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Debriefing in clinical nursing simulation: an analysis based on the theory of experiential learning

Debriefing na simulação clínica em enfermagem: uma análise a partir da teoria da aprendizagem experiencial

Debriefing en simulación clínica de enfermería: un análisis basado en la teoría del aprendizaje experimental

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ABSTRACT

Objective: To understand the meaning of the debriefing process performed in clinical simulation activities in a nursing course, based on Kolb's Theory of Experiential Learning.

Method: Qualitative, case study type, carried out in a nursing course at a University in southern Brazil, from March to June 2018. For data collection, documentary research was used, the interview based on Kolb's Leaning Style Instrument, with 29 participants and direct observation of eight debriefing scenes. For analysis, the integrated units of analysis obtained from the construction of explanation were used.

Results: Documentary data and the Inventory contributed to the understanding of clinical simulation and debriefing was categorized into four learning modes.

Conclusion: Clinical simulation as an experiential learning methodology relates experience, perception, cognition and behavior with elements identified in the debriefing by students.

Keywords: Nursing. Simulation technique. Equipment and supplies. Learning. Problem-based learning. Education, nursing.

RESUMO

Objetivo: Compreender o significado do processo de *debriefing* realizado nas atividades de simulação clínica em um curso de enfermagem, a partir da Teoria da Aprendizagem Experiencial de Kolb.

Método: Qualitativo do tipo estudo de caso, realizado num curso de enfermagem de uma Universidade do Sul do Brasil, de março a junho de 2018. Para a coleta de dados, utilizou-se a pesquisa documental, a entrevista baseada no Instrumento de Estilo de Aprendizagem de Kolb, com 29 participantes, e a observação direta de oito cenas de *debriefing*. Para análise, utilizaram-se as unidades integradas de análise obtidas a partir da construção de explanação.

Resultados: Os dados documentais e o Inventário contribuíram para o entendimento da simulação clínica e o *debriefing* foi categorizado em quatro modos de aprendizagem.

Conclusão: A simulação clínica como metodologia de aprendizagem experiencial relaciona a experiência, a percepção, a cognição e o comportamento com elementos identificados no *debriefing* pelos estudantes.

Palavras-chave: Enfermagem. Simulação. Equipamentos e provisões. Aprendizagem. Aprendizagem baseada em problemas. Educação em enfermagem.

RESUMEN

Objetivo: Comprender el significado del proceso de *debriefing* realizado en actividades de simulación clínica en un curso de enfermería, basado en la Teoría del Aprendizaje Experiencial de Kolb.

Método: Cualitativo, tipo estudio de caso, realizado en un curso de enfermería en una Universidad del sur de Brasil, de marzo a junio de 2018. Para la recolección de datos se utilizó la investigación documental, la entrevista basada en el Instrumento de Estilo de Aprendizaje de Kolb, con 29 participantes. y observación directa de ocho escenas de interrogatorio. Para el análisis se utilizaron las unidades integradas de análisis obtenidas de la construcción de la explicación.

Resultados: Los datos documentales y el Inventario contribuyeron a la comprensión de la simulación clínica y el *debriefing* se clasificó en cuatro modos de aprendizaje.

Conclusión: La simulación clínica como metodología de aprendizaje experiencial relaciona la experiencia, la percepción, la cognición y el comportamiento con elementos identificados en el *debriefing* por los estudiantes.

Palabras clave: Enfermería. Simulación. Equipos y suministros. Aprendizaje. Aprendizaje basado en problemas. Educación en enfermería.

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INTRODUCTION

The Experiential Learning Theory consists of a set of learning skills related to the professional development of individuals[1]. Professionalism is a permanent path of learning, in which individuals learn content and evolve from their experiences related to professional performance. The theory is based on research under two main aspects: learning modalities and development of affective, perceptual, cognitive and behavioral processes present throughout the professional path[2].

The holistic and integrative perspective of experiential learning is similar to trends that highlight the contributions of reflective thinking with emphasis on the quality of training[2]. However, Kolb's understanding has its own original path, with great potential for application to studies and training proposals in the field of professional development[1], as in the case of activities involving clinical simulation for nursing students.

