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Learning Simulations in Increasing Satisfaction and Self-Confidence of Nursing Students

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ABSTRACT

Background: Simulation activities are an effective teaching method to increase student participation. Assessing student satisfaction with simulation methods is also important because it has not been fully explored in previous research.

Purpose: The purpose of this research was to analyze the relationship between simulation design scale, education practice questionnaire, students' self-confidence and self-confidence in learning for Bachelor of Applied Nursing students.

Methods: This research was a *cross sectional* descriptive study conducted on Bachelor of Applied Nursing students at the Ministry of Health Semarang Health Polytechnic in June-September 2023. The sample used was a total sampling of 80 students who were in the third year of study. Data collection techniques were carried out using the *Student Satisfaction and Self-Confidence in Learning Scale* (SCLS), *Simulation Design Scale* (SDS), and *Educational Practice Questionnaire* (EPQ) questionnaires and then processed using the Spearman rank test to determine the relationship between the three.

Results: The results of the Spearman rank test test show that SDS is strongly related to EPQ (0.744), SDS is strongly related to SSCL (0.681), while EPQ is very strongly related to SSCL (0.846) with a positive relationship between each variable. There is a significant relationship between the SDS, EPQ, SSCL variables in Bachelor of Applied Nursing students with *a p-value* <0.05.

Conclusion: Nursing students' satisfaction and confidence with simulation-based learning correlated with students' confidence in clinical practice.

Keywords : Nursing Students; Simulation; Confidence; Satisfaction.

BACKGROUND

Nursing is profession important who gives maintenance comprehensive. Nurse need prepared with Good For practice actual clinical. Nurse graduate of new difficulty give safe care to patient Because thinking critical ones yet growing, self-low trust, and lack thereof ability for give quality care. Student nursing expected can nurse patient with believe self (Frei-Landau & Levin, 2023). Simulation lots used at school nursing around the world as part important from education nursing. Activity simulation is method effective teaching for increase participation student. Simulation is imitation a real object, situation, or process. Simulation given student chance for become trained, disciplined, and active learners who reflect experience certain. There are many benefit use simulations in education nursing. Student own chance for accept bait come back direct from instructor they make it possible they for increase communication and skills them in the future. Additionally, via experience him, student study from error them (Masruri, 2020). In education, simulation used for transfer knowledge theoretical and skills practical (Pitt et al., 2012). This includes trust self and satisfaction student more nursing big in the field clinical, Skills taking decision more clinical good, and level acquisition knowledge more cognitive high and implementation Skills psychomotor clinically necessary. However, regardless from existing evidence, a study recently. This find that restrictions consequence pandemic coronavirus disease (COVID-19) causes dissatisfaction among student nursing Because lack of access to facility clinical (Ansell & Whitehead, 2021).

Important for student nursing for own trust self during training bachelor. Student trustworthy nurse self with knowledge and skills clinical will more capable handle situation complex clinical conditions (Lee et al., 2019). Measure trust self is consideration important in a number of study certain. Evaluate satisfaction student important because correlated with enhancement engagement and motivation study, that's next facilitate the learning process. Satisfaction student to method Simulation is also important, because not yet fully explored in study previously related maintenance palliative. Only one research reporting satisfaction with simulation learning (Gu & Sok, 2021) Satisfaction to method learning in study. This be measured only with two questions of the 10 survey items satisfaction, so provide minimal evaluation data. Although results other research shows enhancement Skills students, however not yet there is evaluation satisfaction student to use simulation as method simulation.

Various related results with simulation this has investigated, include involvement simulation, self-efficacy, satisfaction, and self- trust. Additionally, research originals carried out in various countries such as the United States, South Korea, Brazil and Spain were also found connection positive between satisfaction, trust self, and emotions. Satisfaction and trust self has highlighted as factor important when evaluate effectiveness simulation in this world education , highlighting need For overcome aspects This in a way reflective (Chiam et al., 2020). Satisfaction, understood as feeling like or disappointment that arises from compare performance with hope personal, really important because linked with more commitment and motivation big towards the learning process

OBJECTIVE

Analyze connection between simulation design scale, education practice questionnaire, and students' self - confidence in learning bachelor applied nursing.

METHODS

Cross sectional descriptive study was conducted on students bachelor applied nursing at the Poltekkes Kemenkes Semarang with using 80 existing students level to three year study. Implementation study This conducted in June-September 2023. Samples selected using total sampling. Criteria inclusions: students who are still active, has go through eye studying nursing critical. Criteria exclusion: students who don't fill in full the questionnaire. Data collection techniques were carried out through survey with use questionnaire. Respondent requested give evaluation to fill every statement. Data collection was carried out after student nursing give his opinion agree for participate in study this and accept information about goals, processes and guarantees student confidentiality in study. Questionnaire spread offline to respondents For filled in accordance with experience.

