

CLINICAL SIMULATION IN NURSING TEACHING: STUDENT EXPERIENCE IN CHILE

Thania Andrea Aballay Cabrera¹ 
Silvana Silveira Kempfer² 

¹Universidad de Magallanes. Punta Arenas, Región de Magallanes y Antártica Chile, Chile.

²Universidade Federal de Santa Catarina, Programa de Pós-Graduação em Enfermagem. Florianópolis, Santa Catarina, Brasil.

ABSTRACT

Objective: to describe the experiences lived in clinical simulation by nursing students at the University of Magallanes, Punta Arenas, Chile, in relation to the use of clinical simulation as a learning methodology for the achievement of skills for nursing care.

Method: the simulation by the students was carried out in 2017, while they attended the seventh and eighth semester of professional training. The study carried out was qualitative, exploratory descriptive, in which eight students participated using the semi-structured interview instrument applied during the second semester of 2018.

Results: it was observed that the simulation experience was good and very good. It stands out that the main points of discussion for the participants were that the clinical simulation gave them tools that allowed them to acquire professional identity, empowerment of the professional role, clinical reasoning, professional practice and organization. On the other hand, it also allowed them to apply theoretical knowledge.

Conclusion: although this experience allowed the students to acquire comprehensive skills, it also has the limitation that feelings of fear and anxiety emerge that may make it impossible to develop it.

DESCRIPTORS: Nursing students. Learning. Experiential learning. Abilities. Simulation.

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SIMULACIÓN CLÍNICA EN LA ENSEÑANZA DE LA ENFERMERÍA: EXPERIENCIA DE ESTUDIANTES EN CHILE

RESUMEN

Objetivo: describir las experiencias vividas en simulación clínica por los estudiantes de enfermería de la Universidad de Magallanes, Punta Arenas, Chile, en relación al uso de la simulación clínica como metodología de aprendizaje para el logro de habilidades para el cuidado en Enfermería.

Método: la simulación por los estudiantes se realizó el año 2017, mientras cursaron séptimo y octavo semestre de formación profesional. El estudio realizado fue cualitativo, exploratorio descriptivo, en el cual participaron ocho estudiantes utilizando el instrumento de entrevista semiestructurada aplicada durante el segundo semestre año 2018.

Resultados: se observó que la experiencia en simulación fue bueno y muy bueno. Destaca que los principales puntos de discusión para los participantes fue que la simulación clínica les entregó herramientas que les permitió adquirir identidad profesional, empoderamiento del rol profesional, razonamiento clínico, práctica profesional y organización. Por otra parte, también les permitió aplicar los conocimientos teóricos.

Conclusiones: si bien esta experiencia les permitió a los estudiantes adquirir habilidades integrales también posee la limitante que afloran sentimientos de temor, ansiedad que pueden imposibilitar el desarrollo de la misma.

DESCRIPTORES: Estudiantes de enfermería. Aprendizaje. Aprendizaje vivencial. Habilidades. Simulación.

SIMULAÇÃO CLÍNICA NO ENSINO DE ENFERMAGEM: EXPERIÊNCIA DO ESTUDANTE NO CHILE

RESUMO

Objetivo: descrever as experiências vividas em simulação clínica por estudantes de enfermagem da Universidad de Magallanes, Punta Arenas, Chile, em relação ao uso da simulação clínica como metodologia de aprendizagem para o alcance de competências para o cuidado de enfermagem.

Método: a simulação pelos alunos foi realizada em 2017, enquanto eles cursavam o sétimo e o oitavo semestres de formação profissional. O estudo realizado foi qualitativo, exploratório descriptivo, no qual participaram oito alunos por meio do instrumento de entrevista semiestructurada aplicado durante o segundo semestre de 2018.

Resultados: observou-se que a experiência de simulação foi boa e muito boa. Destaca-se que os principais pontos de discussão para os participantes foram que a simulação clínica lhes deu ferramentas que lhes permitiram adquirir identidade profissional, empoderamento do papel profissional, raciocínio clínico, prática profissional e organização. Por outro lado, também lhes permitiu aplicar conhecimentos teóricos.