Studies show that Kolb's experiential learning theory can achieve learning objectives and theoretically support the development and use of the clinical simulation strategy in nursing education[3–4].

Clinical simulation is a teaching-learning methodology that has positive results regarding the learning of clinical practice, identifying the value of active learning, thanks to its proximity to the care reality[5]. Through the experiences of simulation scenarios, students are encouraged to reflect on their knowledge and experiences, as the learning process includes, in addition to carrying out the simulation, a time for feedback on the quality of the actions carried out by the students.

Debriefing is considered the key learning point of the simulation process, developed to generate synergies, encourage critical, creative and reflective thinking in students[6]. The process is defined as the moment in which a reflective analysis of what was experienced during the activities in the simulation scenario is made, as well as the discovery of what was actually learned. It is a relevant and effective strategy for building learning after living real experiences[5].

In the simulation stage, students express their thoughts, feelings, report their doubts, uncertainties and limitations in their ability to act, self-evaluate their actions, decisions, communications and attitudes, and therefore they learn from their own experiences and from the experiences of their colleagues[7]. Studies suggest that this action analysis process improves the quality of the simulated activity. In addition, it is a valuable asset[6–8], as it involves discussion and reflection guided by the objectives of the scenarios, and these objectives converge with the competencies and skills established by the National Curriculum Guidelines for the Nursing Course (DCN) of the National Education Council (CNE)[9].

Given the relevance of clinical simulation for the construction of knowledge in a critical-reflective way, in the context of teaching practices with emphasis on the experience of individuals, this study aims to understand the meaning of the debriefing process carried out in the clinical simulation activities of a nursing undergraduate course, based on the Theory of Experiential Learning proposed by David A. Kolb[1].

The importance and justification for this study is based on the importance of clinical simulation as a teaching-learning strategy that allows students to experience non-complex or complex situations in controlled and safe environments prior to practical experience in a real environment. The simulation must be made according to theoretical models that guide the facilitator in the planning, implementation and evaluation of the activities.

The most widely used model of simulation in nursing is the National League Nursing/Jeffries Simulation Theory, which recommends carrying out the simulation, according to the following criteria: objectives, fidelity, problem solving, student support and debriefing[6–10].

All criteria for simulation planning are important; however, revision of the actions performed in the simulated scene is the key component of this strategy[8]. It must be based on the learning objectives established prior to the execution of the simulated scenario, in order to encourage students' critical, creative and reflective thinking[11].

METHOD

This is a single case study with two Integrated Units of Analysis (UIA), explanatory and descriptive, with a qualitative approach[12]. The construction and production of this article were carried out based on the Consolidated criteria for reporting qualitative research[13]. The case study made it possible to apprehend the aspects involved in the interaction with the students, contemplating the object of study and allowing direct contact with the participants and their meanings.

For a more detailed analysis of the meanings attributed by the participants, a qualitative approach was selected, as it would allow revealing the meanings of the debriefing process obtained through clinical simulation activities in an undergraduate Nursing course, based on the Theory of Experiential Learning by David A. Kolb.

The meaning plays a central role both in the social process and in the process inherent to the object. The individual attributes to the object ideas or concepts that other people have about him/her and the object, and the resulting

meaning is a product of social life, that is, of interaction with other human beings.

The research context was the Undergraduate Nursing Course at Universidade Federal de Santa Catarina (UFSC). The case study was Clinical Simulation, and the Integrated Analysis Units (UIA) consisted of two disciplines of the Course.

The information was collected between March and June 2018. For this purpose, the triangulation technique was used in the collection stage, from three sources of evidence: document analysis of the Course's Pedagogical Project (PPC), Education Plans (PE) and Lesson Plans (PA) of the UIA; information gathering interview with the Learning Style Inventory and direct observation of the simulation.

To organize and analyze the data collected, fictitious names were assigned to the participants, and letter D and numbers 1 to 8 were used for the debriefing scenes. The scenes were numbered, not the participants, because at this stage of the simulation, the objective of the study was to seek the meanings expressed in the findings and then select the explanation construction analysis technique.