Student Satisfaction and Self-Confidence in Learning Scale (SCLS) A total of 13 items assess attitude to satisfaction with construction and trust self in Study in simulation (Jeffries, 2006) . Subscale “satisfaction to instructions” contains five measuring items satisfaction with method teaching, diversity learning material, facilitation, motivation, and suitability simulation in a way whole. Subscale “trust self with learning” contains eight item measure trust self in mastery content, needs content, skills development, source available resources, and knowledge about method get it help solve problem clinical in simulation. For each item, participant show feeling personal they about illustrative statement feeling they attitude or his belief. Choice answer is 1)absolutely not agree, 2 disagree, 3)undecided, 4)agree, and 5)strongly agree with use style likert scale . Cronbach's alpha has reported of 0.94 for satisfaction subscale and 0.87 for subscale trust self (Jeffries, 2006) . Scores are calculated with add up response; more score tall show each one more lots satisfaction and more self trust lost.

Simulation Design Scale (SDS)

A total of 20 items assess perception goals, information, support, solutions problem, retur , and loyalty in simulation (Jeffries, 2006). The subscale “goals and information” contains five items that measure perception about goal, preparation material, and the cues given during simulatio . Subscale “support”. containing four items that measure perception about need will support and giving support during simulation. Subscale “solving problem". contains five items that measure facilitation and opportunities happen problem solution during simulation. Subscale “return” contains four measurement items bait constructive feedback and opportunities for reflection guided. Finally, the “fidelity” subscale contains two items that measure factor life real simulation. For each item, participant show perception they about illustrative statement existence feature design simulation. Choice response to related statements with exists simulation characteristic features the design is 1)absolutely not agree, 2)no agree, 3) unsure, 4) agree, 5) strongly agree , and NA) no can applied with scale likert scale. Cronbach's alpha is reported of 0.92 for presence feature design and 0.96 for importance

feature design (Jeffries and Rizzolo, 2006). Scores are calculated with add up response; more score tall represent enhancement introduction feature design in simulation.

Educational Practice Questionnaire (EPQ)
A total of 16 items assess perception practice best education and its importance in simulation (Jeffries, 2006) . For each item, participant show perception they about something illustrative statement exists practice best education. Active subscale learning contains 10 items that measure opportunity for active learning and participation in simulation. The "collaboration" subscale contains two items about Work The same with colleagues during simulation. Subscale "diversity learning" contains two items that measure opportunity for material learning in simulation. Finally, "high expectations" subscale contains two items that measure goals and hopes served moment simulation. Choice response and its significance the score identical as explained above for SDS. Cronbach's alpha has been reported of 0.86 for presence education best practice and 0.91 for importance practice embedded best in simulation (Jeffries, 2006) . Scores are calculated with add up response; more score tall show enhancement confession towards practical education best in simulation.

Entire instrument study has tested its validity and reliability. The SCLS questionnaire shows that it is valid with mark Cronbach's Alpha reliability is 0.896, the SDS Questionnaire shows valid results with Cronbach's Alpha reliability is 0.806. EPQ questionnaire shows valid results with Cronbach's Alpha reliability was 0.877. Analysis data such as mean, standard deviation, minimum and max, percentage used For describe age, and gender. Spearman rank correlation test was performed for know relation between variable involvement students and behavior care with number significance of 0.005. Ethical Clearance Number: 0839/EA/KEPK/2023 issued Poltekkes Kemenkes Semarang on June 19 2023.

RESULTS

Characteristics Respondent eight tens eight participant participate in this studies. Majority female respondents (n: 72; 80.0%), whereas student man totaling 8 students (10%). Most of the 21 years old (n: 45; 56.3%), followed by 20 years old (n: 32;40%) and 22 years old (n: 3, 3.8%) (Table 1).

Table 1 Characteristics of Respondents (n=80)

Variables		**f**	**%**	**Mean±SD**
Age	20	32	40.0	20.64 ± 0.557
	21	45	56.3	
	22	3	3.8	
Gender	Female	72	80.0	
	Male	8	10.0	

Related results with the associated Simulation Design Scale with SDS shown in table 2. In element goals and information own average highest , statement item Information provided during simulation Already Enough mean ± SD (4.47 ± 0.55). while the accuracy element score has a mean of 4.06 ± 0.78 (table 2).

