

The utilization of active methodologies in nursing education: the perception of undergraduate course students

Victoria Marina Lima dos Santos ^{1*}, Ione Ferreira Santos ¹, Cássia Galli Hamamoto ¹, Mara Quaglio Chirelli ¹

¹Marília Medical School. Brazil. victoria.limasts@gmail.com. Mailing Address: José de Grande Avenue, 332, Parati Neighborhood-Marília City/São Paulo State. CEP 17519-470.

*Corresponding author. E-mail: victoria.limasts@gmail.com

ABSTRACT. The objective of this research is to analyze how nursing students of the Marília Medical School (FAMEMA) perceive the Systematized Educational Unit, to motivate the reflection regarding the course's curriculum, which goes through a dynamic improvement process, allowing the implementation of necessary changes. It's about a qualitative study, in which 20 undergraduates from the first and second years were interviewed, providing data for the thematic analysis. The chosen analysis modality made possible to explore the object of investigation in a systematic way and contributed to the beginner's researcher learning about the qualitative data process. Through the thematic analysis it was observed, in the undergraduates speeches, some contributions of the active methodologies: the learning how to learn, the development of the critical reasoning and the autonomy to search for information in a qualified way, to build the knowledge, teamwork abilities and the humanized education focused on the broader approach of the care. The articulation of the tutorial cases with practice is considered a strength by the interviewed, while the undergraduates' difficulty in transitioning from the traditional teaching method to the active methodologies after they enroll in FAMEMA is a weakness. According to the students, the study is deeper in the active methods of teaching-learning compared to the traditional teaching. However, there is a need to improve how the contents are delimited and explored.

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INTRODUCTION

According to Teixeira & Vilasbôas (2014), the health reform was a social movement which occurred in the 80's. That movement brought new notions about the health and sickness process, realizing the need of a biopsychosocial approach of each person, so he would be seen as a whole. As Moreira & Manfroi (2011) say, the movement was especially aiming to the foundation of a national health system, directed by the reform's principles.

As stated by Sampaio, Mendonça & Lermen Júnior (2012), those principles are: the introduction of the health as a personal right; the social determinants inclusion in the health sickness process; the assurance of the health as a universal right; the protection of the

health as a whole, including the promotion, curative actions and the rehabilitation.

That was how the Unified Health System (SUS) emerged. It was created in 1990 by the number 8.080 and 8.142 laws and established by the Federal Constitution of 1988, which also provided a broader definition for health as a citizen's right, granted by the State (Falk, Gusso, & Lopes, 2012, p. 14; Sampaio, Mendonça, & Lermen Júnior, 2012).

The SUS principles are similar to the ones of the reform: universality, determining the right to access the health services; integrality, setting a treatment that values the biological, psychological and social determinants, which have influence on a person's health status; decentralization, meaning, according to Sampaio, Mendonça & Lermen Júnior (2012, p.29), the transfer of the competence and tax revenue to the states and cities, and meaning the community participation as well (Sampaio, Mendonça, & Lermen Júnior, 2012).

Although it established a unified health system, the Constitution also included the private health services as complementary (Sampaio,

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Mendonça, & Lermen Júnior, 2012, p.28), which has negative impacts in the SUS consolidation until today. As explained by Paim (2009), the reason is that the logic followed in those services differs from the one of the SUS. That difference makes the adaptation to the new health system difficult to the users and health professionals who act in both scenarios.

The adaptation was aggravated by the former medical care model, based in the assistance and the hospital, which put the physician as the center instead of the team, focused on the sickness and the sick people, inspired by the European model taught at Brazilian Medical Schools, as Teixeira & Vilasbôas (2014) said. Some aspects of that model were kept by the current pedagogic methodology: for example, a curriculum divided by disciplines and the presence of a professor who transmits the knowledge to many students in a classroom (Cezar, Guimarães, Gomes, Rôças, & Siqueira-Batista, 2010; Tibério, Atta, & Lichtenstein, 2003; Vignochi, Benetti, Machado, & Manfroi, 2009). In opposition to that education model of healthcare professionals, it was developed, in the decade of 1960, the Problem Based Learning (PBL). Initially proposed by professors from the University of McMaster in Canada, the PBL is used as base for teaching-learning active methodologies, organizing its curriculum by dividing it in thematic blocks, in which the student is the center of the learning, who discuss problems created by professors in small groups with a tutor's intervention; there are comprehensive lectures about themes previously discussed by the tutorial groups, practical activities and consulting with experts for solving doubts (Cezar, Guimarães, Gomes, Rôças, & Siqueira-Batista, 2010; Moreira, & Manfroi, 2011; Tibério, Atta, & Lichtenstein, 2003).

Opposing to the knowledge transmission from the traditional teaching, in the active methodologies the teaching-learning process is student-centered, who develops critical reasoning as he reflects about situations and its process, integrates the theory and the practice and gives more significance to his learning, in a way to suffice the social and educational demands (Ghezzi, Higa, Nalom, Biffe, Lemes, & Marin, 2019).

According to Sousa, Formiga, Oliveira, Costa & Soares (2015) and Vignochi, Benetti, Machado, & Manfroi (2009), those aspects favor the learn-how-to-learn and the meaningful learning. From the qualified search of information, the undergraduate associates new understandings to his previous knowledges, in a contextual and interdisciplinary way. At the same time, he exercises the critical reasoning, communication, and teamwork abilities and how to care for the patients as he acquires autonomy for the learning before and after the graduation (Cezar, Guimarães, Gomes, Rôças, & Siqueira-Batista, 2010; Gomes et al, 2009; Vignochi, Benetti, Machado, & Manfroi, 2009).

