

Effect of Applying SCAMPER Technique for Creative Thinking on Senior Nursing Students' Clinical Judgment Skills

Heba Kamal Obied¹, Rehab Mohamed Rashad Ebrahim², Monera B. Elshemy³ & Rehab Abou Shaheen⁴

¹ Assistant Professor of Nursing Administration, Faculty of Nursing, Tanta University, Egypt.

² Assistant Professor of Nursing Administration, Faculty of Nursing, Benha University, Egypt.

³ Assistant Professor of Medical Surgical Nursing, Faculty of Nursing, Tanta University, Egypt.

⁴ Lecturer of Nursing Administration, Faculty of Nursing Tanta University, Egypt.

Abstract:

Background: Applying strategies to develop nursing students' creative thinking to manage clinically challenging situations is the prime role of nursing education to support their decision-making and clinical judgment skills. **Aim:** The aim of this study was to determine the effect of applying SCAMPER technique for creative thinking on senior nursing students' clinical judgment skills. **Setting:** The study was conducted at Tanta University- Faculty of Nursing. **Subjects:** (300) senior nursing students. **Tools:** Three tools were used SCAMPER Technique and Clinical Judgment Knowledge Questionnaire, SCAMPER Technique Checklist and Lasater's Clinical Judgment Rubric. **Results:** 73.3% of the experimental senior nursing students had a low knowledge level regarding SCAMPER per-intervention, but 73.3% had high level post-intervention. Also 96.0% had unsatisfactory level of practicing creative thinking at pre-intervention, and post-intervention 92.7% had satisfactory level. Pre-intervention 85.3% of the experimental senior nursing students had a low clinical judgment knowledge level and post-intervention 56.0% had high level. Also 96.1% of the experimental senior nursing students' fall in the beginning stage of practicing clinical judgment pre-intervention, but post-intervention 42.8% fall in accomplished stage. **Conclusion:** Applying SCAMPER technique enhanced senior nursing students' clinical judgment. **Recommendations:** Nursing faculties need to integrate knowledgebase about creative thinking and clinical judgment in the undergraduate curricula to enhance students' creativity and improve autonomous nursing interventions.

Keywords: Clinical Judgment Skills, Creative Thinking, SCAMPER Technique & Senior Nursing Students

Introduction

Rapidly advances in healthcare sciences and services add additional burden on nursing schools and educators to equip nursing students with the required skills to generate creative solutions to deal with workplace contradicting challenges. Such challenges including; but not limited to; inadequate resources, staff shortage, cost reduction policies, strict strategies to improve healthcare quality and application of evidence-based practices Özdemiş & Işık (2022). Consequently, nursing schools and educators play a critical role to construct effective learning environment to meet those challenges Dayagbil et al., (2021) & Abdullah, et al. (2017).

Creativity is crucial to enhance nursing practices and productivity. To be creative, nurses need to be open to change, flexible, and capable to evaluate opportunities Özdemiş & Işık (2022). Improving nursing students' creativity requires learning how to apply innovative approaches for problem solving and decision making The Education State-Victoria State Government (2020).

Many techniques are available to augment creative thinking and SCAMPER is one of them. SCAMPER is an acronym which was developed by De Bono

(2000), it is a rational and exciting brainstorming technique. Every letter refers to a specific thinking process. **S** means substitute, that refers to discover alternative ideas or objects to replace the existing ones. **C** refers to combine, means to generate novel ideas by merging various connected or even disconnected ideas to get new idea. **A** means adapts or adjust, refer to revise former familiar ideas to generate new ones. **M** as modify or magnify, means to make changes on existing object by amplifying, minifying and adjusting it Muraina & Musa (2019). **P** as put to other uses refers to employ an object in a different and if possible an unpredicted notions/circumstances/positions. **E** as eliminate refers to remove an element of the present object to create new advanced version of it containing more advantages and less disadvantages. Finally, **R** means rearrange or reverse refers to reorganize or reverse existing condition, situation, array, or even patterns searching for substitute ends, practices, and thoughts Sarimah et al., (2022); GÜNDOĞAN, (2019); Muraina & Musa (2019).