Data collection began with document analysis, and the course coordinator was contacted, as permission to carry out the study was needed. The Pedagogical Project of the Course and the education plans of the subjects were made available. After the analysis, four phases (semesters) of the course where clinical simulation was used were identified. The education plans of specific nursing disciplines with a focus on clinical care were considered a criterion for inclusion of documents. Disciplines that proposed only a theoretical approach as a methodology or that used simulation without the debriefing stage were considered exclusion criteria.

Subsequently, the professors of disciplines in the selected phases were contacted. On that occasion, the purpose of the research was explained to them and access to the lesson plans was requested for analysis. Two disciplines were selected, corresponding to the fundamental axis, entitled: "Care in the process of Human Living II – the surgical condition", from the fifth phase of the course, representing the Integrated Unit of Analysis 1 (UIA 1); and the discipline: "Care in the process of Human Living V – primary care and mental health", from the seventh phase of the course, which is the Integrated Unit of Analysis 2 (UIA 2) of the case studied. The other phases, fourth and sixth, were excluded from the research, as they would not occur within the established data collection period.

Documentary data information was collected from an instrument previously prepared and tested by the research team. The instrument for document analysis consisted of a summary, objectives and competencies of the Pedagogical Process of the Course (PPC), the education and lesson plans.

After this stage, the instructors were asked to give permission for the students to participate in the research. The invitation was made in person in the classroom by a researcher member of the team (a specialist), and the participants were asked to sign the Free and Informed Consent Term (ICF). Data collection began after the signing of this instrument, with the completion of the Inventory and observation of the debriefing process after the simulated scene. After the informed consent was signed by the participant, data collection related to the Inventory began immediately and the date of observation was informed.

The data collection interview was guided by the Learning Style Instrument and was completed by 29 undergraduate Nursing students, regularly enrolled in the subjects eligible according to the research inclusion criteria, and who participated in the simulated practice activities. The research risks were related to the expression of feelings and emotions according to the participants' experiences. Therefore, the necessary caution and the possibility of withdrawing their consent to participate in the research at any time were highlighted. The benefits were the dissemination of the study in the scientific community and the holding of a pedagogical workshop based on the results for the study participants. Also, 11 students from UIA 1, and 18 from UIA 2 participated in the respective disciplines and there were no withdrawals or refusals by the participants. Three questionnaires were returned due to incomplete filling.

The Learning Style Inventory instrument used in this study was validated in Brazil in 2000[14], developed by David A. Kolb, in 1976, and revised in 1985 and 1993. It consisted then of twelve sets of words, in ascending order from 1 to 4 for letters A through D[15]. The Inventory measures the impact of the four modes of learning on students who are part of a cycle. After the completion of the inventory, it is necessary to apply the formula represented in Figure 1, which results in the Styles, as follows: Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation.

Direct observation by the researcher occurred only in the debriefing stage, in the videoconference room of the Simulation Laboratory, and was based on the analysis of the video recording. Eight groups of students were observed, as follows: three groups from UIA 1, with three participants in the simulated scene and five groups from UIA 2, with two participants in each scene. Each stage lasted in average 20 to 30 minutes.

The observations were recorded in a field diary that did not contain closed-ended questions to be answered. They were scored according to the students' performance in the scene, through observation of the videos of the simulated