The autonomy is not well developed by the traditional models of education, once the student obtains the knowledge in a passive way and by the memorization of a great volume of information, delimited by the transmitter professor. That amount of information can be underused and are constantly updated. Thus, the undergraduates rely on the professor to acquire the knowledge, which can contribute to form unprepared professionals for a reality which requires: active knowledge assembling; solving individual and community problems; permanent education and ability to provide health education for the public. Those are requirements to form healthcare professionals with profiles compatible with the SUS. Those are competences oriented by the National Curricular Directives (DCN) of the nursing course, met by the integrated curricula which are guided by the active methodologies. That is why the Ministry of Education (MEC) has emphasized the importance of those teaching methodologies in the healthcare courses by publishing the DCN (Brasil, 2001; Cezar, Guimarães, Gomes, Rôças, & Siqueira-Batista, 2010).

Considering the present study will approach the teaching in the undergraduate nursing course, it is relevant to highlight that the active methods contribute to form nurses with leadership and human resources management abilities, dealing with materials and information, able to act at Primary, Secondary or Tertiary Care, executing the comprehensive care, as defined by the DCN. As Pinheiro & Mattos (2006) say, to prevent, protect and rehabilitate the individual and public health are actions included in the healthcare, according to the integrality principle, in detriment of the actions limited to the assistance.

To apply the integrality to the care, it is necessary to consider another principle of the SUS: the longitudinality, constituted when a bond between healthcare professional and user of the System is built (Brasil, 1988, Brasil, 2001, Baratieri, Mandu & Marcon, 2012).

In 2001 the MEC homologated the DCN, which contains the general competences composed by the abilities previously cited, intending to form ethical, critical and humanist nurses, who can make social changes and consider the scientific evidences, the epidemiology and the biopsychosocial determinants in the health-sickness process in order to make decisions (Brasil, 2001).

The attributes compose the performances, which allow the competency evaluation, which are fundamental for the professional's decision making, based on previous knowledges. As the undergraduate acquires autonomy along the years, he develops abilities and capacities, involving cognitive, psychomotor and affective aspects as he executes activities directed to the competency development (Faculdade de Medicina de Marília, 2008). As stated by

the Australian philosophical referential regarding competency, adopted by the Marília Medical School (FAMEMA), the student mobilizes abilities and capacities as resources to solve problems in situations at diverse learning scenarios (Faculdade de Medicina de Marília, 2008).

The Problematicization and the PBL are active teaching-learning methods used in the FAMEMA's nursing course integrated curriculum, which is guided by competency in the dialogical approach. According to Faculdade de Medicina de Marília (2008, p.32), "[...] the curriculum is the totality of the teaching-learning situations, intentionally planned by the school's collective [...]"

The FAMEMA's nursing course curriculum organizes itself in longitudinal educational units, including the Unit of Professional Practice (UPP) and the Systematized Educational Unit (UES). The Problematicization is an active methodology implemented at the UPP, where problems and intervention propositions are identified, contributing to an ethical and sociopolitical engagement of the graduates, who are capable of modifying their acting environment, to relate to people and to comprehend the SUS dynamic (Faculdade de Medicina de Marília, 2008).

The UES, which is the educational unit relevant to our research, is composed by tutorial sessions, consultancies, conferences, and practical activities. Problem situations like the ones experienced at UPP are discussed at the tutorial sessions as determined by the PBL. There are multi professional teams at the institution, who are responsible for elaborating the cases used at the tutorials, providing a biopsychosocial approach of the problem (Faculdade de Medicina de Marília, 2008).

Each tutorial group is formed by a tutor and eight students, who do the reading and the problem synthesis, identify the central ideas and knowledge gaps which they formulate hypothesis about, based on the knowledge previously acquired. Then learning questions are elaborated, which will be answered at the next tutorial sessions through sharing the individual qualified search with the group. By the end of the session, each student evaluates himself, the colleagues, the group, the tutorial process and the tutor, who also does these evaluations. If necessary, the tutorial steps are repeated (Faculdade de Medicina de Marília, 2008).

The UES activities are organized so they develop cognitive and behavioral skills, so the student learns to communicate clearly, to relate to people, to seek and build the knowledge, to do teamwork and to make and receive criticism, according to some authors (Cezar, Guimarães, Gomes, Rôças, & Siqueira-Batista, 2010, Gomes, Brino, Aquilante, & Avó, 2009, Vignochi, Benetti, Machado, & Manfroi, 2009). However, the experiences with the PBL at FAMEMA indicate that

the undergraduates' perception differs from the authors, because only the tutorial is understood as an UES activity; the cognitive skill is prioritized and the knowledge's building in group is depreciated.

The support of the São Paulo Research Foundation (FAPESP) was important so this research could be developed. Along with other studies, this research composes a Project entitled the Health Education Research Group of FAMEMA, objecting the sensibilization of the people responsible for curriculum changes implementation at the institution.

This work objects to analyze the perception from the FAMEMA nursing undergraduates about the UES, considering their active participation in the teaching-learning process and their future actuation as nurses. Thus, this research may contribute so the FAMEMA nursing course curriculum can be improved.

MATERIAL AND METHODS

It is an exploratory descriptive study, with a qualitative approach, made at FAMEMA, at Marília City from São Paulo State. The choice for the qualitative research justified itself by the depth with it approaches the meanings and reasons, possessing as object the "[...] relations, representations and intentionality" (Minayo, Deslandes, & Gomes, 2007, p.21). Therefore, the perception concept is understood within this theoretical referential.

The data collect occurred through a semi structured interview with nursing undergraduates who completed the first and second grades in 2018, selected by intentional non probabilistic sampling. The first grade was composed by 38 undergraduates which formed five tutorial groups, and the second grade had 40 students distributed in another five tutorial groups. Two students were initially interviewed representing each tutorial group from the respective grades, considering the saturation criterion (Fontanella et al., 2011), resulting in 20 interviews. The interviews were collected by only one researcher, recorded and transcribed, obeying to the ethical criteria of anonymity of the interviewed, confidentiality and the answers trustworthiness. The interview script focused on the comprehension about the UES; what are the UES weaknesses and strengths and what is the UES contribution to the professional training.