Conclusões: embora esta vivência tenha permitido aos alunos adquirir competências abrangentes, também tem como limitação o surgimento de sentimentos de medo e ansiedade que podem impossibilitar o seu desenvolvimento.

DESCRITORES: Estudantes de enfermagem. Aprendizagem. Aprendizagem experiencial. Habilidades. Simulação.

INTRODUCTION

During the last few decades the education provided by the Universities of Chile and the world has suffered from the vengeance of modernization of teaching methodologies and learning, in previous times it was common that teaching had its bases in the expository education by the teacher and that the student had a deficient participation in the process. Education in health does not differ much from this very reality that has had to change paradigms and innovate in education.

On the other hand, education in health adds variables that increase the educational process in a more complex way that requires the incorporation of knowledge, skills, attitudes and necessary values to form future professionals in the area. Likewise, this educational process must be aligned with the context, the rapid sociocultural changes and emerging needs. From the previous it appears that an educational process is only required for the development of competences in the health area, as well as the bell. strategies that allow a comprehensive assessment of the acquired competencies.¹

The technological advance during the last five decades allowed the educational field to seek new pedagogical methodologies that let students improve their capacities and acquire skills. It is from there that the clinical simulation appeared in 1960 as a didactic pedagogical tool that allows students to improve their learning capacities through trial and permanent error in laboratories.²

In the clinical context, it is a didactic strategy, which allows systematic and faithful training to be carried out by students in the field of health and ensuring professional skills in a safe manner and without risk. The simulation allows the student to have the opportunity to carry out clinical procedures and interventions before the intervention with people and guarantee the practice of mismas, without leaving the clinical chance in practical scenarios.²

To understand more about this method, it is necessary to understand the process from the point of view of David Kolb's "experiential learning". This American Psychologist and educational theorist developed the experiential learning theory as a constructivist model of learning, based mainly on them works by John Dewey, Kurt Lewin and Jean Piaget. Within the theory of experiential learning, Kolb explains the process and structure of learning from experience; individual differences in learning; and the process of growth and personal development.³

For David Kolb, the man learns on the basis of his experience, but more than that he learns according to how he consciously reflects on this misma. For the author, experiential learning is the process through which knowledge is created through the transformation of experience. This definition emphasizes that knowledge is a process of transformation, which has been created and recreated continuously. Learning makes experience both objective and subjective. To understand the learning, it is necessary to understand the nature of the development, and vice versa.³

Be aware of this theory that learning is determined by the cross and the relationship of the internal characteristics of the individuals and the variables of the external environment. Lastly, we do not all learn from it in a way that we do not internalize knowledge in the same way, despite the fact that the instructions and the seananeances given by a single educator.

That is why the study houses have had to innovate and insert new learning methods in their curricula to benefit the student to acquire skills, enhance their abilities and apply previous theoretical knowledge through systematic and sustained practice in laboratories. simulation, this in order to respond to problem solving and reduce the risks of error with patients. Nursing schools were pioneers in this method, because their fields of work are very practical. Currently, schools of Medicine, Nursing, Psychology and Nutrition, among others, use methods based on solving problems both in the classroom and in simulated scenarios.⁴

From a social point of view, simulation is found useful for students to test strategies for confrontation/coping with reality, learning to make decisions, solve problems, plan in contexts with

certain disorder or uncertainty, or to realize creative techniques that find alternatives to a given problem, among many others.⁵

It is a very innovative learning strategy, given that it allows students to recreate a situation that they could experience in the clinical practices. With this tool, they live the process as if it were real within a didactic clinical environment, with the purpose of applying the theory, practicing until the error is improved, learning by analyzing situations and evaluating the final product. Therefore allowing to better address the confrontation with reality and to improve the quality of care for patients. Clinical simulation offers a unique learning and participating opportunity, which promotes the achievement of high levels of clinical performance. Additionally, it favors the self-efficacy of students as it is a technology that promotes learning in a safe environment, increasing knowledge and the ability to solve problems derived from patient care.¹

From the above, it can be deduced that carrying out the clinical simulation throughout the study process would potentially favor the skills and aptitudes of the students. Not only would it allow the acquisition of technical skills, but it would also allow the improvement of critical thinking, the management of emotions, organization, delegation and teamwork. Consequently, the impact on students would be reflected in the security and confidence in their actions.