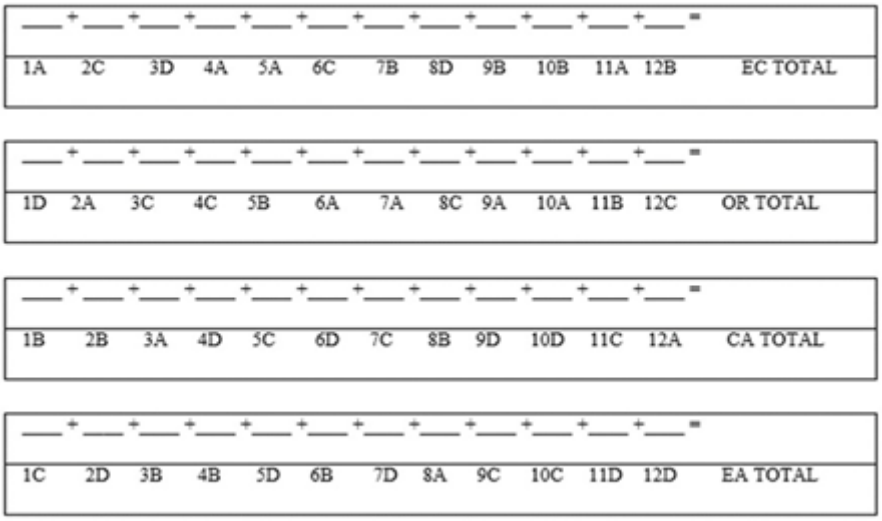

Figure 1 – Learning Style Inventory Formula.
Source: Adapted from Kolb, 2005.

scene and the students' speeches. The records were performed by a researcher, a specialist who is a member of the team; the information was relevant to the research and had not been captured by document analysis and completion of the Inventory.

Document analysis was based on the summary, objectives, and competencies of the Political Pedagogical Project (PPC), education and lesson plans entered in Microsoft Word® spreadsheets. The notes of the observations were elaborated in tables in Microsoft Word® software, coded by D1, D2, D3, in the scenes performed by the participants of UIA 1, and D4 to D8, in the scenes of the participants of UIA 2. The Inventory data were transcribed and submitted to the application of the formula[14], using Microsoft Excel® software, by a systems analyst. To prove the result, data was double-checked, with manual and digital analysis of the instrument.

The following codes were used in data presentation: Education Plans (PE 01 and PE 02), Lesson Plans (PA 01 and PA 02), the Learning Style Instrument by presentation in Figure 2 of the Styles: Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation and Observation of the debriefing stage (D1, D2, D3, D4, D5, D6, D7 and D8).

Data were analyzed according to the general analytical strategy of Kolb's theoretical propositions in the four phases of the learning process: feeling, thinking, observing and doing. The purpose of this was to compare the findings of clinical simulation with the initial theoretical statement on experiential learning by David A. Kolb, for the construction of a final explanation about this process[12]. This explanation was constructed as a narrative, reflecting some theoretically significant propositions, being probably the result of a series of interactions questioned for this study, namely: does the course propose clinical simulation for the training of nurses? Is there a predominant learning style in nursing students? How does experiential learning take place in the clinical simulation debriefing strategy?

The proposition guided the organization of the analysis, pointing out relevant conditions to be described, in order to seek an explanation for the phenomenon investigated, stipulating the set of casual links of the case, which reflect the critical insights related to the case process[12].

The present study was submitted to the Research Ethics Committee under CAAE No 84512418.1.0000.0121, and approved according to technical opinion No 2.675.941. All study participants signed the Free and Informed Consent Term (FICT), consenting to fill out the instrument and to observe the clinical simulation, in accordance with Resolution No. 466/12.

RESULTS

Clinical simulation is a teaching-learning strategy addressed in the PPC and in case education plans, understood as a theoretical-practical element, with content developed in line with the lesson plans of the disciplines. For the learning experiences, the theoretical-practical workload of the course was used to identify, based on documental analysis of the pedagogical political project, the description for the use of the clinical simulation strategy:

Regarding the learning experiences that will be provided and developed during the course, the activities were divided into a central theoretical-practical core and a flexible core [...].*Theoretical-practical activities can be carried out in Laboratory Practices – they concern practical activities in a technological environment and under the guidance of an instructor and monitor, aimed at the development of techniques, procedures, observation, simulation and training to support and deepen theoretical activities.* (PE 1 and 2)

A Methodological Guide for Simulation in Nursing also contributed to the practice of simulation in the course

This guide contains protocols for good simulation practices for nursing cases, informing that the course has a special room equipped for videoconferencing, used in subjects that require this technology, with a TV set for the debriefing of the activities carried out in the simulation laboratories. (PE 1 and 2)

The teaching plans of UIA1 and UIA2 have the same format, containing the syllabus and methodologies for theoretical activities. As for theoretical-practical activities, they were presented in both plans through the clinical simulation strategy.