The research was developed from the FAMEMA Research Ethical Committee's approval, according to the CNS Resolution number [466 from 12/12/2012](#) and 510 from 04/07/2016 (Brasil, 2013, Brasil, 2016).

For the data treatment the content analysis was done in the Thematic Modality. In the meaning analysis, the themes introduced relevant structures, reference values and behavior models presented at the speeches (Minayo, 2013). This modality consists in

identifying the meaning nuclei at the communication with the research subjects and the meanings brought by them.

It was done an exhaustive reading of the collected material and, using a matrix, the material was categorized; the ideas were identified and grouped in nuclei of meaning, reaching the thematic. This work was done by four researchers, which made different sights possible, reaching a consensus and the codification validation. From that point on, it was done an interpretation, establishing relations between the meaning nuclei, the literature and the study's objective (Minayo, Deslandes, & Gomes, 2007).

RESULTS AND DISCUSSION

The active methodology contributing to the reflexive critical professional training

The traditional teaching is characterized by the vertical transmission of the knowledge and through the singularity of knowledges as well. In 1998, aiming to fit itself to the society needs and to the SUS principles, the FAMEMA exchanged the traditional teaching for the active methodologies in its curriculum, which in 2003 became integrated and dialogical competence oriented. Even after that transition, an uninterrupted evaluation process has been kept for the curriculum's improvement (Chirelli, & Nassif, 2018).

The tutorial session with small groups is seen by the students as a positive aspect to the development of teamwork abilities, who pointed out capacities such as communication, allowing the sharing and the building of knowledge. Nevertheless, it was shown at some students' speeches the difficulty in transitioning from the traditional teaching to the active methodology, also the need from the school to ease this process, as can be observed at the following speeches:

Those groups help a lot, because they are smaller so everybody can speak. If there is somebody who is quieter, he can speak more; differently if he was at a classroom, maybe he would pass unnoticed and could not improve his ability. That is why I think this is a good thing from the tutorial (E3)

At the beginning it was very hard to get used to the method. It totally changes, stimulated me a lot to study, because I used to not study, because we used the traditional method our whole life, with a teacher explaining to us so we would study the subject given to us. Now, with the PBL, we must get the book. Only we didn't have any notion at the start. The adaptation was so complicated, because it is totally different, but after some time passed everything became smooth. So, as I said, it was difficult to get used to, but with time we got used to it and it got more pleasant to study (E4)

At the start I didn't like it, it was quite shocking getting used to not be at a classroom with traditional classes and everything. You suffer a little to find out what is your

studying style, because if you don't know it, you'll just copy something, read it and that's it. So, the active method forces you to learn how to study and to really learn, not just memorize. Because they give you a case and you have to detangle it, find the problems and get the puzzles pieces together and, in order to do that, if you don't sit and study, you can't do it. And your tutor is there to see if you can keep up with the group, get the same knowledges and to see if you are using the proper sources (E9).

At the active method, the student learns to do teamwork even before graduation and, consequently, he learns to deal with diverse opinions; thus he is being prepared for his professional actuation at the health team (Paiva, Parente, Brandão, & Queiroz, 2016).

Similar results were obtained at the study of Igarashi, Santos, & Hamamoto (2018), which took place at the same institution, with Medicine undergraduates, who consider that the active methodology not only enables the teamwork, the development of abilities besides the cognitive ones, but also strengthens interpersonal relationships and communication, to learn to make and receive criticism, to communicate in a clear way and yet capacitate them for teamwork at the professional practice.

Regarding the students' adaptation to the active method, the difficulties found are: the professors training, the transition from the traditional teaching, the approach of the Basic Medical Sciences etc. (Paiva, Parente, Brandão, & Queiroz, 2016).

Lima (2018) cites a few studies which refer to the challenges faced by the students to use the active methodologies, which can help to comprehend the undergraduates' speeches. Among them there is the passivity and the lack of criticism from the students; the habit of taking notes and memorizing; the scarce questioning of the information sources, an insufficient approximation with the practice; the choice for the theoretical speculation and the social reality representation; the loss of the professor's identity as an information source; and other ones. The author presents the challenges related to the learning movement: problems identifying, the formulation of the problems' explanation, the elaboration of the learning questions, the search for new information, the building of new meanings and the process and product evaluation. Considering in the PBL the professor has to facilitate the teaching-learning process as his main function, who needs to be aware of the students' development regarding the learning how to learn and critical reasoning capacities.

The students report some aspects that contribute to the meaningful learning, such as the active search, the building of knowledge through the information sharing, the study of cases reality-based which articulate with the practice:

At the end, I think you end up learning more when you have to search for something (E1).

Learning where to find things which are going to be useful is good, because we truly learn to study. Because I did not know how to study before and that's why I think it ends up being a strong point too. And the fact everybody can participate, because at least at my tutorial everybody has some space for bringing up his searching results, to tell what he brought. [...] It is the theoretical part we see at UES so it can be applied at practice. It's the basis, we have the basis here, at the room, in the books, to be able to understand how it works in the real life. It's learning how to put yourself, to say what you brought; you contribute in this way, so you can conquer your space. And about being shy: you can get loose with the group; you go interacting and getting to know how to coexist, instead of being just you with your study. You have to share with the group, have to contribute to the others' study and they have to contribute to yours too. (E5)

I see it as an environment that supports our development where we are going to work, not as a way to just assimilate content; we keep assimilating, explaining to other people, and it will make us learn even more. I see it as a challenge for the student; I felt challenged when I got in. And it makes us think beyond, create hypothesis, which are things I've never thought of doing. It is a path to develop the student's cognitive a lot. Because I was very shy, I could not talk in public. And even though it is a small group, with eight people, it was a barrier I had to break, the barrier of my shyness, so I could learn to talk, to get the words together, think before I speak; it was a barrier I overcame. At the first semester I felt immature at the tutorial, because I did not know what the goal was, what I should do there and how far I could go. I was quite objective with my answers, I did not talk about everything I knew beyond the necessary. At the second semester I extended my search and how much I spoke as well, what I was going to question. One reason is because I overcame my fear of talking in public, and the other reason is because I saw the meaning of it and started to give significance to what I was researching, to what I was looking for. And as we learn, there is not just one person speaking, but everybody is building knowledge. (E10)

Analyzing the meaningful learning concepts under the light of Ausubel's theory, Agra, Formiga, Oliveira, Costa, Fernandes, & Nóbrega (2019) considered that the student, as participant of the teaching-learning process, has motivation to learn, thus he understands, reflects and attributes new concepts. From previous knowledges and experiences, he modifies the existing meanings through organization and integration in the cognitive structure of the previous and new knowledges, so they become meaningful and will be necessarily transferred to another experiences.

