the concept of mini-CEX and the application of assessment using the mini-CEX. This intervention stage is very necessary in this study because the assessment of student clinical performance using the mini-CEX requires at least 2 hours of training beforehand to gain knowledge and how to use the mini-CEX and after that an evaluation is carried out every month (34). The training model used is

adapted from the 2010 Liao mini-CEX training model which consists of a mini lecture, video clip rating exercise and post test using a rating scale checklist. After being trained, all respondents who are willing to take part in the entire series of research activities are then evaluated to assess the knowledge and skills of respondents in applying the mini-CEX with the help of learning videos for examining vital signs. so that all respondents rate the clinical performance of students who act in the video.

The evaluation results show that almost all respondents (98.4%) can use the mini-CEX with a passing criteria above 75% and an average passing rate of 18.6, which means that almost all respondents can use the mini-CEX, with a high level of accuracy. above 75%. (limit score 15). This accuracy is needed by all respondents in assessing student clinical performance with the mini-CEX because to do this, an expert is needed so that the assessment can be carried out actually, especially in terms of history taking, physical examination and providing feedback. (35). The mini-CEX instrument is also a research method that allows the assessor to provide immediate feedback after taking action (36), but the results of the evaluation per part of the mini-CEX show that respondents are still lacking in providing specific feedback, feedback is still given as a formality This is in accordance with previous research which stated that in order for clinical instructors to provide more specific feedback, it is necessary to increase these abilities through training (37).

Mini-CEX is a very important assessment instrument and has a positive influence on the learning process (38). The Mini-CEX is also a student clinical performance assessment that is often used (8), besides that the mini-CEX is also a highly recommended instrument for evaluating the clinical performance of medical students in all clinical service settings (38,39). So it is often adapted because it has high feasibility, validity and reliability to evaluate the six main parts of clinical skills (15). However, no one has evaluated the extent to which this instrument assesses the acceptance of using the mini-CEX as an instrument that is still being used by respondents as a clinical instructor. Therefore, the authors modify the TAM instrument which is commonly used to assess the acceptance of new technology into an instrument used to assess the acceptance of mini-CX as a new instrument to be used in assessing the clinical performance of nursing students.

The questionnaire consists of 3 parts, namely perceived usefulness (4 questions), perceived ease of use (4 questions), attitude toward using (3 questions) and behavioral intent to use (3 questions). This questionnaire was tested for validity and reliability first by testing the validity of the construction using the Pearson's Product Moment correlation test. The results of the product moment correlation test all significance values> 0.25, then all items are declared valid with a significance of 95%. The reliability of the TAM questionnaire with Croanbach's Alpha test is 0.957, meaning that all items are reliable and all tests consistently have strong reliability. Thus, the modified TAM instrument is worthy of being used as a standard research instrument.

The next stage is data analysis using the t-test with the limit value of acceptance of the use of mini-CEX using the TAM questionnaire is 70%, it is found that the test results show sig 0.000 (<.0.05) meaning that the average value of respondents is significantly close to 70%. This explains that the mini-CEX instrument can be used as a new clinical performance assessment method in nursing because its acceptance rate is above or equal to 70%. Tam can also predict the likelihood that a technology can be used and the

ease with which it can be used (40–42). In addition, it can also be said that there is a very close relationship between the perception of the use of the new instrument with the level of ease of use and the possibility of planning to use it in the future (43).

CONCLUSION

Evaluation of the clinical performance of students in the clinical learning process by using the evaluation form of performance observation sheets, 360 degrees evaluation, objective structure clinical examnination (OSCE), modified direct operational procedures skills (DOPS). The difficulty that has been felt so far is that the assessment format used in clinical learning cannot be completely filled out by clinical educators with various problems. Filling out the format that is not appropriate, incomplete or not on time, so this will certainly have an impact on the objectivity of student performance assessments in the clinic.

Mini-CEX is an assessment instrument that is very important and has a positive influence on the learning process, it is also an assessment of student clinical performance that is often used and also mini-CEX is an instrument that is highly recommended to evaluate clinical performance of medical students in all clinical service settings and is also adapted because it has high feasibility, validity and reliability to evaluate the six main parts of clinical skills, it has not been widely used in the nursing education process. So it is necessary to evaluate whether this instrument can also be used to assess the clinical performance of nursing students.

So that an intervention was carried out on respondents with training on the concept and application of mini-CEX and as a result, almost all respondents were able to apply this mini-CEX at the time of evaluation immediately after completion of the training. The results of the training were implemented within 1 month at their respective workplaces when assessing student performance, then the researchers also evaluated the acceptance of respondents in using the mini-CEX by using the modified TAM research instrument, so that the results were in accordance with the author's hypothesis that the respondents stated that mini-CEX is very acceptable in assessing clinical performance (perceived usefulness), mini-CEX is easy to use (perceived ease of use), in the future it will use mino-CEX in assessing student clinical performance (attitude toward using) and very helpful in lightening her job as a nurse and as a clinical instructor (behavioral intense to use).

It is advisable to assess the clinical performance of nursing students during the clinical learning process using mini_CEX as a research instrument, because its validity and reliability have been tested and besides that this instrument can be accepted as an alternative instrument that can be used easily, is useful and helps ease the work of clinical instructors who all have other duties besides being a clinical advisor.

Mini-CEX can be developed digitally, so that assessment is easier, cheaper and faster, and can be easily accessed by students, supervisors and educational institutions in real time. Other trainings that support the assessment with mini-CEX include training in providing feedback, so that the use of mini-CEX can be even more optimal.

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