Table 2. Simulation Design Scale (SDS) (n=80)

Question	Mean ± SD	Scale
Goals and Information	4.44 ± 0.59	Very much
Information provided at the beginning simulation For give direction and support Already Enough	4.53 ± 0.67	Very much
I with clear understand purpose and objectives from simulation	4.38 ± 0.62	Very much
Simulation give Enough information with clear way For I use in solution problem	4.38 ± 0.56	Very much
Information provided during simulation Already Enough	4.47 ± 0.55	Very much
Instructions given Already appropriate and supportive For increase understanding I	4.46 ± 0.53	Very much
Support	4.35 ± 0.64	Very much
Support offered at the right time	4.29 ± 0.64	Very much
Need I will help delivered with Good	4.25 ± 0.68	Very much
I feel supported by assistant teacher during simulation	4.40 ± 0.65	Very much
I am supported during the learning process	4.46 ± 0.55	Very much
Completion Problem	4.37 ± 0.55	Very much
Completion problem in a way independent facilitated	4.08 ± 0.41	Somewhat
I'm encouraged for dig all possibility in simulation	4.20 ± 0.60	Very much
Simulation designed for level knowledge and skills specifically me have	4.59 ± 0.49	Very much
Simulation give chance to I For prioritize assessment and care nursing	4.54 ± 0.50	Very much
Simulation give chance to I in determination objective For patient I	4.46 ± 0.55	Very much
Feedback or Reflection	4.29 ± 0.59	Very much
Bait return given Enough build	4.26 ± 0.65	Very much
Bait come back given just in time	4.19 ± 0.62	Very much
Simulation This possible I For analyze behavior and actions I	4.25 ± 0.54	Very much
There is a chance after simulation For get guide or bait come back from teacher For build knowledge to level more carry on	4.46 ± 0.53	Very much
Accuracy	4.06 ± 0.78	Somewhat
Scenario case resemble situations in life real	4.05 ± 0.79	Somewhat
Factors, situations , and values life real in scenario case simulation	4.08 ± 0.78	Somewhat

In this research, the Educational Practice Questionnaire measured in the form of active learning, collaboration, various ways of learning and high expectations. Thus, the mean and median scores for each dimension are as follows. The overall mean for active learning was a mean of 4.29±0.64 (Table 3). Meanwhile, the mean score for collaboration was 4.45 ± 0.60, variety of learning methods 4.44 ± 0.53, and high

expectation with a mean score of 4.53 ± 0.56. The lowest mean score for the active learning element in the statement I in a way active participate in session ask answer after simulation that is 3.88 ± SD 0.82. The highest average score is on the high expectation element with my tutor 's statement explained goals and outcomes achieved during simulation taking place 4.65 ± SD 0.53.

Table 3 Educational Practice Questionnaire (EPQ) (n=80)

Question	**Mean ± SD**	**Scale**
Active Learning	4.29 ± 0.64	Very much
I got chance during activity simulation For discuss ideas and concepts taught in lectures with teachers and students other	4.35 ± 0.51	Very much
I am active participate in session ask answer after simulation	3.88 ± 0.82	Somewhat
I have chance For think about about opinion I during session discussion .	3.94 ± 0.68	Somewhat
There's enough chance in simulation For look for know is I with clear understand material	4.35 ± 0.55	Very much
I am learning from opinion taught by the tutor before , during , or after simulation	4.49 ± 0.53	Very much
I accept instruction during simulation at the right time	4.46 ± 0.53	Very much
I have chance For discuss objective simulation with teacher I	4.24 ± 0.60	Very much
I have chance For discuss the ideas and concepts taught in simulation with lecturer I	4.14 ± 0.54	Very much
My lecturer capable answer need individual students during simulation	4.60 ± 0.61	Very much
With exists simulation make time Study I more productive	4.47 ± 0.53	Very much
Collaboration	4.45 ± 0.60	Very much
I have chance For Work with Friend group during simulation	4.47 ± 0.62	Very much
During simulation , me and colleagues must work on the situation clinical together	4.43 ± 0.59	Very much
Various Ways to Learn	4.44 ± 0.53	Very much
Simulation offer diverse method For learn material	4.41 ± 0.57	Very much
Simulation This offer diverse method For evaluate learning I	4.47 ± 0.50	Very much
High Expectations	4.53 ± 0.56	Very much
Experience goals simulation clear and easy understood	4.41 ± 0.67	Very much
My tutor explained goals and outcomes achieved during simulation taking place	4.65 ± 0.53	Very much