The active methodologies are compared to the traditional teaching by the students, who consider they allow a deeper study than the traditional method, since he is based on the memorization and knowledge transmission from the teacher to the student. Another idea that is brought is the UES develops a broader and humanized sight related to the patient's care, while the

traditional curriculum limits itself to the biological dimension.

A strong point is this possibility the student has to pursue something, then it does not limit us. We, at the traditional [method] have restrictions on what to study, we mainly follow what is going to be on the exams. We have this freedom to go beyond what is established by the curriculum, so it gives us so much strength; it depends a lot on the student and I think it is so cool. And there is no limit; for example, if you are going to the tutorial with something extra you brought it is always welcome. [...] (E13)

The tutorial is a strong point, the way he is structured. [...] because we 'struggle a lot' to study, we got to have this speaking opportunity because we did not study for nothing. Even though it is for the exam, we study to bring and share with people, because sometimes the way I understood something is different from another person's way, and if I explain like I understood it may facilitate for that person. The PBL enables us to study and study more than at the traditional method, because it is not memorizing, you have to understand a lot. (E1)

However, having the contact and the possibility of developing process during your formation that aim for a sight which focus on humanization, which focus on caring for the other's well-being from another angle, that is positive. Because, as I said, I came from a traditional methodology; we were studying the human body and it was just a human body; we were studying just a part, a system, and that was all. We did not have this sight, we did not have the contact, we did not have the face to face. (E2)

There is a need to incorporate active learning methodologies to the nurse's formation as a critical reflexive professional, arguer and proactive, who makes decisions with ethic and act guided by evidence, guaranteeing a clinical care more assertive and qualified, attributes which are not reached through traditional teaching strategies (Ghezzi, Higa, Nalom, Biffe, Lemes, & Marin, 2019).

Agra et al (2019) identified that there authors who use different attributes at the Meaningful Learning definitions, used by those studies authors, revealing that Nursing still has some paradigms from the traditional teaching at the educational surround, however it has been gradually changing, giving new significances on how to think, act and educate in the teacher-student dynamics in the learning process. At the active method, the teaching-learning process is student-centered and the knowledge building is shared, while at the traditional method the process is transmitted and teacher-centered. The active participation of the students in the learning process comes from making use of their experiences, opinions and previous knowledges to build new knowledges oriented by active methodologies, while at the traditional method this process is passive and consists in receiving theories.

The teacher facilitates the process in which movements of researching, reflection and analysis of hypothetical situations are done by the student

motivated for self-learning by the active method (Berbel, 2011; Diesel, Santos Baldez, & Neumann Martins, 2017). The teacher's contribution for an effective learning goes beyond the teaching ability, so the student can be active and critical in this process. Thus, the adoption of active methodologies surpasses the traditional teaching model and amplifies the teaching learning process (Paiva, Parente, Brandão, & Queiroz, 2016).

According to Santos, Hamamoto & Igarashi (2019), the tutor facilitates the learning process in which he and the student are active, in a way to stimulate de group to search and build the knowledge, with gradual development of autonomy, critical reasoning and teamwork abilities, applying basic sciences and clinical knowledges to the tutorial problems. In order to to that, it is needed a responsible and cooperative behaviour from the student toward the team; it is also necessary for the teacher to be able to make and receive criticism, to establish a respectful communication with the group and to master the PBL and tutorial process. It is also necessary for both to know their functions.

The authors also identified the medical undergraduates from the same investigated institution agree with the idea of the autonomy formation during the course, advancing at the accountability in the teaching-learning process, and learning how to deal with a diversity of views while building the knowledge, as there is no absolute and unchanging truth, they can access various learning resources (Igarashi, Hamamoto, & Santos, 2018).

The curriculum integrated to the training is strictly linked to the professional practice scenario and the work is the guiding principle of the teaching learning process. To Silva, Fernandes, Teixeira & Silva (2010), the training in nursing has a challenge: the abilities establishment goes through the knowledge elaboration, connected to the practice, to form citizens who are responsible for overcoming the challenges imposed by the society, through the reflection about the work/the pedagogical concept of doing in healthcare and nursing.

During the debate about the training in nursing, which culminated in the 4th draft of the DCN, it was approached the need of reviewing the training with "new centralities of the process in relation to the product, of the student in relation to the educator, and the formative evaluation in relation to the summative evaluation". Considering the new DCN assumptions, it also highlighted the objective of training nurses who are able to "teach, get to know, classify, analyze, discourse, opine, make analogies, do registers, diagnose, execute, generalize, and another competences which can guarantee the training of professionals with autonomy, discernment and proactivity, in order to guarantee the care integrity at

the Health Care for individuals, families and community" (Adamy & Teixeira, 2018, p. 1570-71).

Considering the analysis of the DCN from 2001 and the possibilities of new directives, it was noticed the need to advance in the training of professionals who can be ethic and socially responsible for the transformation process of the practices in health. Therefore, the nurse's training should be structured at the work and teaching integration, being important the constitution of the critical reasoning and strategies in order to comprehend the situations and search for new paths, based on the SUS principles and directives.