Application of SCAMPER technique not only enhances students' intellectual skills development, by supporting differentiation in their way of thinking and

can improve their problem solving skills, and clinical judgment which are critical elements for nursing practice **Mahfouz (2019)**. Clinical judgment can be viewed as the observed result of decision-making; therefore, these skills reflect the expected standard of university nursing graduates **Marques & Alves (2022)**.

Clinical judgment is the nursing students' ability to conclude patient's needs and health problems, and then make suitable decisions to take action, utilize standard approaches, and generate novel ones to reach the desired patient's outcome. Clinical judgment begins when nursing students collect patient cues; formulate propositions, and carryout appropriate courses of nursing actions **Fridge & Saewert (2024)**; **Shlash & Mohammed (2022)**. Faculty members and clinical supervisors can assess clinical judgment skills for nursing students by using different clinical judgment models **Jessee (2021)**; **Schoessler, M. (2013)**.

Lasater Clinical Judgment Rubric (LCJR) is viewed as the most recognized instrument to assess nursing students' clinical judgment **Lee (2021)**, **Anne et al (2023)**. LCJR classify clinical judgment into four main aspects; the first aspect is noticing; it is about a perceptual seizing of the present situation. Nursing students during noticing stage sort three different types of knowledge; first, background knowledge which consists of scientific, practical, and clinical knowledge. Second, contextual knowledge consists of experience and situational awareness. Finally, family related knowledge including patient-family interactions **Martínez 2019**.

The second aspect is interpreting during this stage the students try to make sense of the collected data from the previous stage and determining a course of action. Interpreting stage involves different skills such as analytical, intuitive, and critical thinking. The third aspect is acting; it refers to determining a course of action; implementing this action, and evaluate patient's responses for these actions **Dickison et al. (2019)**. The fourth aspect is reflection; it refers to the process of evaluating the situation and the courses of action. It involves two forms of reflection: first reflection-in-action means nurses' ability to "translate" the patients' response to the nursing intervention; and modify the interventions if required. The second is reflection-on-action declares the experience gained by nurses from the situation and how it contributes to their potential clinical judgment development **Friberg & Saewert (2024)**.

Significance of study

Senior nursing students are the students enrolled in the final undergraduate year; they passed numerous previous nursing courses and joined three main

nursing courses; psychiatric and mental health, community health, and administration. Those students after graduation have to evaluate, analyze and synthesize information then, integrating this information with their experience, to design patient care plans. They can rely on their creativity to come up with new solutions and make decisions, when there are no clear answers or courses of action. Creativity can help nursing students to solve specific patient problems as well as workplace challenges **Abo Gad & Obied (2017)**; **Obied et al., (2023)**. Nursing students' inability to make appropriate clinical judgment jeopardize patient safety and quality of care for the entire healthcare organization (**Marques & Alves 2022**). Hence, this research was carried out on senior nursing students at fourth year aiming to assess the effectiveness of SCAMBER technique on their clinical judgment skills.

Aim of the study

The study aimed to determine the effect of applying SCAMPER technique for creative thinking on senior nursing students' clinical judgment skills

Research hypothesis

- The senior nursing students' knowledge and practice regarding clinical judgment skills and creative thinking SCAMPER technique are expected to be improved after implementation of the educational intervention.
- The senior nursing students' clinical judgment skills are expected to be improved after implementation of educational intervention about SCAMPER technique of creative thinking.

Subjects and Method

Study design: A quiz-experimental (pre-posttest) research design was used to evaluate the effect of educational intervention on the study subject.

Setting: This study was conducted at Tanta University- Faculty of Nursing (accredited at 2019), including seven academic nursing departments (Medical Surgical Nursing, Critical Care and Emergency Nursing, Pediatric Nursing, Maternal and Newborn Health Nursing, Community Health Nursing, Psychiatric and Mental Health Nursing, and Nursing Administration departments).

Subjects: The present study subject included (n=300) senior nursing students; (150) enrolled in the nursing administration course and (150) enrolled in the community nursing course, were selected randomly during from total (N=545) the second semester during the academic year 2022-2023. The sample size power analysis was calculated using the Epi-Info software statistical package. The criteria used for sample size calculation included Z= confidence level at 99%, margin of Error= 5%, Population Size=545

Tools of data collection

Three tools were used to collect the present study data.