Student Satisfaction and Self-Confidence in Learning Scale (SCLS)

In this research, Student Satisfaction and Self-Confidence in Learning Scale measured in the form of active learning, collaboration, various ways of learning and high expectations. Thus, the average and mean scores for each dimension are as follows. The overall average for active learning is mean 4.29 ± SD 0.64 (Table 4). Meanwhile, the mean score for collaboration was 4.45 ± SD 0.60, variety of learning methods 4.44 ± 0.53, and high expectation with a mean score of 4.53 ± 0.56. On the item Satisfaction with current learning, the highest score was obtained from the simulation statement give I diverse materials and activities learning For support learning I related curriculum nursing critical with average 4.58 ± 0.59, while the lowest mean is for the item my tutor method teach practice Already in accordance with method Study I . 4.40 ± SD 0.56. Meanwhile, in the self-confidence item in learning, the highest average was in the statement of responsibility answer lecturer For telling you I What do I want to learn from fill activity simulation during lecture hours 4.61 ± SD 5.1. while the lowest mean is for the statement I believe self that I master the essence of activity simulation presented by the lecturer I 4.03 ± 0.67 (table 4).

Table 4. Student Satisfaction and Self-Confidence in Learning Scale (SCLS) (n=80)

Question	Mean ± SD	Scale
Satisfaction with current learning	4.49 ± 0.58	Very much
Teaching methods used in simulation this is very helpful and effective	4.50 ± 0.55	Very much
Simulation give I diverse materials and activities learning For support learning I related curriculum nursing critical	4.58 ± 0.59	Very much
I understand when the tutor teaches practice	4.50 ± 0.55	Very much
Teaching materials used in simulation Enough motivating and helpful I For Study .	4.47 ± 0.62	Very much
My tutor's way teach practice Already in accordance with method Study I .	4.40 ± 0.56	Very much
Confidence in learning	4.47 ± 0.59	Very much
I believe self that I master the essence of activity simulation presented by the lecturer I .	4.03 ± 0.67	Somewhat
I believe that simulation This covers material important things that are needed For mastery curriculum nursing critical	4.50 ± 0.57	Very much
I believe that I currently develop expertise and acquisition required knowledge from simulation This For carry out task important in field Kinis .	4.54 ± 0.53	Very much
My lecturer use helpful source For teach simulation	4.65 ± 0.53	Very much
Be responsible I For Study What do I want to know from activity simulation This .	4.63 ± 0.54	Very much
I know method For get help when I No understand concepts discussed in simulation .	4.41 ± 0.52	Very much
I know method use activity simulation For Study aspect critical from a number of skills .	4.39 ± 0.56	Very much

Question	Mean ± SD	Scale
Represents not quite enough answer lecturer For telling you I What do I want to learn from fill activity simulation during lecture hours .	4.61 ± 5.1	Very much

Correlation between SSD, EPQ and SSC among student nursing
Spearman rank test shows exists significant relationship between SDS, EPQ, SSCL variables ($p < 0.05$). This result show exists correlation between SDS and EPQ are related strong p value 0.744, SDS and SSCL are related strong with a p value of 0.681, whereas EPQ and SSCL questionnaires are very strongly related with a p value of 0.846 with direction connection positive every between variable (Table 5).

Table 5. Correlation between SSD, EPQ and SSC among student nursing

		SDS	EPQ	SSCL
SDS	Spearman rank correlation	1	0.744**	0.681**
	Sig. (2-tailed)		<.001	<.001
	N	80	80	80
EPQ	Spearman rank correlation	0.744**	1	0.846**
	Sig. (2-tailed)	<.001		<.001
	N	80	80	80
SSCL	Spearman rank correlation	0.681	0.846**	1
	Sig. (2-tailed)	<.001	<0.001	
	N	80	80	80

**correlation is significant at the 0.05

DISCUSSION

Simulation has become tool ubiquitous learning and assessment and evaluation effectiveness simulation relevant academic and practical. This is studies psychometrics first SCLS, SDS, and EPQ. Findings from studies This of the 80 completed surveys from study here, students give response positive to simulation SDS, EPQ and SSCL surveys. There is level high agreement that simulation This is experience positive learning for participating students. Hope, Collaboration , and Diverse Learning. Jeffries, (2006) explain that, in simulation, students need direct self yourself and asked for responsible answer on learning students. So come in sense If students who are at a higher level program high and more Good will more capable do matter This compared to new student.