The students comprehend that the active methodologies provide the learn how to learn, developing the critical reasoning, autonomy to search for knowledge during the course and after its conclusion, as presented below.

We already have a better notion of how we can complement our study in the future, when we will be health care professionals. (E19)

The student has to go after the knowledge himself, there won't be a teacher explaining to you. You won't learn unless you go after the knowledge. (E4)

The proposal is to integrate everything we see there [tutorial] and at the practice. To integrate both the clinical and the theoretical, to gather the social, the psychological [...]. It is a strong point because we are able to study, to go after it; we study more, learn much more than if we had classes [...]. (E14)

In a study made with graduates from the same institution, Costa, Francisco & Hamamoto (2019) pointed out that the teaching learning active methodologies provides the students the ability to learn how to learn, contributing to build the knowledge not just during the course, but also along their career, which prepares them and gives them autonomy to exercise their professional practice with excellence.

Santos, Santos, Hamamoto e Chirelli (2019) highlight that the learn how to learn capacity becomes important as the life goes on by providing meaning for the contents and process of how to build knowledge, also being promoted while doing the teamwork, through the debate of ideas, the problems explanation and comprehension, providing a broader view regarding the patient's healthcare. For González-Hernando, Carbonero-Martín, Lara-Ortega, & Martín-Villamor, (2013), the development of the learn how to learn is important for the development of autonomy, preparing them for the professional practice and the constant update.

The active method trains more prepared professionals by exercising their critical attitude even before graduation, when the student actively takes part in the teaching learning process (Diesel, Santos Baldez, & Neumann Martins, 2017).

The autonomy and the meaningful learning result from the student's active participation in his learning, motivated by the active methodologies (Paiva, Parente, Brandão, & Queiroz, 2016).

I think it makes us more proactive, more interested, thus we'll be able to do the basic clinical reasoning we acquire. We'll have a broader view at the practice. (E16)

The experiences lived in curricula which focus the training process from the working field and with active teaching-learning methodologies seek the constitution of the capacities in action, having the possibility of reflecting and analyzing the contextualized actions, approaching the knowledges, abilities and behaviors of the future professionals in an integrated way (Chirelli & Nassif, 2017).

Mitre, Siqueira-Batista, Girardi-de-Mendonça, Morais-Pinto, Meirelles, Pinto-Porto, Moreira, & Hoffmann (2008) e Silva, Cotta, Costa, Campos, Cotta, Silva, & Cotta (2014) suggested that the active teaching-learning methodologies provide knowledge, reasoning, critical reflection, accountability, so that the students sensitize and capacitate themselves for the life and society questions and step in the complex reality contexts. The training has been a challenge, which is oriented by competence in the dialogical approach by involving the teaching and healthcare service integration, building of the reflexive practice from the experienced situations, seeking the dialog between the involved parts to elaborate the critical thought, intending the identification and the acknowledgement of the practice that has been done, the built capacities acquisition and what needs to be surpassed in the delimited performance as well.

In this movement, it has supreme importance the student comprehends what are the performances to be built during his training, relating to the practice done, seeking to build meanings in his learning.

However, in the active methodologies the students refer having difficulty defining how much to study in the UES, identified in the following speech.

Now I have to define what is important, I have to know, I have to use it to know: "is this important? How far should I go? How far should I not go?" I think there should be a limit [...]. (E16)

It was observed the students' difficulty is focused on the comprehension of the contents to be approached during their training; what knowledges, abilities and attitudes to be worked based in the problems from the UES, besides the difficulty to deal with the transition from the traditional method to the active one. The institution in study, as mentioned before, develops a competence-oriented curriculum. In this training process the competence cannot be directly observed, but it can be inferred through the performance.

As Paiva, Parente, Brandão, & Queiroz (2016) say, at the active method it can be difficult to approach the needed knowledges. It is required from the health

professionals to be capable of solving problems in accordance with the case's context, of building knowledge linked to previous experiences, and the active methodology in the professional's training provides that autonomy. The active methodologies articulate both theory and practice, contributing to the meaningful learning and critical reasoning, besides exercising the teamwork.

In a study which accompanied this institution nursing graduates who used active methodologies, Costa, Francisco & Hamamoto (2019) noticed that both active teaching-learning methods and the premises of the integrated and professional competence oriented curriculum favor proactive, critical and reflexive attitudes on daily basis, and the continuous development in the profession. The authors identified some weaknesses in this training process which enable to identify the graduates misunderstanding about the curricular organization by competence.

Reflections about the methodological path

The data collection was done with nursing undergraduates through demi structured interview, which allowed to explore the questionings elaborated to approach the research object and to reach the proposed objective. Minayo (2013) help us to understand how the elaboration of an interview script can direct the data collection, by highlighting that the script is "a list of themes which unfold the qualitative indicators of an investigation". That list will meet the many faces of the object to be investigated, allowing the explore what was delimited in the research. Still, the elaborated questions should help with the form and content to be explored, allowing to amplify and deepen the communication between the researcher and who were investigated, and contributed to reveal the interviewer's view, the judgements and relevance about the situations and in the relations which compose the object.

In the present research, at the beginning, a pilot study was done to verify if the established script provided the recommendations mentioned by Minayo (2013), capacitating the investigator in training; it also made some small adjustments possible. This step of the research was important to the initial training of one of the researchers by offering a moment for discussion, reflection on how to work with the research instruments and the understanding on how to work through them.

Cavalcante, Minayo, Gutierrez, Sousa, Silva, Meneguel, Grubits, Conte, Cavalcante, Figueiredo, Mangas, Fachola, & Izquierdo (2015), at a multicenter research investigating suicide among elder people, highlighted what is important for the data's quality, strength and to reveal the situation of the object to be investigated, which is to build a consensus of the

parameters to be applied and of the instruments to be used, and the researcher's training.