Therefore, it is essential to know the needs of the students, the feelings and experiences lived in simulation, with the aim of creating instances of improvement in the realization of this methodology for future students.

METHOD

A qualitative, exploratory, descriptive study was carried out on the experience of nursing students from the University of Magallanes in relation to clinical simulation as a learning strategy and achievement of skills for practice. The final participant population of the study were eight students of the ninth and tenth semester of professional training from the University of Magallanes, Punta arenas, Chile, who applied the instrument (semi-structured interview) in person during the second semester of 2018.

The choice of the sample was intentional, this type of sample allows us to obtain information in a certain research design and is appropriate for qualitative studies. Therefore, they contribute to the understanding of the studied phenomenon, in this case knowing the experience of the students in relation to clinical simulation.

To choose this sample, the total number of students who had undergone clinical simulation during the academic year 2017 (seventh and eighth semester) at the University of Magallanes had to be filtered according to inclusion and exclusion criteria. The number of students who met all the requirements (twenty-three in total) were called by phone to arrange interviews in person, of this total only 20 students were willing to participate voluntarily.

The interviews began in person, these were recorded with the prior written authorization of the participants, after which they were read and transcribed through the Word program. During this process, it is visualized that the participants' responses became repetitive and stopped providing new data. With this, it was identified that data saturation occurred.

Finally, the sample consisted of eight students and due to the saturation of the interviews, the collection was concluded. In the case of the selected students who did not manage to participate in the interviews (total of fifteen students), their exception was explained by telephone.

The data collection took place in a quiet, reserved and daily environment for the students, specifically in rooms of the University itself previously requested by the researcher. The semi-structured interview was used since it fully complies with the objective of the study.

The instrument used was the interview, which had five questions: What is the importance that you give to clinical simulation as a tool to improve your learning? Do you like to do clinical simulation practices? What feelings does clinic simulation provoke? Describe how clinical simulation has benefited you for the acquisition and improvement of skills for practice. How satisfied did you feel when performing clinical simulation?

After the interviews were finished, they were transcribed in detail to carry out a thematic analysis of them and structuring of the data. With the aim of giving an in-depth reading of what the students wanted to express, collecting the most important ideas and thoughts from them. Then, develop this material in categories and subcategories, rescuing the central message of each speech.

In relation to the above, it allowed to carry out an analysis in relation to the experience of nursing students.

This study was submitted to the evaluation of the scientific ethics committee of the University of Magallanes, Chile, verifying that it complies with the ethical criteria that allow the protection of the privacy, respect and dignity of the students. All participants read and signed the informed consent after explaining the objective of the study and its methodology. Their authorization was requested to be recorded and for the subsequent disclosure of the results. Each interview was assigned a specific letter and number to protect the privacy of the participants.

RESULTS

The answers obtained by the students are born from the experience lived in clinical simulation. From the content of the interviews, two major categories emerge: clinical simulation in the development of professional skills and competencies and feelings of the students in the development of clinical simulation.

Clinical simulation in the development of professional skills and competencies

The interviewees stated that in the professional training process, clinical simulation allowed them to apply the theoretical knowledge acquired previously, giving importance to the fact of performing techniques having the scientific basis for it, and recognizing that theoretical knowledge is essential for Nursing care, this is manifested with phrases like [...] *apply all the knowledge you learn in theory* (P2) [...] *I feel that it is a good tool to incorporate theory* (P3).

Simulation was also highlighted as a tool to practice a series of procedures and in turn acquire skills in simulated scenarios and clinical cases, they recognize that this tool allows them to make mistakes without harming patients, it helped them to relate theory with knowing how to do the things and also allowed them to reinforce their prior knowledge. [...] *It is much easier to learn by doing than with theory alone* (P8) [...] *I believe that doing a clinical simulation takes it a bit to the plane of reality* (P3) [...] *lies in the exercise professional in practice, what we are actually going to work on* (P1) [...] *is very important since doing at least for me is easier than theoretical* (P6).

