THE UTILIZATION OF EDUCATIONAL TECHNOLOGIES: HUGE GAP BETWEEN THE REAL AND THE IDEAL TRAINING PROCESSES IN NURSING EDUCATION

Utilização das tecnologias educativas: distância oceânica entre o processo formativo real e o ideal na enfermagem

Utilización de las tecnologías educativas: distancia oceánica entre el proceso formativo real y el ideal en la enfermería

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ABSTRACT

Objective: The study's main purpose has been to analyze the obstacles of academic life in the Nursing Graduation Course concerning the educational technologies usage. **Methods:** It is a descriptive research with a qualitative approach. Data collection took place through semi-structured interviews with nursing undergraduates from November 2016 to January 2017, and the interviews were analyzed through discourse analysis. **Results:** The students addressed as obstacles the fact that the professors remain in the traditional method of teaching; the lack of interest in bringing new technologies to the teaching environment, and the training of the educators themselves are focused on teaching with traditional methodologies. **Conclusion:** There is a need to discuss the role of management personnel and the pedagogical training necessary for the effectiveness of teaching in health, which, even with all the guiding directives and restructuring of this teaching, do not guarantee appropriate training towards the desired professional profile.
Descriptors: Educational technology, nursing undergraduates, nursing education, higher education institutions, nursing.

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RESUMO

Objetivo: analisar os entraves durante o percurso acadêmico no curso de Enfermagem acerca da utilização das tecnologias educativas. **Métodos:** pesquisa descritiva com abordagem qualitativa. Os dados foram coletados por meio de entrevistas semiestruturadas com discentes de enfermagem no período de novembro de 2016 a janeiro de 2017, sendo os depoimentos analisados através da análise de discurso. **Resultados:** os discentes discursaram como entraves o fato dos docentes permanecerem fincados no método tradicional de ensino; a falta de interesse em levar essas tecnologias para o ambiente de ensino, além da formação dos próprios educadores serem focadas em um ensino com metodologias tradicionais. **Conclusão:** surge a necessidade de discutir sobre o papel da gestão e a formação pedagógica necessária para a efetividade da docência em saúde, que, mesmo com todas as diretrizes norteadoras e reestruturadoras desse ensino, não garantem a formação do profissional com o perfil pretendido. **Descritores:** Tecnologia educacional; Estudantes de enfermagem; Educação em enfermagem; Instituições de Ensino Superior; Enfermagem.

RESUMÉN

Objetivo: analizar los obstáculos durante el curso académico en el curso de Enfermería acerca de la utilización de las tecnologías educativas. **Métodos:** investigación descriptiva con abordaje cualitativo. Los datos fueron recolectados por medio de entrevistas semiestructuradas con discentes de enfermería en el período de noviembre de 2016 a enero de 2017, siendo los testimonios analizados a través del análisis de discurso. **Resultados:** los discentes discursaron como obstáculos el hecho de que los docentes permanecieran fincados en el método tradicional de enseñanza; la falta de interés en llevar esas tecnologías al ambiente de enseñanza, además de la formación de los propios educadores se enfocan en una enseñanza con metodologías tradicionales. **Conclusión:** surge la necesidad de discutir sobre el papel de la gestión y la formación pedagógica necesaria para la efectividad de la docencia en salud, que, aun con todas las directrices orientadoras y reestructuradoras de esa enseñanza, no garantizan formación del profesional con el perfil pretendido. **Descriptores:** Tecnología educativa; Estudiantes de enfermería; Educación en enfermería; Instituciones de Enseñanza Superior; Enfermeria.

INTRODUCTION

Traditional education is based on accumulation of specific subjects, focused on the centralized figure of the professor, which limits and stigmatizes the student's knowledge to a certain knowledge, placing him as a passive subject of fragmented learning in a hierarchical teaching posture, viewing the educator as sole holder of knowledge, generating a process of vertical teaching and learning.

The predominant teaching model, denominated traditional, characterized by the transmission of knowledge, the emphasis on memorization over critical reflection, designated by Freire as banking education, is essentially based on lectures, in which the professor is the holder of knowledge and great protagonist, and it is up to the students to reliably repeat the memorized content during class tests.[1]

Nevertheless, new educational attitudes are sought, since the school method based on traditional aspects, in which the professor, aided by the textbook, was the main source of knowledge, is increasingly "disconnected" from the current educational framework.[2]

Within the new context of education, the dialogical method proposed by Freire presupposes the exchange of knowledge through the combination of technical-scientific knowledge and life experiences of the student/learner, who is invited to reflect and express their knowledge and knowledge, so, creating new, more realistic and efficient approach strategies.[3]

Therefore, it is necessary to construct new forms of education aimed at broadening the range of alternatives for the formative daily life, a situation in which some Higher Education Institutions (HEIs) are already appropriating, which may enable an education process more focused in the student, making him have mastery of the construction of his own knowledge. Nonetheless, for this to happen, professors play an important role in applying these innovative methods.