The plans exposed the high accuracy and complexity of the simulations. The scenes were performed in physical spaces suitable for professional performance, and the simulation of reality was done in the best possible way. At UIA 1, the simulated activity took place in the Laboratory of Simulated Practices, in a room where a realistic environment of an intensive care unit was created. For the simulated case, a dummy was used, representing a patient with symptoms of hypotension and tachycardia, connected to the cardiac monitor, with heart and respiratory beats. The room contained materials such as face masks, gloves, oxygen therapy, ventilation catheter and serum therapy and drugs for intravenous administration.

At UIA 2, the activity was carried out in the simulation laboratory of the care room, featuring a nursing office in the health service, with an actor (student of the undergraduate course in Performing Arts) assuming the role of patient. The actor played the role of a person with symptoms of anxiety in the face of various social situations of his/her daily life such as sweating, difficulties in writing his term paper and uncertainties about the choice of his/her profession.

The clinical simulation learning strategy was designed based on the assessment of skills and competences:

Demonstrate the ability to identify the intercurrences and complications of the patient... Present the ability to prioritize nursing care to be developed with the patient [...]. *Provide nursing care to prevent aggravation of the case.* (PA01)

Perform a mental status examination of the patient [...]. *Make contact with the patient's family. Periodically evaluate the goals set.* (PA02)

Regarding the Inventory, 26 instruments were analyzed. Data analysis characterized the students' profile, with 88% female and 12% male; 85% of students were aged 20-30 years old and 15% were over 30 years old; 35% of the participants were in the fifth phase of the course; and 65%, in the seventh phase.

Kolb's Learning Style Inventory identified the learning styles, named by Kolb as Concrete Experience (CE), Active Experimentation (EA), Abstract Conceptualization (CA) and Reflective Observation (OR).

Reflective Observation was the predominant mode of nursing students, followed by Active Experimentation, Abstract Conceptualization and, finally, Concrete Experience, as shown below:

The results of the observation show the students' transition through the four phases of the learning process:

Concrete Experience in which the student learns through feelings and the use of the senses:

I felt anxious with the patient's anxiety, I have to know how to deal with the situation [...]. *The appointment must be quick and effective. (D7)*

Importance of the patient's case, how to think about him, what he considers important, bond with the patient, empower the patient about his choices (operation strategy). I felt important when I took on the role of a nurse. (D5)

I'm feeling the same symptoms as the patient, my hands are wet as well as the patient's hands, I feel the same things. (D6)

I felt safe working with my colleague, I was happy to see the colleague taking on the role of a nurse. (D4)

I was focused when I approached the patient; we asked the patient why he chose the profession; we wanted to understand why he was working at the end of course paper and dating; importance of treatment and care for the patient. (D4)

Abstract conceptualization, in which the student learns through ideas, creating abstract schemes and interpretations:

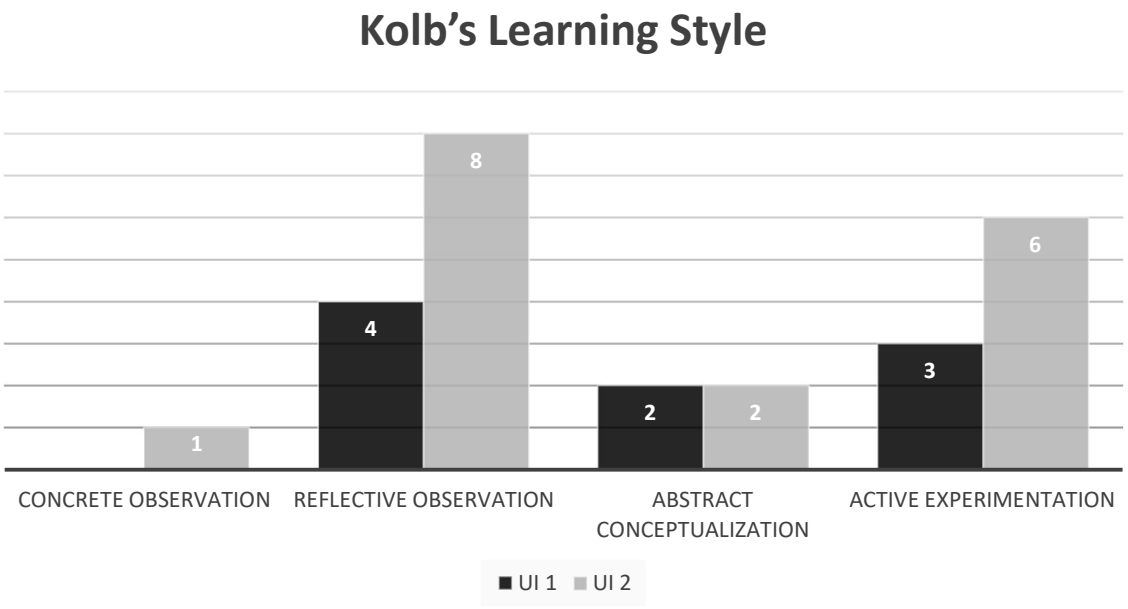

Figure 2 – Kolb's Learning Style of the students who completed the Inventory
Source: Research data, 2018.

We explained to the patient where he was, we made him aware of his location, we examined the dressing. We talked to the patient, explained to him what we were going to do. If BP is low – use lactate ringer's injection [...] Elevate the head of bed: is there a reason for this? In his clinical case, we should not do that. We examine his pupils [...].*We organized ourselves and were prepared to carry out our tasks, we were in sync* [...]. *We were able to think about what to do, we evaluated the patient and we did what was necessary. (D3)*

I faced difficulties, because I could not put into practice what I knew in theory, I felt limited [...].*We need to study more, I miss more practical classes than theory, I wanted to do the scene again. (D6)*

Reflective Observation refers to the student who learns by observing and thinking:

I kept watching the patient, seeing if he was paying attention to what I was saying... He was agitated, could not stare at anything, had difficulty paying attention, kept moving his feet and hands [...].We were observing him, but I could not evaluate him [...].*It's kind of subconscious; I noticed what he said, I watched how he acted; body and verbal language. (D7)*

I didn't know what to do, I watched the patient, the way he acted. (D8)

Active Experimentation, in which the student acts specifically in some situations in order to influence and modify them:

I suggested that he take walks, due to his financial limitations, we must suggest to the patient something that he can do [...].*It was good to relate practice and theory and simulation [...]. This time I did what I had to do, I managed to tell the patient what is most important at the time of the simulation* [...]. *(D8)*

We kept thinking about what we are going to do in the internship, relating it to what we did in the simulation [...] I can imagine myself in the professional role [...]. *(D4)*

DISCUSSION

The nursing course is based on current pedagogical trends in education, on innovation, critical thinking and reflection. These trends configure the curriculum with active methodologies, which meet the competencies and skills recommended by the National Curriculum Guidelines of National Education Council[9].

The laboratory of practical activities, presented in the political-pedagogical project, is an appropriate environment, equipped with infrastructure and strategically planned to approach the methodology of clinical simulation. The teachers are supposed to use this proposal in their lesson plans.

Therefore, the lesson plans of the disciplines in the case were based on this methodology, with objectives, fidelity scenarios, problem solving, briefing and debriefing, as configured in the most used model of the National League Nursing/Jeffries Simulation Theory [10] for the clinical simulation strategy.

The course adopts active methodologies that promote a process of reflection and criticism, based on the competences and abilities selected for the reality in which it is inserted. The construction of the meaning of the content learned, relating learning to the contexts and practices, allows the student to be active and collaborative in the experiential processes, showing commitment to the situations experienced[16].

Thus, clinical simulation, which has already been conceptualized as a teaching-learning strategy, also becomes an active methodology, as it stimulates students' active and reflective participation in a learning environment. Furthermore, it is a technology complemented by modern anatomical dummies, increasingly sophisticated, which can and allow to reproduce vital functions of the human being, in addition to developing complex clinical scenarios with recorded scenes.