On the other hand, the simulation allowed them to empower and acquire the professional role, through the realization of the laboratories, the students applied their theoretical knowledge, the repetitive and sustained practice favored the safety of each one of them, allowing them to improve their self-confidence and self-confidence They gave great importance to the nursing role, since this strategy allowed them to correct the lack of clinical experience and failures in the application of techniques. Consequently, the safety of the students increased considerably until they were able to act without fear or doubt in the nursing work. With practice in the simulated scenarios, the error percentages decreased and the confidence of the students was strengthened. With statements such as: [...] *I could express myself and ask anything, no matter how basic* (P5) [...] *It helped me a lot*

because I was able to empower myself (P6) [...] approach the practice, the clinical field, get a little closer to your professional role, how you are going to exercise, work on personal skills (P4).

Another point to consider was the organization, evaluation and teaching experience, in relation to the first point the students stated that the simulation allowed them to carry out a mental order for the different situations, which allowed them to prioritize their activities, the application of clinical cases it made the students follow a work methodology [...] *it served as a guide (P6).*

Regarding the evaluation, they stated that the feedback they had with the teachers after the simulated cases made them realize the mistakes made, have the possibility of improving their actions and thereby favored personal analysis [...] *after that came that feedback process in which one with the teacher was realizing the errors (P6) [...] if the formative feedback was before and after the evaluation there would be phenomenal (P2).*

The teaching experience was a very important factor for the students, the interviewees gave a significant assessment to the unification of the teaching language and criteria when carrying out the simulated scenarios, they considered it valuable that the teachers had experience in the hospital fields and that they could relate the theory with practice in simulation [...] *everything was more dynamic, but it was better because the teacher knew how to combine theory with practice (P7) [...] I think that the people who gave the courses were very capable of doing the simulation (P3) [...] teachers, who work in the hospital, then have experiences and teach us, the techniques that are carried out, in the establishment, which is where we carry out our clinical practices (P1).*

Clinical reasoning was one of the factors as a positive value. The simulation allowed them to develop the ability to analyze, substantially improve the ability to synthesize and that by acquiring self-confidence helped them in decision-making, self-control and experience to handle different situations [...] *it helped me to work on critical thinking, working under pressure (P3) [...] It makes me have a more critical vision (P5) [...] I was able to face the practices in a better way, not only learning how to do things but also as having a case and analyzing things because in the end that is what we have to do analyze (P4).*

It is clear that clinical simulation applied during the professional training process allows students to apply theoretical knowledge, acquire technical skills, empower the professional role, develop clinical reasoning and improve coping in conflict situations. All these guarantees in turn allow the student to face the real patient in a better way. However, they are not exempt from presenting a series of feelings that could affect their student performance and that they themselves often see as a negative factor for their development.

Student's feelings in the development of the clinical simulation

A lot of feelings arose, among which stress, frustration, fear, shame, confidence and satisfaction stand out.

The simulation practices caused the students anxiety due to the confrontation of new experiences within the simulated laboratories, many express that this anxiety could be solved by concentrating mainly on what they had to do, and applying their theoretical knowledge but that in other circumstances it led to this feeling will turn into frustration in the face of the impossibility of positively solving the simulated dynamics [...] *I think it always gives a lot of anxiety at the beginning, because you don't know how to act, and after a simulation you feel you have to study a little more, I think it inspires the person, to seek more knowledge (P3) [...] it caused me anxiety and frustration not knowing some things or not being able to differentiate as materials that was the most complicated or doing things to do them (P5) [...] Anxiety that allows you to seek new things, not an anxiety that paralyzes you, as one thinks, it is an anxiety that allows you advance in terms of knowledge (P3).*