From a consistent data collection, the analysis is another step that can interfere with the quality of the investigation. We chose the thematic analysis for allowing to build a path which would explore the object of investigation and would teach the beginner researcher, in a clear and objective way, how to do the qualitative data processing, working with the interviewers' view.

The thematic analysis organizes itself in three operative steps, starting with the pre-analysis, which defines the register and context unit, the way of establishing the categories, the codification and the theoretical concepts which guide the process. The categorization allows to identify similarities, elements, and ideas, in order to reach the meaning nuclei and theme. The pre-analysis is followed by the exploration of the material, which classifies the way of obtaining the comprehension nucleus of the text. Finally, the results are treated and interpreted, synthesizing the results and the research's questions in dialogue with the theoretical referential (Goering, & Chirelli, 2018; Chirelli, & Nassif, 2018).

According to Alhojailan (2012), the thematic analysis is a form of systematic analysis, which allows to classify the data in detail, through the categorization, idea grouping, getting to the emerged themes, interpreting them as well, relating them to the theoretical referential proposed in the research, looking for explanations and deepening of the searched themes. Nowell, Norris, White & Moules (2017) highlight one point to be observed in qualitative research are the criteria which establish the quality, credibility, and reliability of the investigation. They propose a sequence to reach the criteria, starting by getting familiar with the data through the triangulation of different ways of collecting, having all the field notes and organizing the data in order to easily access them.

To generate the codes and initial themes one should work with daily reflexive notes, documenting all the steps done and using codification charts; while building the themes one should do the triangulation between researchers to evaluate and qualify the choices, establish the connections between ideas and themes and systematize to give meaning to the path followed until the theme. In the defining and naming the themes one should work with consensus and discussion among more than one researcher, do the documentation of the process and the entitlement of the themes. More than one researcher should verify the text in the research writing and describe the path with details, justifying the pathways used for the analysis and data interpretation.

The use of software has been adopted as one of the strategies for data systematization in the analysis. Among them, the webQDA software (Qualitative Data

Analysis) has enabled the analysis of a greater number of collected data in text, audio, image, or video format. It has online access, which can facilitate the communication between researchers; it does not have to be installed, so it does not overload or limit the memory of the computer (Costa, Linhares & Souza, 2012).

According to Alvares, Chirelli & Pio (2019), the software enables the visualization of all the coded material at/in the thematic analysis, which facilitates to build the meaning nuclei by showing a sketch of how often some words were used, by applying the resource "most frequent words", being visualized at a cloud of words.

CONCLUSIONS

It can be observed that the undergraduates showed important and coherent perceptions about the professional training process through the active methodologies, bringing the positivity of the teamwork, meaningful learning facilitated by the learn how to learn, proactivity and by the critical reflection in the development of the reasoning and autonomy to look for the knowledge before and after the graduation. They identified that the training process contributes for a better integration of the biopsychosocial aspects by developing a broader and humanized view to care for a person health need, by articulating the teaching to the work reality, preparing them for the exercise of a critical and reflexive practice, in opposition to what happens in the traditional teaching method.

Nevertheless, there were weaknesses appointed in the transition process from the traditional to the active method and the difficulty to delimitate the deepening of the study was cited as well, which indicates the need to approach these issues at the academic field. Thus, it is necessary to broaden the students and professor comprehension capacity, considering how to build knowledge in the context of an integrated curriculum in the dialogical approach of competence.

There is a displacement of the knowledge building from themes delimited by teachers in the curriculum divided by subjects with traditional methodology, in relation to the approach from problems based on the real working place. In this perspective, it is intended to constitute: the logic of the problematization of the experiences at the practice scenarios, the building of the critical thought regarding the student performance in the activities, analyzing the actions, the context in which the practical activities have been done, and promoting auto-analysis and identification of the learning needs and structuring the plans to follow the performances need to be reviewed and improved.

The used methodology allowed to identify the purposes and meanings of those students regarding their training process. These results showed that, in a certain way, the undergraduates have shown initial comprehension of the curricular proposal and the research can contribute to improve the established curriculum.

The need for further studies about the other UES activities was noticed during the investigation, considering the practical activities, conferences and consulting, so the undergraduates can also express their perception about how the active teaching learning method has been developed in those activities, considering that the curricular proposal allows those pedagogic activities to complement the tutorial. This way we'll be able to have a wider view on how the teaching-learning process is developed at the UES.

CONFLICT OF INTEREST

The authors declare not to have any conflict of interest.