In this sense, there is also a need for transformations in nursing education, since the student must participate as a subject in the construction and reconstruction of knowledge and no longer as only spectator and receiver of information. This change of educational paradigm contributes to the result of critical, reflective professionals who are able to propose changes and solutions to the problems experienced in their professional practice.[4]

In order to build a new education, it is necessary to reduce, or even to cease, the huge gap that exists between the formative process of real education, the traditional one, and the ideal process, giving rise to an upward tendency to produce knowledge, searching for innovative teaching methods that address a dialogical educational conduct between professors and students.

Bearing in mind the aforesaid, this study meant to describe the discourse of nursing undergraduates addressing their conception about the difficulties encountered during the use of educational technologies in their academic life.

METHODS

It is a descriptive study with a qualitative approach. The research was performed in a public Higher Education Institution (HEI), on the campus of the *Cajazeiras* city, *Paraíba* State, counting with the participation of 16 nursing undergraduates and over the period from November 2016 to January 2017.

Data collection took place through semi-structured interviews. The interview was performed individually, presenting open guiding questions that provided the development of the subject of the study object and respecting the free expression of their representations. The interview was recorded after prior authorization from the interviewees and in a reserved place. Soon after, the students' speeches were transcribed according to their privacy, using the coding "ACAD" for each discourse.

For the construction of this research were adopted as inclusion criteria only students regularly enrolled in the eighth and ninth semester and who were attending the disciplines "Supervised Internship I - Primary Care" and "Supervised Internship II - Hospital Network", corresponding to the 2016.2 semester. As exclusion criteria were those who participated

in courses or extension projects that had as structuring point the educational technologies.

The analysis of the present work was through the theoretical-methodological currents of Discourse Analysis (DA), from the perspective of the French current of thought represented by Michel Pechêux.

DA criticizes the centralization of the concept of subjectivity and the totally autonomous system of the linguistic object, since it does not work with abstract objectivism or with the understanding of the subject as omnipotent.[5] DA addresses that the discursive subject is constituted and produced in language, in its significant materiality. It is the speaking subject who stands and situates himself in language and by language; he is the subject divided by his unconscious.

Through these methodological characteristics, it is clear that DA meets the objective proposed by the study, which focuses on enunciative analyzes, in addition to the evidence, meanings produced in historical and social contexts and circulating discourses about the obstacles that are observed by academics. make it difficult to construct a new educational method.

The research was carried out according to the Resolution No. 466/2012 from the National Health Council,[6] respecting the principles of autonomy, non-maleficence, justice and equity. It started after the project was approved by the Research Ethics Committee from the aforesaid educational institution, under the Legal Opinion No. 1,823,572.

RESULTS

The Discourse Analysis (DA) used in this study is a research field that has no ready/finished methodology. This means that by using the constitutive elements of the theoretical outline that will guide his analysis, the discourse analyst will be simultaneously raising the methodological devices, namely: paraphrase, polysemy, interdiscourse and metaphor. It is the object (corpus) and the effects of meaning that impose the theory to be worked on, because in DA theory and methodology go together, supporting each other, and cannot separate them.[7]

Among the discourses was the paraphrase, being the same, an analytical device characterized as that which remains in all saying, in other words, the speakable, the memory, representing the return to the same spaces of saying. From this device, different formulations of the same sedimented saying can be produced.[8]

Using this device, students spoke about the fact that professors do not want to escape the traditional method of teaching centered on the figure of the educator, for students this is due to some obstacles, such as: lack of knowledge about new ways of conveying the content; lack of interest in bringing new technologies to the teaching environment or even by educating the educators themselves to be focused on teaching with vertical and traditional methodologies, as presented below:

What makes it difficult is precisely this, the fact that many professors do not want to escape from that paradigm that

I mentioned earlier. And the knowledge of some also, some professors they have some resistance to acquire this new knowledge, to update themselves, especially on the issue of these educational technologies, so what hinders in my opinion is precisely a certain resistance of professors to this change of method. (ACAD03)