Tool I: SCAMPER Technique and Clinical Judgment Knowledge Questionnaire. Was developed by the researchers based on Sarimah et al., (2022); Lee (2021) & Muraina & Musa (2019). It consisted of two parts.

Part one; Senior nursing students’ personal data included: sex, age, attending previous training courses on critical thinking or clinical judgment.

Part two; SCAMPER Technique and Clinical Judgment Knowledge Questionnaire, was used to assess the senior nursing students’ knowledge before, and after the educational intervention. It included 20 questions. 10 questions about creative thinking SCAMPER technique covering definition, steps, and technique. Also, 10 questions about clinical judgment covering definition, skills, and key aspects. These questions were in form of true and false, and complete. **Scoring system:** The senior nursing students’ responses were given a score of "1" if “correct” and “zero” if “incorrect.” The total sum of the senior nursing students’ knowledge level ranged from 0-20 and was classified into three levels according to cutoff points as follow: High >75%, Moderate 60–75%, and Low <60%.

Tool II: SCAMPER Technique Checklist

This tool was developed by the researchers based on Muraina & Musa (2019); Sarimah et al., (2022), GÜNDOĞAN A. (2019) to assess senior nursing students’ creative thinking. It consisted of two situations in printed papers the students put down their suggestions and ideas according the phases of SCAMPER technique. The senior nursing students’ responses measured on a three points Likert Scale ranged from 3= completely done to 1 = not done or wrongly done. The total score was classified into two levels according to cutoff points as follow: satisfactory creative thinking (≥70%), and unsatisfactory creative thinking (< 70%).

Tool III: Lasater’s Clinical Judgment Rubric (LCJR)

This tool was developed by the researchers based on Cato et al., (2009); Lazzara (2020) & Lee (2021) to assess senior nursing students’ clinical judgment. It consisted of two clinical situations. The senior nursing students’ responses to problem situations were analyzed for evidence of clinical judgment skills using LCJR. It consisted of four key aspects: noticing, interpreting, acting and reflecting as showed in (table, I); 1st level imply beginner and 4th level imply exemplary clinical judgment. The total score of the senior nursing students was classified into two levels according to cutoff points as follow: Satisfactory

clinical judgment (≥70%), and unsatisfactory clinical judgment (< 70%).

Table (I): Lasater’s Rubric of Clinical Judgment (LRCJ)

	E	A	D	B	Observation notes
Noticing: Observe & monitor the data Detect alteration from expected patterns Use data to guide the assessment Seek information to plan intervention					
Interpreting: Set appropriate order of data (prioritize) Justify the data					
Acting: Assume responsibility & control situation Communicate clear directions Design intervention according client needs Display mastery of nursing Skill					
Reflecting: Evaluate & analysis personal performance. Develop plans to manage weaknesses					
E =Exemplary, A= Accomplished, D= Developing and, B= Beginning					

Method

The study tools were established and tested for its validity by a jury of 5 experts in nursing administration and psychiatric Nursing from Faculty of Nursing- Tanta University. All experts’ comments were taken into consideration; some items were changed to make it more clear and relevant to the study topic. The Content Validity Indexes were 92%, 95% and 93% for tool I, II, and III respectively. A pilot study was conducted on 10% of nursing students (n=30) and they were not included in the study sample. The value of reliability test-retest was utilized to assess the questionnaires’ internal consistencies, which were 0.92, 0.95, and 0.94 for tool I, II, and III respectively.

The researchers met the senior nursing students individually after their clinical sections to distribute the questionnaires. The senior nursing students recorded their answers in the presence of the researchers to ascertain all questions were answered and giving clarification. Each participant took approximately 15 minutes to fill in the questionnaires.

Ethical considerations: The approval of The Scientific Research Ethical Committee was obtained

(Code No. 230-3-2023) Faculty of Nursing – Tanat University. After explaining the aim of the study, the senior nursing students’ consent was obtained at the beginning of the study. They were assured that their responses would be kept confidential and their involvement in the study was voluntary and the study wouldn’t cause any harm and withdrawal from the study was allowed at any time.

Field work

Assessment phase: The researchers used tools I, II and III to assess the senior nursing students’ knowledge and practice about SCAMPER technique and clinical judgment.