Frustration and fear were described by the interviewees as negative feelings that often paralyzed them in the face of simulated clinical cases, these blocked their actions and prevented them from developing autonomously in the laboratories. Generally, the frustration surfaced after not being able to solve the techniques and / or make the right decisions [...] *Then in some I was frustrated because sometimes there were many things that I did not know then I did not know how to handle the laboratories [...] The fear was It was caused mainly by fear of making mistakes in front of classmates and teachers, so there is that fear that you are doing and that they will tell you something, or that the teacher will challenge you, in front of your classmates (P4).*

The positive feelings expressed were self-confidence and satisfaction. The interviewees stated that as the simulated laboratories were carried out, it allowed them to gain confidence in themselves, they explained that they felt more security in the face of the practices, and that this led them to empower themselves in the professional role [...] *If they had the possibility that there were more simulation laboratories, because it still gave me more security when facing the practices (P6) [...] I could express myself and ask anything, no matter how basic (P5) [...] at least it gave me total security (P7).*

The feelings of satisfaction are mainly related to the confidence that the students achieved after performing the simulation. They state that the feedback from the teachers in each laboratory allowed them to clarify mistakes made and this gave them the possibility of overcoming obstacles until they were able to make correct decisions, security when directing their teams, and greater organizational power [...] *the truth is that it gave results, I think it is fruitful, all this path that we went through before reaching this stage (P1) [...] a good feeling, like really learning, really that the subject of this laboratory was worth it (P5) [...] satisfied with the experience itself because I feel that it helped me as well as it is in skill (P8).*

Although the students expressed a series of feelings that most of them are recognized as a negative factor for the development of this methodology, they recognize that these feelings allowed them to seek information that would help in their learning process.

DISCUSSION

Since the nursing profession has been known, it has a fundamental role in dedicating to the care of people's health, for which is necessary possessing abilities, whether technical or social skills, applying critical thinking and delivering an appropriate and optimal job.

For this reason, during the recent years, in order to improve the quality of graduated professionals nursing careers have had to better their teaching processes and seek new methodologies that favor student learning. Regarding this point it is that 5 years ago the nursing career of the University of Magallanes implemented its clinical simulation center, starting a shift in the students' learning methodologies.

The clinical simulation made it possible to reliably apply all his theoretical knowledge, acquired during the years of study. The students considered the high-fidelity clinical simulation as a possibility of linking theory and practice, in addition to allowing teamwork, which gives them security in the presence of crisis situations.⁶

The students gave great value to the fact of starting their simulation laboratories after having a broad theoretical base, as well as being able to opt for study guides that allowed to facilitate the learning process and the application of these.⁷

The simulation complies with the theoretical framework of the process of learning through experience, which consists of setting goals, practicing, reflecting and conceptualizing. Adult learners start from a concrete experience and are fully and openly involved, and without bias. They then reflect on the experience and observe it from many angles. They make comparisons with existing theories

and create concepts through which they integrate their observations into sound, logical theories⁷ Recognizes the fact that adults learn through practice, but also gives importance to prior theoretical management.

In addition to stating the importance of theory and its application, students declare how clinical simulation was a fundamental tool for the acquisition of technical skills such as social skills. Practice based on clinical simulation with high-fidelity equipment has a greater influence on the development of technical and reasoning skills, and these in turn provide the student with the foundations to establish adequate communication with the rest of the health team.

From the foregoing discussion, it can be inferred that the students value the fact that clinical simulation allows them to practice and thus reduce the margins of error during their professional exercise. In this sense, it is suggested that in a balance of what clinical simulation means in nursing education, its advantages are: development of self-confidence, incentive for teamwork, increased critical thinking skills, controlled and safe environment, immediate feedback on what has been done, interactive learning experience and articulation of theory with clinical practice.⁸

Acquiring organizational skills in the professional field allows students to meet the demands of clinical practices by improving their performance. At the same time, this quality enabled them to achieve goals and objectives. A point that goes hand in hand with clinical reasoning, a quality acquired by the students to which they gave great value. This value helps students to foster the capacity for reflection, the capacity for criticism in relation to what has been learned, always considering that this work is given in an environment of guidance by an instructor and that it also requires a theoretical basis on the part of the student body. Reflecting on and analyzing the lived experience is a crucial step in the learning process, since it is there where students can understand, analyze and synthesize the main technical and non-technical concepts with the aim of improving their performance in future clinical situations similar to the simulated one.⁹