Also most professors do not seek... if they fit into these new ways of educating, prefer to use only the traditional forms, in this case, slide or frame and pen, this is it. (ACAD05)

Because they are not in their time, right?! A foundation in relation to educational technologies // they also cannot convey to us what they did not learn. (ACAD11)

Another obstacle found in the discourse corpus of the analysis was related to the little investment of management in the creation of possibilities for the application of new methodologies. In order to have something about educational technologies within the university, management must create spaces that favor professors, along with students, create methods to study such content more dynamically, as the following speeches:

It is the lack of encouragement by the university, I realize that the university does not encourage these practices, either financially or whatever. (ACAD05)

I think there could be a continuing education about this, within the university vis-à-vis technologies, some training for professors. (ACAD11)

The students also mentioned one of the obstacles to the use of these new technologies, the little debate that exists about new teaching methodologies, in which for them the university, together with the teaching staff, must come together and think of new practices that transform teaching, associating traditional and innovative technologies.

During graduation it is slightly discussed, I think it should have a greater focus, we do not see so much, there are few professors who use these methodologies. I think as there is no longer/how I can say, in the curriculum of the course and all, the professor does not seek to innovate. It is as if he would take it there, already do it the way it is written in the program and he goes there and puts it in his own way, he does not look for other ways. (ACAD02)

Very little, few times it is debated, some professors are wanting to start debating this subject, but you still see that it is a minority of the nursing professors, few are aware of how to use these technologies. (ACAD09)

For the resolution of possible obstacles mentioned in the previous speeches that show the real formative process,

a discourse pointed as a facilitating point for the construction of an ideal formative process, the interaction that must exist between professor and student when applying the use of these methodologies, in which positive results for professors to feel increasingly encouraged to use them.

The following discourse detected the use of metaphor, in other words, an analytical device that is characterized as the semantic phenomenon constructed by a contextual substitution, by the slip of meaning, and the taking of one word by another through a mechanism of transfer,[8] in which the meaning of the term "educational technologies" is replaced by the phrase "a deal like that":

Well/what might facilitate is precisely the knowledge that the professor will have of these technologies, the way the class will interact with it, because if it is a class that does not get excited about a deal like that and that will not flow, it is kind of already becomes a barrier right? But if the class contributes, if the technology makes the class interact, then the thing flows, it motivates the professor to want to bring these technologies. (ACAD14)

In order to have this interaction identified in the previous discourse, a discourse emerged during the interviews, which identified through the perception and knowledge of some methods approached in the classroom, which some professors know about the theory approached by Paulo Freire, making this a factor that approaches the use of innovative methodologies, such as educational technologies, something that causes approximation with the idealization that is sought for the current education scenario, as presented below:

I think they want to break that traditionalism, they want to go to Paulo Freire's theory, right?! To follow a knowledge and teaching-learning process that does not only depend on the professor, then it depends on both student and professor to build the knowledge. (ACAD09)

With the use of new teaching methodologies, there may be the possibility of numerous strategies that students can also make use of educational technologies within their academic space, in which it is not only one that participates in the application of professor methodologies, but that he can also create his ways of teaching seeking positive results for the practice of professional work, as can be observed in the following paraphrastic discourses:

Yes, through what, of conversation groups we had, for instance, in educational activities recently with the pregnant women we brought, is a theme and we can interact with them, what they knew about the subject and what we knew about the subject, so building the knowledge, this is an example. (ACAD12)

Well, this question of the information method, being in the information and knowledge, involves many things, explanatory classes, involves... *I have worked with poetry in which I prepared for a type of subject and from there I wrote a poetry in which I taught in a different way, in a playful manner, right?! The music, also the parody already made it, right?! (ACAD16)

Following the thought, there were found in the discursive corpus some academics' experiences, while future nurses went foward with the use of active methodologies that brought positive results for the education of the population, as seen in the following:

Yeah, I used the educational technologies in the leprosy extension project, it's in the leprosy project, with culture circles, is that it was even used experiences, no, how do I say // that it was used as experience through the experiences that the population brought and the content we already had, so it made our learning a lot easier and learning the content for them as well. (ACAD11)

DISCUSSION

According to the paraphrastic discourses, it is clear that nursing undergraduates associate the non-use of new teaching methods with the lack of knowledge that professors have about innovative methodologies, more related to educational technologies. Regarding this trend, professors have historically been trained based on conservative, fragmented and reductionist teaching-learning methodologies, restricting the process to the mere reproduction of knowledge, exempting criticism and reflection from this methodological path, to the detriment of significant learning.[9]