This result support findings Alharbi & Alharbi, (2022) found out student feel that simulation useful , effective and motivating can help learning for get self-trust student . Besides that a number of study has report that simulation with mannequin with high precision produce enhancement Satisfaction student. Students also stated they feel that simulation based on good education practical and important for learning, same argument made for look difference importance simulation in education.

Satisfaction student nursing to eye studying simulation assessed with use method teaching class practice preclinical. Most of the student agree that all method teaching effective and appropriate with style Study student. The students were also enthusiastic with method instructor convey simulation learning. Compared to with teaching strategies traditional, course based simulation provide environment. Study student-centered positive. Educator more emphasizes strength student through activity valuable and interesting learning. This result more tall compared to what was reported in study Cho & Kim, (2023) about satisfaction student nursing. Apart from methods teaching, material education like equipment, mannequins, and tools health play role important in influence learning students, esp in simulation. Study This show that student Not yet fully satisfied with material practice.

By specifically, some student still hesitant to agree that they motivated and supported by appropriate materials during learning practice. Results for variable This No as high as that reported by Zapko et al., (2018) Reported mean value is 4.21. This matter explained by its limitations the university budget is small place study This done and lack thereof modern equipment and mannequins technological high in the faculty nursing, which gets in the way application method teaching simulation optimally. Additionally, students No have chance for use the right supplies. Second, lack This obstruct student For train as effective as they are want, get influence satisfaction them. By overall, average score satisfaction very high students mean ± SD (4.49 ± 0.58 of 5.0). These results are very similar with Oanh et al., (2021) reported mean value 4.10 ± 0.50. Increase self-trust student in simulation. Student generally agree that educator use in a way effective utilise source available power for give education simulation best. With use various method Study teach active, students know that they responsible answer learn what are they need from simulation and knowing method get support if they No understand something during exercise simulation. Average score trust self all over participant is .47 ± 0.59 out of 5.0. Therefore, that's self-trust student during very high simulation mean±SD (4.47 ± 0.59), because mark This more tall from what was reported in study to student nursing practice in the United States. Confidence Student in Practice Clinical When scale trust used For evaluate trust self-student in nurse patient first time, mean±SD (4.47 ± 0.59).

Student generally Certain that they do something with right and doing activity supervision without hesitation. Possible explanation for results This is student nursing have chance For train in a way free in space simulation before adapt with environment clinical. While practicing with patients, it is also important to remembered that you don't alone. On the contrary, instructor nursing or manager nurse always There is for observe and provide guidance, which can help increase trust self. Study (Oanh et al., 2021) correlate Satisfaction and Confidence in the Environment Pre-Clinical with Confidence Clinical Satisfaction and trust yourself in the laboratory simulation correlated positive with self -rust moment student practice with patient for first times (r=0.33 and r=, respectively). Teaching methods ideal simulation for create a safe environment where students have chance for repair error moment practice procedure nursing. This is chance valuable for increase self-trust student in practice clinical .In a research conducted with student nursing year final Olausse et al., (2020) find that

education based prepared competencies with good, integrated, at university helps student get trust self before continue to arrangement clinical.

CONCLUSION

Simulation has proven be an effective educational strategy and must be entered into the nursing education program For help student nursing prepare self-clinical practice in the future up coming. This study find that satisfaction and self-trust nursing student to learning based simulation correlated with self-trust of student in clinical practice. This result give proof valuable that educator nurse must try for increase quality simulation and improving satisfaction and trust student in simulation and practice clinical furthermore. Initiatives This increase safety patient, quality services, as well as engagement and development professional. Current study this find that student in a way whole satisfied and confident self after do simulation patient. Research result This will leads to development guidelines and interventions for increase experience simulation patient humans in the laboratory Major Nursing Semarang Health Polytechnic. The recommendation is replication must done in study more carry on with use design different studies, incl different locations and diverse geographical areas.

IMPLICATIONS FOR PRACTICE

Implications for Practice Research results this own implication important for education nursing Because give useful insight about satisfaction and trust self-student after experience simulation patient. Staff teacher school nursing must realize approach learning that can be done used for reach objective course clinical. Findings this can used for increase use experience simulation in education nursing and creating system more education effective. This matter increased satisfaction and self-trust for student nursing. which in turn impact on quality maintenance patient. Additionally, results study This will give information to maker policy about level satisfaction and self-trust for student in this moment. Research result This can used For develop g policy and improve experience simulation patient humans in the laboratory.

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CONFLICT OF INTEREST

Writer state that study This done without exists connection commercial or finances are possible interpreted as potency conflict interest.

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