The simulation allows students to acquire critical thinking competence that can be formed through this methodology since it states that students reflect by experiences lived in practice. The development of this competency through each of the simulation sessions considers reflection on the learning of medical practice with the opportunity to apply what has been learned to continuously improve performances in various competencies associated with the educational goals of the clinical area. The learning moments of the clinical simulation could represent latent opportunities in which the analysis, synthesis, evaluation and application of the information obtained through observation, experience, communication and reflection generated through simulated cases can be integrated.¹⁰

In addition to all these factors that intervene in the student body, there are also statements such as the importance given to acquiring skills in the empowerment of the professional role and how transcendental the experience of the instructor teacher means. For the students, the simulation gave them the confidence to act without fear, the “knowing how to do” things gave them self-confidence and this allowed their posture as a nursing professional to improve considerably, increasing safety in acting, data that agree with studies that show that simulation-based training allows correcting the lack of clinical experience and failures in the coordination of the human team, increasing the safety of the nurse and the patient.¹¹

In this same line of action, the interviewees gave a main value to the experience of the simulation teacher, they stated that simulation learning is favored and improved the more experience the instructor teacher has, they recognize that most of them have not only experience in teaching but also have a history in hospitals which allows them as students to compare and practice according to what is experienced in the different clinical fields. So important is the role that the instructor plays for the fulfillment of the learning objectives that are pursued. For this reason, the instructor in clinical

simulation must: elaborate and design scenarios, encourage and encourage participation, and lastly, promote learning from discussion.¹²

The results of the research show not only what has been achieved as technical competences and non-technical skills, but also the feelings experienced by the interviewees. Clinical simulation causes anxiety, fear of the unknown, and frustration. Mainly these feelings are born if the students do not know the simulation scenarios, the fear of the unknown generates anxiety and nervousness. It is manifested in the interviews that the theoretical ignorance to face the scenarios causes insecurity, and this in turn leads to inexperience in clinical practice, slowing down their performance.

This can also be evidenced in study³ in which it is evaluated and validated how anxiety can influence positive and negative feelings in students.

Despite the negative connotation of anxiety, it is considered that these emotions of the student are essential in the learning process, decision-making and in the capacities of caring for the patient, since they make him experience the sense of responsibility and commitment that involves looking after the health and life of a person.¹³

Many of the negative feelings that appear in the interviews are mainly related to the poor preparation to face the simulation laboratories, not knowing or not knowing generates fears and fears that finally translate into frustration when not being able to meet their own expectations or with the objectives of the simulation.

Not only are feelings defined as negative manifested for this practice, positive feelings such as self-confidence and / or security and satisfaction with what has been done are also evoked most of the time, the interviewees recognize that this methodology allows them to acquire security in Acting, this model allows trial and error in a non-real enabling environment. The security acquired with themselves will allow them in the future to function in such a way that will reduce the margins of error with patients and improve the quality of care for them. The clinical simulation in the future nursing professional allows the development of skills, critical thinking, decision making; therefore, improve disciplinary performance.¹⁴

Likewise, the feeling of satisfaction is born from the slogan of acquiring confidence and doing what has been done correctly. The simulation integrates theoretical knowledge, allows the optimal development of student skills, improves leadership and organization skills, is an excellent tool to enhance both technical and non-technical skills. The perception of the students is positive since it allows them to acquire skills and reinforce knowledge without harming the patient. A large number of speeches reflect that simulation allows the development of skills and abilities, facilitating the transition from theoretical knowledge to implementation in real conditions.¹¹

The satisfaction of the students is one of the feelings evoked in the interviews, this satisfaction is manifested after the completion of the laboratories and especially when they efficiently comply with the simulation processes, they manifest well-being with the achievement of the objectives. The study "validation of the quality and satisfaction survey of clinical simulation in nursing students" 15 shows a high degree of satisfaction with clinical simulation as a tool that enhances the student's prior knowledge. Favoring meaningful learning, they presented a degree of satisfaction tending towards the positive regarding the way in which the clinical simulation session is organized and a high degree of satisfaction with the development of communication skills and interpersonal relationship with the teacher and the team.¹⁵

Students consider clinical simulation as a tool that integrates theory and practice, enhancing organization, teamwork, and empowerment of the professional role. Thus allowing the reduction of malpractice with patients. This allows future generations of professionals to carry out their work with greater safety, generating changes in the quality of patient care.