Planning phase: The educational intervention was designed based on the participants’ needs and included two sessions: 1st session: SCAMPER technique of creative thinking and 2nd session: Clinical judgment.

Implementation Phase: The senior nursing students were divided into 6 groups each included 25 students. The total educational intervention time was 90 minutes (45 minutes for each session/week) for each group. The educational intervention was conducted in the faculty of nursing class rooms. The sessions

started after the academic clinical sessions. The researchers utilized lectures, group discussions, and real work situations. The data collection lasted for three month started from the beginning of March 2023 until May 2023.

Evaluation phase:

The senior nursing students’ knowledge and practices regarding creative thinking SCAMBER technique and clinical judgment were evaluated using tools I, II and III pre, and after the educational intervention.

Statistical analysis of the data:

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. The **Kolmogorov-Smirnov** test was used to verify the normality of distribution Quantitative data were described using range (minimum and maximum), mean, standard deviation and median. Significance of the obtained results was judged at the 5% level.

Results

Table (1): Senior nursing students' personal data (n=300)

Items	Experimental (n=150)	Control (n=150)	Items	Experimental (n=150)	Control (n=150)
	No. (%)	No. (%)		No. (%)	No. (%)
Sex			Age		
Male	46 (30.7)	46 (30.7)	≤21	68 (45.3)	95 (63.3)
Female	104 (69.3)	104 (69.3)	>21	82 (54.7)	55 (36.7)
Attended previous training program			Range	20.0 – 23.0	20.0-23.0
			Mean ± SD	21.69 ± 0.77	21.38± 0.65
Yes	10 (6.7)	7 (4.7)	Nursing Course currently enrolled in		
No	140 (93.3)	143 (95.3)	Administration	150 (100)	- (-)
			Community	- (-)	150 (100)

SD: Standard deviation

Table (2): Senior nursing students' total knowledge pre and post-intervention regarding Creative thinking SCAMPER technique and clinical judgment (n=300)

Knowledge levels	Experimental (150)			Control (150)		
	Pre	Post	P	Pre	Post	P
	No. (%)	No. (%)		No. (%)	No. (%)	
Creative thinking SCAMPER technique						
Low	110 (73.3)	16 (10.7)	<0.001 *	120 (80.0)	115 (76.7)	0.051
Moderate	29 (19.3)	24 (16.0)		11 (7.3)	17 (11.3)	
High	11 (7.3)	110 (73.3)		19 (12.7)	18 (12.0)	
Clinical judgment						
Low	128 (85.3)	41 (27.3)	<0.001 *	133 (88.7)	130 (86.7)	0.064
Moderate	13 (8.7)	25 (16.7)		14 (9.3)	15 (10.0)	
High	9 (6.0)	84 (56.0)		3 (2.0)	5 (3.3)	

p: p-value comparing Pre & Post Intervention *: Statistically significant at p ≤ 0.05

Table (3): Senior nursing students' total practice levels regarding SCAMPER technique pre and post intervention (n=300)

Practice levels of SCAMPER technique	Experimental (150)			Control (150)		
	Pre	Post	(P)	Pre	Post	(P)
	No. (%)	No. (%)		No. (%)	No. (%)	
Unsatisfactory creative thinking	144 (96.0)	11 (7.3)	<0.001*	146 (97.3)	148 (98.7)	0.045
Satisfactory creative thinking	6 (4.0)	139 (92.7)		4 (2.7)	2 (1.3)	

p: p value for comparing between Pre and Post Intervention

*: Statistically significant at $p \leq 0.05$.