REFERENCES

- Adamy, E. K & Teixeira, E. (2018). The quality of education in times of new National Curriculum Parameters. *Revista Brasileira de Enfermagem*, 71(Suppl 4), 1485-6.
- Agra, G., Formiga, N. S., Oliveira, P. S., Costa, M. M. L., Fernandes, M. G. M., & Nóbrega, M. M. L. (2019). Análise do conceito de Aprendizagem Significativa à luz da Teoria de Ausubel. *Revista Brasileira de Enfermagem*, 72(1), 258-65.
- Alhojailan, M. I. (2012). Thematic analysis: a critical review of its process and evaluation. *West East Journal of Social Sciences*, 1(1), 39-47.
- Baratieri, T., Mandu, E. N. T., & Marcon, S. S. (2012). Longitudinalidade no trabalho do enfermeiro: relatos da experiência profissional. *Revista de Escola de Enfermagem da USP*, São Paulo, 46(5), 1260-1267. <http://www.scielo.br/pdf/reeusp/v46n5/31.pdf>
- Berbel, N. A. N. (2011). As metodologias ativas e a promoção da autonomia dos estudantes. *Semina: Ciências Sociais e Humanas, Londrina*, 32(1), 25-40. <http://www.uel.br/revistas/uel/index.php/seminasoc/article/view/10326/10999>
- Brasil. (1988). Constituição. *Constituição: República Federativa do Brasil*. Brasília: Senado Federal, 1988. Art. 198. http://conselho.saude.gov.br/web_sus20anos/20anosus/legislacao/constituicaoconstitu.pdf
- Brasil. (2001). Ministério da Educação. Conselho Nacional de Educação. Câmara de Educação Superior. Resolução CNE/CES n. 3, de 7 de novembro de 2001. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Enfermagem. *Diário Oficial da União*, Seção 1, p. 37.
- Brasil. (2013). Ministério da Saúde. Conselho Nacional de Saúde. Resolução CNS n.º. 466, de 12 de dezembro de 2012. Aprova diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. *Diário Oficial da União*, Brasília, 13 jun. 2013. Seção 1, p. 59.
- Brasil. (2016). Ministério da Saúde. Conselho Nacional de Saúde. Resolução CNS n.º. 510, de 07 de abril de 2016. Aprova diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. *Diário Oficial da União*, Brasília, 24 maio 2016. Seção 1, p. 44.
- Cavalcante, F. G. Minayo, M. C. de S., Gutierrez, D. M. D., Sousa, G. S. de, Silva, R. M. da, Meneguel, S. N., Grubits, S., Conte, M., Cavalcante, A. C. S., Figueiredo, A. E. B., Mangas, R. M. do N., Fachola, M. C. H., & Izquierdo, G. M. (2015). Instrumentos, estratégias e método de abordagem qualitativa sobre tentativas e ideias suicidas de pessoas idosas. *Ciência & Saúde Coletiva*, 20(6), 1667-1680.
- Cezar, P. H. N., Guimarães, F. T., Gomes, A. P., Rôças, G., & Siqueira-Batista, R. (2010). Transição paradigmática na educação médica: um olhar construtivista dirigido à aprendizagem baseada em problemas. *Revista Brasileira de Educação Médica*, 34(2), 298-303. <https://dx.doi.org/10.1590/S0100-55022010000200015>
- Chirelli, M. Q. & Nassif, J. V. (2017). O processo ensino-aprendizagem em metodologia ativa: visão do professor no currículo integrado e por competência dialógica. *Indagatio Didactica*, 9, 61-77.
- Costa, A. P., Linhares, R., & Souza, F. N. (2012). Possibilidades de análise qualitativa no webqda e colaboração entre pesquisadores em educação em comunicação. In: *Simpósio Educação e Comunicação*, 3., 2012. Aracaju. *Anais eletrônicos [...]* Aracaju: SIMEDUC, 2012. Retirado do endereço eletrônico: <https://webqda.net/wpcontent/uploads/2016/10/PossibilidadesAnaliseQualitativa.pdf>.
- Costa, M. C. G., Francisco, A. M., & Hamamoto, C. G. (2019). Metodologia ativa e currículo: uma avaliação dos egressos de um curso de enfermagem. In: Congresso Ibero-Americano em Investigação Qualitativa, 8º, Lisboa. *Atas do 8º Congresso Ibero-Americano em Investigação Qualitativa em Educação*. Aveiro: Ludomedia, 2019.
- Diesel, A., Santos Baldez, A. L., & Neumann Martins, S. (2017). Os princípios das metodologias ativas de ensino: uma abordagem teórica. *Revista Thema*, 14(1), 268-288. <http://revistathema.ifsul.edu.br/index.php/thema/article/view/404/295>
- Faculdade de Medicina de Marília. (2008). *Projeto pedagógico do Curso de Enfermagem*. Marília, 2008. Retrieved from <http://www.famema.br/ensino/cursos/docs/PPC%20Enfermagem%20final.pdf>
- Falk, J. W.; Gusso, G., & Lopes, J. M. C. (2012). Medicina de família e comunidade como especialidade médica e profissão. In: G. Gusso, & J. M. C Lopes (Orgs.). *Tratado de Medicina de Família e Comunidade: princípios, formação e prática* (pp. 12-15). Porto Alegre: Artmed.
- Fontanella, B. J. B., Luchesi, B. M., Saidel, M. G. B., Ricas, J., Turato, E. R., & Melo, D. G. (2011). Amostragem em pesquisas qualitativas: proposta de procedimentos para constatar saturação teórica. *Cadernos de Saúde Pública*, Rio de Janeiro, 27(2), 389-394. Disponível em: <<http://www.scielo.br/pdf/csp/v27n2/20.pdf>>. Acesso em: 3 out. 2017.
- Ghezzi, J. F. S. A., Higa, E. F. R., Nalom, D. M. F., Biffe, C. R. F., Lemes, M. A. & Marin, M. J. S. (2019). Metodologias de aprendizagem ativa e a formação do enfermeiro com pensamento crítico: revisão integrativa da literatura. In: Congresso Ibero-Americano em Investigação Qualitativa, 8º, Lisboa. *Atas do 8º Congresso Ibero-Americano em Investigação Qualitativa em Educação*. Aveiro: Ludomedia, 2019.
- Goering, M., & Chirelli, M. Q. A formação dos profissionais da saúde para o cuidado coletivo na Atenção Primária: contribuição da análise temática. In: Congresso Ibero-Americano em Investigação Qualitativa, 7º, Fortaleza. *Atas do 7º Congresso Ibero-Americano em Investigação Qualitativa em Educação*. Aveiro: Ludomedia, 2018.
- Gomes, R., Brino, R. F., Aquilante, A. G., & Avó, L. R. S. (2009). Aprendizagem Baseada em Problemas na formação médica e o currículo tradicional de Medicina: uma revisão bibliográfica. *Revista Brasileira de Educação Médica*, 33(3), 433-440. <https://dx.doi.org/10.1590/S0100-55022009000300014>
- González-Hernando, C., Carbonero-Martín, M. Á., Lara-Ortega, F., & Martín-Villamor, P. (2013). "Aprender a aprender" en la Educación superior en Enfermería. *Investigación y Educación en Enfermería*, 31(3), 473-479. Retrieved February 20, 2019, from http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-53072013000300016&lng=en&tlng=es