Clinical simulation is also a pedagogical resource, as it features viable alternatives to achieve autonomy and stimulate students' curiosity, providing the formation of an integral, critical, proactive, innovative and humanized being. It also contributes to the development of students' critical thinking with a view to making accurate clinical decisions for future nurses[17]. Finally, it enables experiential learning, in which students learn from experiences, practicing with a mock patient in order to understand, to reflect on action and on the learning process itself.

In this regard, experiential learning contributes to the constant transformation of education, influenced by the social context of the individual, who is able to create and recreate his own knowledge through experience. In a particular integrative review study[18], simulation is the most cited learning strategy, capable of enabling the experience of safe and pedagogically planned experiences.

Experiential learning is based on the premise that all prospective professional development results from current learning, as well as all previously acquired knowledge is essential for learning[2]. Clinical simulation integrates the Kolbian Theory based on this premise[1]. The methodology of clinical simulation is used in experiential learning, because in the briefing students acquire knowledge, during the scene; on the other hand, in debriefing, the student reflects on what has happened during the simulation. Thus, appropriation of knowledge from experience demands continuous processes of action and reflection[19].

It is in the spiral between action and conscious reflection on experiences, in order to transform them into replicable learning, that Kolb's experiential learning cycle integrates the four adaptive learning models, namely: concrete experience, abstract conceptualization, reflective observation and active experimentation[1].

Data related to the Kolb Inventory showed reflective observation as the style most often selected by students, followed by active experimentation and abstract conceptualization. Concrete experience was the least selected style.

Results differ among the UIAs; in the fifth phase, there were no results for concrete experience, while in the seventh phase it was selected by only one participant, and so was classified as the least option. Reflective observation was the most mentioned option in both phases of the course: with four students in the fifth phase and eight in the seventh phase. Active experimentation was the second most frequent choice of three students in the fifth phase and six in the seventh phase. Finally, abstract conceptualization was in third place, and was selected by two participants in each of the phases.

Regardless of the score obtained by each style, the availability of styles in the strategy is interesting, which allows a better understanding of the different profiles and learning characteristics of the students. Therefore, it is in the set of teaching modes that the clinical simulation strategy stands out, providing the students with new learning possibilities. It doesn't matter how many times each mode was chosen – what matters is that all individuals can benefit in their own way in the same strategy offered.

It is understood that the individuals have different ways of learning and these differences are a reflection of the genetic equipment of the human being, of their particular life expectations, of the demands of the current environment; based on them, students were able to choose the best mode among the four structures proposed by the Kolb Learning Styles Inventory, stating that the choice is individual[20]. It should be noted that the content to which students are submitted and the strategy used can impact the type of learning produced.

The connection between the Learning Styles identified in the Inventory and the Experiential Learning Theory proposed by the author in his cycle deserves mention, since in the Inventory the student identifies the appropriate way for his learning and the theory explains how learning is cyclically based on those modes identified by the Inventory. It is understood that the strategy must be based on an experience, so that the student is confronted with all modes of learning,

forming a cycle of interaction, so that each new information is experienced, observed, reflected and conceptualized.

Thus, the concrete experience lived by the student provokes a feeling that generates a reflective observation, involving the conscious act of observing, and then thinking, which is called abstract conceptualization of the theory, and then active experimentation is obtained, which is actually doing something[20]. From then on, the learning generated in the final stage of the simulation is driven by the experience in the clinical simulation, and can be evidenced and classified in the observation results.

In the concrete experience stage, learning occurs through specific experiences, related to other people, and by being sensitive to emotions and to people[1]. Observation results show clearly these assumptions: students express themselves through feelings, such as anxiety (the most cited), present in the student and in the patient of the simulated scene. Safety was generated in the scene during the interaction with a colleague, as well as with the satisfaction in perceiving this colleague in the role of nurse. There was also evidence of the intention to welcome the patient, establishing a bond and empowerment, essential feelings for nursing professionals.

At this stage, the students' sense of belonging when they perceive themselves as nurses in the simulated scene could be clearly identified, with total involvement and openness, giving meaning to the training process. In addition, this stage aimed to present students with samples of objects, artifacts, behavioral processes or phenomena encountered in practice. Therefore, it is believed that high-fidelity simulation, with scenarios, objects and a real clinical case sensitized the students on the scene[7].