t: Paired t-test

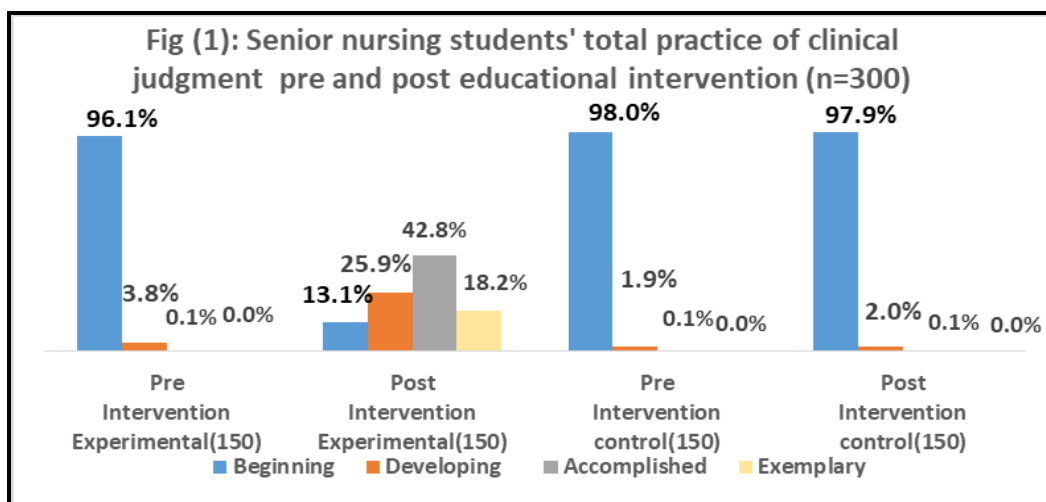


Fig (1): Senior nursing students' classification regarding Laster Clinical Judgment Rubric at pre and post-intervention (n=300)

Table (4): Correlation between senior nursing students' practice of creative thinking SCAMPER technique and clinical judgment practice (n = 300)

Total practice		Experimental (n=150)		Control (n=150)	
		Pre	Post	Pre	Post
Creative thinking vs. Clinical judgment	r	0.136	0.142	0.115	0.079
	p	0.054	0.045*	0.162	0.337

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Table (1): Senior nursing students' personal data.

The table reveals that more than two thirds (69.3 %) of the experimental nursing students were females. More than half (54.7 %) of the experimental senior nursing students had more than or equal 21 years of age, with mean age 21.69 ± 0.77 . The majority (93.3 %) of them did not attend any training course about creative thinking or clinical judgment skills. All (100%) of the experimental nursing students were currently enrolled in nursing administration course. Regarding the control group, more than two thirds (69.3 %) of the control senior nursing students were females. Around two thirds (63.3 %) of them had less than or equal 21 years of age, with mean age 21.38 ± 0.65 . The majority (95.3 %) of them did not attend any training course about creative thinking or clinical

judgment skills. All (100%) of the control senior nursing students were currently enrolled in community nursing course.

Table (2): Senior nursing students' total knowledge pre and post educational intervention regarding creative thinking SCAMPER technique and clinical judgment. Concerning experimental group, the table shows there were statistically significant differences between senior students' total knowledge levels at pre and post intervention regarding both SCAMPER technique and clinical judgment at p-value (<0.001), while there was no statistically significant difference between knowledge levels for the control group. Also the table reveals that pre the educational intervention around three quarters (73.3%) of the experimental senior nursing students had a low knowledge level

regarding SCAMPER technique at per educational intervention, and around three quarters (73.3%) of the senior nursing students had a high knowledge level at post intervention.

The table shows pre the educational intervention majority (85.3%) of the senior nursing students had a low knowledge level regarding clinical judgment at per educational intervention, and more than half (56.0%) of the senior nursing students had a high knowledge level at post intervention. Regarding the control group majority (80% and 88.7%) of control group senior nursing students had a low knowledge level regarding SCAMPER technique and clinical judgment at per-intervention respectively, that did not significantly change post-intervention.

pre-intervention and post-intervention respectively.

Table (3): Senior nursing students' total practice levels regarding SCAMPER technique pre and post intervention. The table shows that there was a statistical significant difference between experimental senior nursing students' practice of SCAMPER technique pre and post intervention. For the experimental group majority (96.0%) of the senior nursing students had unsatisfactory level of creative thinking practicing at pre-intervention, and post-intervention majority (92.7%) of them had satisfactory level of creative thinking practicing. As regards the control group majority of (97.3% and 98.7%) of the senior nursing students had unsatisfactory level of creative thinking practicing at pre- and post- intervention respectively.