- Igarashi, F. O., Hamamoto, C. G., & Santos, I. F. (2018). Processo Ensino-Aprendizagem: compreensão de estudantes de um curso de medicina sobre a Aprendizagem Baseada em Problemas. In: Congresso Ibero-Americano em Investigação Qualitativa, 7º, Fortaleza. *Atas do 7º Congresso Ibero-Americano em Investigação Qualitativa em Educação*. Aveiro: Ludomedia, 2018.
- Lima, V. V. (2018). Metodologias ativas do conhecimento: desafios da inovação. In: V. V. Lima, & R. Q. Padilha, (Orgs.) *Reflexões e inovações na educação de profissionais da saúde*. (1a ed., Cap. 6, pp. 57-71). Rio de Janeiro: Atheneu, 2018.
- Minayo, M. C. S. (2013). *Desafio do conhecimento: pesquisa qualitativa*. São Paulo: HUCITEC, 2013.
- Minayo, M. C. S., Deslandes, S. F., & Gomes, R. (2007). *Pesquisa social: teoria, método e criatividade*. 25a ed. Petrópolis: Vozes, 2007.
- Mitre, S. M., Siqueira-Batista, R., Girardi-de-Mendonça, J. M., Morais-Pinto, N. M., Meirelles, C. A. B., Pinto-Porto, C., Moreira, T., & Hoffmann, L. M. A. (2008). Metodologias ativas de ensino-aprendizagem na formação profissional em saúde: debates atuais. *Ciência e Saúde Coletiva*, 13(supl. 2), 2133-2144.
- Moreira, M. B.; Manfroi, W. (2011). O papel da aprendizagem baseada em problemas nas mudanças no ensino médico no Brasil. *Revista do Hospital de Clínicas de Porto Alegre e Faculdade de Medicina da Universidade Federal do Rio Grande do Sul*, 31(4). Disponível em: <<http://seer.ufrgs.br/index.php/hcpa/article/view/21412/14966>>. Acesso em: 24 set. 2017.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, 16, 1-13.
- Paim, J. S. (2009). A Questão Saúde e o SUS. In: J. S. Paim. *O que é o SUS* (pp. 11-23). Rio de Janeiro: Fiocruz.
- Paiva, M. R. F., Parente, J. R. F., Brandão, I. R., & Queiroz, A. H. B. (2016). Metodologias Ativas de Ensino-Aprendizagem: revisão integrativa. *Sanare, Sobral*, 15(2), 145-153. <https://sanare.emnuvens.com.br/sanare/article/view/1049/595>.
- Pinheiro, R., & Mattos, R. A. (Orgs.). (2006). *Os sentidos da integralidade na atenção e no cuidado à saúde*. Rio de Janeiro: ABRASCO, 2006.
- Sampaio, L. F. R., Mendonça, C. S., & Lermen Júnior, N. (2012) Atenção primária à saúde no Brasil. In: G. Gusso, & J. M. C. Lopes (Orgs.) *Tratado de Medicina de Família e Comunidade: Princípios, formação e prática* (pp. 28-41). Porto Alegre: Artmed.
- Santos, I. F., Hamamoto, C. G., & Igarashi, F. O. (2019). Processo Ensino-Aprendizagem: compreensão de estudantes de um curso de medicina sobre a Aprendizagem Baseada em Problemas. *Campo Aberto*, 38(2), 159-174.
- Santos, V. M. L., Santos, I. F., Hamamoto, C. G., & Chirelli, M. Q. (2019). A percepção dos estudantes de enfermagem da FAMEMA sobre a Unidade Educacional Sistematizada. In: Congresso Ibero-Americano em Investigação Qualitativa, 8º, Lisboa. *Atas do 8º Congresso Ibero-Americano em Investigação Qualitativa em Educação*. Aveiro: Ludomedia, 2019.
- Silva, L. S., Cotta, R. M. M., Costa, G. D., Campos, A. A. O., Cotta, R. M., Silva, L. S., & Cotta, F. M. (2014). Formação de profissionais críticos reflexivos: o potencial das metodologias ativas de ensino-aprendizagem e avaliação na aprendizagem significativa. *Revista del CIDUI*, 2, 1-16. Retrieved from: <https://www.cidui.org/revistacidui/index.php/cidui/article/view/541/522>.
- Silva, M. G., Fernandes, J. D., Teixeira, G. A. da, & Silva, R. M. de O. (2010). Processo de formação da(o) enfermeira(o) na contemporaneidade: desafios e perspectivas. *Texto contexto - enferm.*, 19(1), 176-184.
- Sousa, A. T. O., Formiga, N. S., Oliveira, S. H. S., Costa, M. M. L., & Soares, M. J. G. O. (2015) A utilização da aprendizagem significativa no ensino da Enfermagem. *Revista Brasileira de Enfermagem*, 68(4). Disponível em: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=50034-71672015000400713>. Acesso em: 29 set. 2017.
- Teixeira, C. F., & Vilasbôas, A. L. Q. (2014) Modelos de atenção à saúde no SUS: transformação, mudança ou conservação? In: J. S. Paim, & N. Almeida-filho (Orgs.). *Saúde coletiva: teoria e prática*. (pp. 287-301). Rio de Janeiro: MedBook.
- Tibério, I. F. L., Atta, J. A., & Lichtenstein, A. (2003). O aprendizado baseado em problemas: PBL. *Revista de Medicina*, 82(1-4). Disponível em: <<https://www.revistas.usp.br/revistadc/article/download/62624/65422>>. Acesso em: 29 set. 2017.
- Vignochi, C., Benetti, C. S., Machado, C. L. B., & Manfroi, W. C. (2009). Considerações sobre Aprendizagem Baseada em Problemas na Educação em Saúde. *Revista do Hospital de Clínicas de Porto Alegre*, Porto Alegre, 29(1), 45-50. <https://www.lume.ufrgs.br/bitstream/handle/10183/157866/000829624.pdf?sequence=1>

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