Scientific studies reveal that clinical simulation is a positive pedagogical practice capable of expanding students' learning perspectives.¹⁶ Studies on teaching strategy through simulation can be important in different areas of knowledge, especially with regard to education, safety in invasive and complex procedures that involve diagnosis and therapy, helping health professionals, the community and family members in the development of an ethical attitude.¹⁶

CONCLUSION

In recent years clinical simulation has been used in the training of health sciences students and currently study houses have already incorporated it into their curricula.

In this context, with the results already described and the bibliographic review carried out, it can be concluded that clinical simulation is an excellent methodology for the student to be able to incorporate their theoretical knowledge and interrelate it and apply them to practice. It is important to note that the students refer to and recognize this methodology as an innovation to the new teachings where it is possible to develop their aptitudes and skills in a safe environment without harming or putting any patient at risk. In turn, students deeply value the teaching instructor's expertise. They attach great importance to this point since they see their instructor as an example to follow.

They also recognize that, although the performance of the clinical simulation causes anxiety and feelings such as fear, they value the possibility of practicing in a simulated environment, allowing them to develop other skills such as organization, self-confidence, teamwork, empowerment of the professional role and improvement of communication with their work teams.

However, tomorrow's challenges for this strategy are to develop self-assessment programs for students that allow them to continue with the reflective process and continuous improvement in their learning. As well as, teacher evaluation and training programs that would favor the transversality of teaching and the unification of criteria.

Therefore, it is necessary to create spaces for reflection, since knowing the experiences lived by the students in clinical simulation allows us to identify the deficiencies and vulnerabilities that could be interfering with this methodology. Despite this, clinical simulation is recognized as an excellent methodology that improves the development of clinical competencies for nursing care.

REFERENCE

1. Barrios Araya S, Urrutia Egaña M, Rubio Acuña M. Impacto de la simulación en el desarrollo de la autoeficacia y del locus de control en estudiantes de enfermería. *Educ Med Super* [Internet]. 2017 [cited 2019 Sept 01];31(1):125-36. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21412017000100012&lng=es
2. Niño Herrera C, Vargas Molina N, Barragán Becerra J. Fortalecimiento de la simulación clínica como herramienta pedagógica en enfermería: experiencia de internado. *Rev Cuid* [Internet]. 2015 [cited 2019 Sept 01];6(1):970-5. Available from: <https://doi.org/10.15649/cuidarte.v6i1.161>
3. Kolb DA. *The process of experiential learning*. Englewood Cliffs, NJ(US): Prentice Hall; 1984.
4. Bustos Álvarez J. Aprendizaje basado en problemas y simulación clínica: aprendiendo por competencias en la educación en salud. *Rev Hispanoamericanas Cienc Salud* [Internet]. 2015 [cited 2019 Sept 01];1(2):117-20. Available from: <http://www.uhsalud.com/index.php/revhispano/article/view/59>
5. Davila Cervantes A. Simulación en Educación Médica. *Invest Educ Med* [Internet]. 2014 [cited 2019 Sept 01];3(10):100-5. Available from: <http://riem.facmed.unam.mx/node/254#biblio>