Fig (1): Senior nursing students' classification regarding Laster clinical judgment Rubric at pre and post-intervention. The figure illustrates that for the experimental group majority (96.1%) of the senior nursing students' fall in the beginning stage of practicing clinical judgment at pre-intervention, while post -intervention more than two fifths (42.8%) of them fall in the accomplished stage and only less than one fifth (18.2%) fall in the exemplary stage of clinical judgment. Regarding the control group majority (98% and 97.9%) of them fall in the beginning stage of practicing clinical judgment at

Table (4): Correlation between senior nursing students' practice of creative thinking SCAMPER technique and Clinical judgment practice. The table shows that there was a statistical significant correlation between senior nursing students' practicing of creative thinking SCAMPER technique and clinical judgment at $p\text{-value} \leq 0.05$.

Discussion

Creative thinking in nursing education has become a must to enable nursing students to resolve future patient care and work related issues. Creative thinking encourages senior nursing students to think out of the

box find innovative solutions through substitute, combine, adapt, modify, put to other use, eliminate, and reverses stages. After graduation senior nursing students provide care for critically ill patients in intensive care units. To provide safe and accurate patient care, it is necessary to gain and develop cognitive as well as behavioral skills, which are essential to construct a sound clinical judgment during the nursing process. Hence they collect patient date, use their knowledge and experience to reach to appropriate decision. Thus, nursing education becomes increasingly focusing on teaching strategies that enhance creative thinking and clinical judgment skills **Canto et al., (2021) & Cheraghi, (2021)**. So, this study aimed to determine the effect of applying SCAMPER technique for creative thinking on senior nursing students' clinical judgment skills

Present study findings revealed that for the experimental there were statistically significant differences between senior students' total knowledge levels at pre and post intervention regarding both creative thinking SCAMPER technique and clinical judgment. Also the table reveals that pre the educational intervention around three quarters of the experimental senior nursing students had a low knowledge level regarding SCAMPER, that improved to be around three quarters of them had a high knowledge level at post intervention. Also majority of them had a low knowledge level regarding clinical judgment at per intervention, that improved to be more than half had a high knowledge level at post intervention. This may be due to majority of them did not attend any training programs about creative thinking SCAMPER technique and clinical judgment so their knowledge levels were low but post intervention they became aware of both skills.

These findings are in accordance with the results of **Elsawaf et al., (2022)** that revealed the study subjects had low levels of knowledge regarding creative thinking that improved post educational program. Also **Graan et al., (2016)** found that the training and subsequent qualifications regarding clinical judgment introduced to undergraduate nursing students are questionable and this subsequently result is endanger the quality of nursing care.

The findings of the present study indicated that majority of the experimental senior nursing students had unsatisfactory level at pre-intervention that improved post-intervention to be majority had satisfactory level of creative thinking practicing. This may be due to application of the SCAMPER technique help senior nursing students to analyze, organize and evaluate the situations through brainstorming and become more fixable to substitute, combine, modify, put to other uses, eliminate and rearrange the ideas to generate innovative solutions.

These results go in the same line with **Boonpracha, (2023); Mahfouz, (2019); Sidhom & Al-Wakeel (2019)** found that application of SCAMPER strategy enhances the students' abilities to generate creative ideas to tackle the existing problems and positively affects the development their cognitive achievement and harmony, and this result may be attributed to: The use of the Scamper strategy in teaching harmony.

This study results revealed that majority of the experimental group of the senior nursing students' fall in the beginning stage of practicing clinical judgment at pre-intervention, while post-intervention more than two fifths of them fall in the accomplished stage and only less than one fifth fall in the exemplary stage of clinical judgment. This can be justified as providing senior nursing students with the needed knowledge and application of some scenarios during the educational intervention help them to exhibit readiness and confidence to follow the same steps. These results go in the same line with the results of **Canto et al., (2021)**, found that around two thirds of all student experimental groups had accomplished level regarding clinical judgment.

The current study findings showed that there was a statistical significant correlation between senior nursing students' practicing of creative thinking SCAMPER technique and clinical judgment. This may be due to application of creative thinking SCAMPER technique as a simple and versatile method provide senior nursing students with the opportunity to enhance their problem-solving and creativity skills. It can help senior nursing students to break free from mental habits and assumptions, permitting them to look at the situation from different angles through brainstorming, so students have a wide array of innovative solutions to clinically utilize.