In the active experimentation stage, individuals learn by showing the ability to perform tasks, taking risks and influencing people and events through actions[16]. Application of what was learned occurs in this stage, with students relating practice with theory and practice in the scene. This required decision-making and problem solving as students were confronted in the simulated scene.

In the abstract conceptualization stage, learning occurs through logical analysis of ideas, systematic planning, and action on an intellectual understanding of the situation. At this stage, the student played a more active role in the learning process, explaining to the patient what he/she was doing and the reasons for acting in that way, expressing logical reasoning during the scene. Then integration was reached and concepts were created based on the observations.

In another scene, a student reported having difficulty putting into practice what is conceptualized in the theory, demonstrating the difficulty of understanding and analyzing the environment in which he/she was inserted, also reporting the desire to perform the scene again. In this context, clinical simulation offers the benefit of replicating the simulated activity as many times as necessary[19].

Finally, in the reflective observation stage, learning takes place with careful observation before judgments, and with the visualization of issues from different perspectives to seek the meaning of things[16]. Evidenced in the simulated scene, reflective observation occurs when the student reports having observed the patient in all his/her aspects, expressing subconscious words, exposing what he/she had in mind, but which was not within the immediate reach of consciousness, that is, observation preceded reflection.

The observations of the simulated scenes allow us to affirm that the simulation provided the students with the possibility of learning through the four modes of the cycle. Also, in several observations made by Kolb, it was possible for students to feel, observe, think and act concomitantly in response to the learning process.

Kolb's experiential learning theory and clinical simulation are similar as both include reflective thinking in their methodological assumptions. For both, learning is achieved through experience, and experimentation must always be followed by a space for reflection, which occurs in the last stage of the simulation.

The central argument in this reasoning is that students promote after-action reflection in order to understand what happened and the reasons for it, in addition to the way they learned and built knowledge to replicate such knowledge in real-life situations. The knowledge obtained has increased the impact of debriefing on the clinical simulation strategy[6–8].

Teaching-learning strategies should not be understood as mutually exclusive; we advocate for clinical simulation at all stages, since the moment of reflection contributed to an experiential learning and students obtained individual and collective learning during the process. This strategy leads to knowledge, and information is adapted according to the needs of each individual who learns, and finally, the formulation or reformulation of the experience takes place, and the experiential interaction with the experience and with the sensations generated in the individual and in the environment, with the other individual's concepts and experiences, is valued.

CONCLUSION

The Case Study presented clinical simulation as an experiential learning methodology, as it is related to experience, perception, cognition and behavior. Such elements were identified in the debriefing by the students in four ways of learning, which represent feeling, thinking, observing and doing, based on the explanation of Kolb's propositions. The teaching-learning strategy of clinical simulation reflects the creativity of thought and the need for action, as being complementary to the observation and feeling of nursing students.

This stage of the simulation is a simulation experience in which an analysis or reflection guided by the facilitator is carried out, encouraging self-assessment, reflective and meaningful learning, reflection on the experience lived, discussion about the objectives of learning, reinforcement of good practices, learning from mistakes, strengthening of decision-making and teamwork.

Therefore, the simulation is a moment of discovery, of shared learning between the student and the facilitator. More than assessing skills and competences, it is supposed to ensure safety, trust and stimulation throughout the learning process.

A limitation of this study concerns the lack of investigation of the topic with the academic staff, which could provide more detailed and greater understanding of the phenomenon investigated. Moreover, the absence of a guide containing elements of experiential learning to guide the debriefing process made it difficult to establish analysis standards regarding the activities carried out after the simulated practice.

As for the contributions of this study, it is worth highlighting the possibility of reflecting on the importance of the stages of clinical simulation for teaching and learning, at the abstract level of Kolb's experiential learning cycle. In this cycle, the debriefing dynamics contributed to the students' questioning about the reasons and ways in which they made their decisions in the context of clinical practice, and identified the strengths in a space for self-reflection of the processes covered in the four learning cycles.

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