6. Martínez-Castillo F, Matus-Miranda R. Desarrollo de habilidades con simulación clínica de alta fidelidad. *Perspectiva de los estudiantes de enfermería. Enfer Muniv* [Internet]. 2015 [cited 2019 Sept 01];12(2):93-8. Available from: <https://doi.org/10.1016/j.reu.2015.04.003>
7. Maestre JM, Manuel-Palazuelos J, Del Moral I, Simon R. La simulación clínica como herramienta para facilitar el cambio de cultura en las organizaciones de salud: aplicación práctica de la teoría avanzada del aprendizaje. *Rev Colomb Anestesiol* [Internet]. 2014 [cited 2019 Sept 01]; 42(2):124-8. Available from: <https://doi.org/10.1016/j.rca.2014.01.004>
8. Medina Urra E, Barrientos Sandoval S, Navarro Iribarren F. El desafío y futuro de la simulación como estrategia de enseñanza en enfermería. *Invest Educ Méd* [Internet]. 2017 [cited 2019 Sept 01];6(22):119-25. Available from: <https://www.sciencedirect.com/science/article/pii/S2007505717301473>
9. Garcia Soto N, Nazar JC, Corvetto AM. Simulación en anestesia: La importancia del debriefing. *Rev Mex Anestesiol* [Internet]. 2014 [cited 2019 Sept 01];37(3):201-5. Available from: <http://www.medigraphic.com/pdfs/rma/cma-2014/cma143g.pdf>
10. Valencia Castro J, Tapia Vallejo S, Olivares Olivares S. La simulación clínica como estrategia para el desarrollo del pensamiento crítico en estudiantes de medicina. *Investigación Educ. Médica* [Internet]. 2018 [cited 2019 Sept 01];8(29):13-22. Available from: <https://doi.org/10.1016/j.riem.2016.08.003>
11. Juguera Rodríguez L, Díaz Agea J, Pérez Lapuente M, Leal Costa C, Rojo Rojo A, Echevarría Pérez P. La simulación clínica como herramienta pedagógica: percepción de los alumnos de Grado en Enfermería en la UCAM (Universidad Católica San Antonio de Murcia). *Enferm Glob* [Internet]. 2014 [cited 2019 Sept 01];13(33):175-90. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1695-61412014000100008&lng=es
12. Rojo Rojo A, Díaz Agea J. Aprendizaje en entornos clínicos reales y simulados. *Sociedad Platense de Anestesiología, Murcia(ES)*; 2013. p. 1485-96. Available from: https://spa.org.ar/cesspa/wp-content/uploads/2018/01/el_rol_del_instructor_de_simulacion_clin.pdf.
13. Segura Azuara N, Eraña Rojas I. Análisis de la ansiedad en los primeros encuentros clínicos: experiencias utilizando la simulación clínica en estudiantes de pregrado. *Edu Med* [Internet]. 2019 [cited 2019 Sept 01];In press. Available from: <https://doi.org/10.1016/j.edumed.2018.12.012>
14. De la Horra I. La simulación clínica como herramienta de evaluación. *Reduca* [Internet]. 2010 [cited 2019 Sept 01];2(1):549-80. Available from: <http://www.revistareduca.es/index.php/reduca-enfermeria/article/view/179/207>
15. Astudillo Araya Á, López Espinoza MA, Cádiz Medina V, Fierro Palma J, Figueroa LA, Vilches Parra N. Validación de la encuesta de calidad y satisfacción de simulación clínica en estudiantes de enfermería. *Cienc y Enferm* [Internet]. 2017 [cited 2019 Sept 27];23(2):133-45. Available from: <https://doi.org/10.4067/S0717-95532017000200133>
16. Quirós SM, Vargas MA. Clinical Simulation: a strategy that articulates teaching and research practices in nursing. *Texto Contexto Enferm* [Internet]. 2014 [cited 2019 Sept 27];23(4):815-6. Available from: <https://doi.org/10.1590/0104-07072014001200edt>.

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CONTRIBUTION OF AUTHORITY

Study design: Cabrera TAA, Silveira SK.

Data collection: Cabrera TAA

Data analysis and interpretation: Cabrera TAA, Silveira SK.

Discussion of results: Cabrera TAA, Silveira SK.

Writing and / or critical review of the content: Cabrera TAA, Silveira SK.

Final revision and approval of the final version: Cabrera TAA, Silveira SK.

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There is no conflict of interest in this research.

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CORRESPONDING AUTHOR

Thania Andrea Aballay Cabrera

thania.aballayc@gmail.com