Conclusion

From the present study results it was concluded that application SCAMPER technique enhanced the senior nursing students' clinical judgment practice. Pre-intervention majority of the experimental and control senior nursing students had low knowledge regarding SCAMPER technique, and clinical judgment, as well as unsatisfactory creative thinking levels and fall in the beginning stage of clinical judgment. Post-intervention more than three fifth of the experimental senior nursing students had high knowledge regarding SCAMPER technique, and clinical judgment, as well as majority had satisfactory creative thinking levels and more than two fifth fall in the accomplished stage of clinical judgment.

Based on these results it is recommended to:

Nursing faculty:

- Needs to integrate the knowledgebase about creative thinking strategies and clinical judgement

in the undergraduate curricula to enhance students' creativity and improve autonomous nursing interventions.

Nurse educators:

- Require to implement techniques and utilize instruments to stimulate student's creative thinking and clinical judgment that enable them to manage challenging situations.

Further research:

- Explore the effect of using SCAMPER technique on quality of patient care.
- Applying innovative teaching strategies to enhance nursing students' clinical judgment.

References

- **Abdullah, K. Ling, L. & Ping, S. (2017):** Workplace Happiness, Transformational Leadership and Affective Commitment. *Advanced Science Letters*. Vol. (23), No. (4), Pp. 2872-5
- **Abo Gad, R. & Obied, H. (2017):** Effect of peer evaluation training on senior nursing students' performance enrolled in nursing administration course. *Journal of Nursing Education and Practice*. Vol. (7), No. (4), Pp. 55-66. doi: 10.5430/jnep.v7n4p55
- **Anne, L. Marianne, G. Inger, A. Sissel, H. Dag, H. & Monika, R. (2023):** Nursing students' clinical judgment skills in simulation and clinical placement: a comparison of student self-assessment and evaluator assessment. *BMC Nursing*. Vol. (22), Pp. 64. doi.org/10.1186/s12912-023-01220-0.
- **Boonpracha, J. (2023):** SCAMPER for creativity of students' creative idea creation in product design. *Thinking Skills and Creativity*. Vol. (48), Pp.101282. doi.org/10.1016/J.TSC.2023.101282
- **Cato, L. Lasater, K. & Peeples, I. (2009):** Nursing students' self-assessment of their simulation experiences. *Nursing Education Perspectives*. Vol. (30), No. (2), Pp.105-8.
- **Canto, B. Silva, G. Santos, A. Carvalho, C. Morais, V. & Frazão, Q. (2021):** Clinical judgment performance of undergraduate Nursing students. *Rev. Latino-Am. Enfermagem*. Vol. (29): Pp. e3452. doi.org/10.1590/1518-8345.4843.3452.
- **Cheraghi, A. Pashaeypoor, S. Mardanian L. & Khoshkesht, S. (2021):** Creativity in nursing care: A Concept analysis. *Florence Nightingale Journal of Nursing*. Vol. (29), No. (3), Pp. 389-96. DOI: 10.5152/FNJN.2021.21027
- **Dayagbil, T. Palompon, R. Garcia, L. & Olvido, J. (2021):** Teaching and Learning Continuity Amid and Beyond the Pandemic. *Front. Educ*. Vol. (6), Pp.678692. doi: 10.3389/educ.2021.678692
- **De Bono, E. (2000):** The De Bono code book: Going beyond the limits of language. London, England: Viking.

- **Dickison, P. Haerling, A. & Lasater, K. (2019):** Integrating the national council of stable boards of nursing clinical judgment model into nursing educational frameworks. The journal of nursing education. Vol. (58), No. (2), Pp. 72-8. DOI:10.1590/1413-81232022275.23142021en
- **Elsawaf, H. Gadery, S. Obied, H. & Eid, W. (2022):** Effect of quality of care program on nurses' innovative behavior at Tanta ophthalmic hospital. Tanta Scientific Nursing Journal. Vol. (26) No. (3), Pp. 139-55
- **Fridge, E. & Saewert, K. (2024):** Conceptual foundations: the bridge to professional nursing practice. 8th ed. Elsevier. India. Pp. 136.
- **Graan, A. Williams, M. & Koen, M. (2016):** Professional nurses' understanding of clinical judgment: A contextual inquiry. Health SA Gesondheid Vol. (21), Pp. 280-93. DOI: [10.4102/hsag.v21i0.967](https://doi.org/10.4102/hsag.v21i0.967)
- **GÜNDOĞAN, A. (2019):** SCAMPER: Improving creative imagination of young children. Creativity Studies. Vol. (12), No. (2), Pp.315-26. <https://doi.org/10.3846/cs.2019.11201>
- **Jessee, A. (2021):** An update on clinical judgment in nursing and implications for education, practice, and regulation. J Nurs Regul. Vol. (12), No. (3), Pp. 50–60.
- **Lazzara, L. (2020):** Implementation of the Lasater clinical judgment rubric as a progress review tool. Nursing DNP Projects. 35. <https://openriver.winona.edu/nursingdnp/35>
- **Lee, C. (2021):** The Lasater Clinical Judgment Rubric: Implications for Evaluating Teaching Effectiveness. J Nurs Educ. vol. (60), no. (2): pp. 67-73.
- **Mahfouz, M. (2019):** The Effectiveness of Using SCAMPER Strategy in Developing English Critical Reading Skills for First Year Secondary School Students. JRCIET Vol. (5), No. (4), Pp. 149-74.
- **Marques, F. & Alves, P. (2022):** Clinical judgment and decision-making of the Undergraduate Nursing student. Science & Public Health journal. Vol. (27), No. (5), Pp.1731-40.
- **Martínez-Huertas, J. Jastrzebska, O. Olmos, R. & León, A. (2019):** Automated summary evaluation with inbuilt rubric method: an alternative to constructed responses and multiple-choice tests assessments. Assess Eval High Educ. Vol. (44), No. (7), Pp.1029–41.
- **Muraina, K. & Musa, S. (2019):** Analysis of SCAMPER creativity technique and workplace happiness on innovative behavior of secondary school teachers in Oyo State, Nigeria Al-Hikmah Journal of Education. Vol. (6), No. (1), Pp. 1-11
- **Obied, H. Mostafa, M. & Mahmoud, S. (2023):** Perception of justice in performance appraisal in relation to intensive care nurses' creative self-efficacy: comparative study. Assiut Scientific Nursing Journal. Vol. (11), No. (37), Pp.188-98. DOI:10.21608/asnj.2023.213522.1598
- **Özdemir, R. Işık, T. (2022):** Nursing students' innovation and creativity approaches: A descriptive study. Health Sci Q. Vol. (2), No. (3):117-26. Doi.org/10.26900/hsq.2.3.01
- **Schoessler, M. (2013):** Tanner's Model of Clinical Judgment Applied to Preceptorship: Part 1. Journal for Nurses in Professional Development, Vol. (29), No. (5), Pp.274-5. doi.org/10.1097/01.NND.0000433907.85137.2e.
- **Shlash, J. & Mohammed, S. (2022):** Evaluating of academic nurses' clinical judgment skills in a critical care unit at Babylon City, Iraq. International Journal of Health Sciences. Vol. (6), No. (S1), Pp. 125-33. <https://doi.org/10.53730/ijhs.v6nS1.4753>
- **Sarimah, S. Samsudin, N. Shaziayani, W. Othman, J. Hamat, M. Mazeni, N. & Zahari, M. (2022):** Identifying Ideas Through SCAMPER Techniques for Examinations Invigilation Management Systems. SIG: e-Learning@CS. e-ISBN: 978-967-25608-5-2. <https://appspenang.uitm.edu.my/sigcs/>
- **Sidhom, J. & Al-Wakeel, M. (2019):** The Effectiveness of SCAMPER'S strategy for developing creative thinking in the subject of harmony for music education students. International Journal of Education and Learning Research. Vol. (2), No. (2), Pp. 22 -40.
- **The Education State- Victoria State Government. (2020):** High Impact Teaching Strategies Excellence in Teaching and Learning. State of Victoria. The Department of Education and Training Publisher. ISBN: 978-0-7594-0820-3

This is an open access article under
[Creative Commons by Attribution Non-Commercial \(CC BY-NC 3.0\)](https://creativecommons.org/licenses/by-nc/3.0/)
 (<https://creativecommons.org/licenses/by-nc/3.0/>)