Considering the Freirean perspective, this vertical education, based on a hierarchical and authoritarian posture in which the professor is the one who knows everything, and the student has nothing to add, is called banking education. So, the critical spirit, freedom, autonomy and responsibility of the individual are removed.[10]

To transform the choice of banking education into transformative education, students point out that it is essential that professors overcome the use of these traditional methodologies, bringing to the nursing teaching environment ways that students can increasingly exceed their limits, ceasing to be passive in the process and that together with the professor can create opportunities for simultaneous learning, making them autonomous, fostering ideals so that as future nurses can contribute to their work space and care generation.

In this diversity of elements involved in nursing education and considering that training at all levels seeks to adapt to the changes that occur continuously in society, it is understood as necessary to reflect on teaching-learning methodologies. Moreover, it is essential to identify which of these have the potential to instigate in students, critical, reflective and proactive professional attitudes, in other words, that transcend the acquisition of technical-scientific competences and skills.[11]

Thus, the current moment suggests new ways of conceiving the educational model, requiring changes in the traditional role of professors, students and the

university administration itself. Quality education requires the university to create conditions for the development of professors throughout their professional career, valuing those who recognize the role of continuing education in building their expertise as a health professional, researcher and educator. Therefore, it is proposed that professors make a significant turn from the pedagogical, epistemological and psychosocial viewpoints.[12]

It also highlights the need to rethink the education of HEI professors, which should be part of the institutional policies and involve the subjects themselves in this reflection process, in order to culminate in the development of strategies that promote the improvement of teaching quality and learning of future nurse professionals.[13]

Thus, for the development of university teaching, it is essential that the professor is able to understand, understand, analyze and monitor the changes that occur in higher education. In this process, in addition to mastering the basic knowledge of Nursing, the professor should have the pedagogical and conceptual domain related to the teaching-learning process, as well as exercising the political dimension in the practice of university teaching.[13]

As a possible change in the educational scenario, educational technology promotes an active role of the student in the construction of their learning. And with this we can see through the discourses, a fragment that brings with it a striking metaphorical statement, which gives the interpretation that the use of technologies may be something that needs to be negotiated between professor and student, in which there is a dialectical relationship of construction. of knowledge, meeting Freirean theory.

Henceforth, the contemporary trend is the demand for innovative learning methods, guided by a pedagogical, reflexive, critical and transformative practice, centered on the learner subject, proactive in the construction of knowledge, since it is not possible to teach without learning or learning. without teaching, and therefore the learning process is a daily practice, (re)built from the subjects that are part of it.[10]

There is yet another possibility of discussion for the metaphor, in which the expression "a deal like that" can be interpreted by the analyst as having positive results, in which there is an emphasis on saying relating "a deal" to something that is uncertain. Once applied with the class, it can become an effective methodology both as a method for evaluating the professor with his students, and to bring to the classroom a new way to approach theoretical knowledge that involves more the critical side of the academic.

In this new methodological proposal, opportunities are created for students to experience experiences that represent different everyday situations, with the challenge of transforming them into meaningful educational practices and enabling the reflective and critical construction of the student.[14]

Given this proposal, the student's discourse brings the possibility of intervention of Freire's theory,[10] in which the processes of professor education as a dialectical movement, which comprises doing and thinking about doing, in other words, the conscious reflection of the practice.

In seeking knowledge as something unfinished and procedural, one cannot understand nursing education as a sequence of standardized actions, but as an exchange of scientific and popular knowledge. Given this viewpoint, students and professors might be able to mobilize transformations that lead them to think critically, with alternative, dynamic and strategic processes.[11]

Corroborating with the aforementioned authors, in some of the statements, it is clear that the education of the academic in the health area must also be focused on the externalization of educational practices with the population that enable health promotion. The National Curriculum Guidelines recommend that the training of health professionals should be consistent with the guidelines and principles of the *Sistema Único de Saúde (SUS)* [Brazilian Unified Health System]- of universality, comprehensiveness, equity, decentralization, participation and social control - aiming at training of citizen-professionals engaged in life hustling, formed from a generalist, humanist, ethical, critical, reflective profile, with technical competence and ability to act on the most prevalent health problems in the country.[16]

The students should be encouraged to establish relationships and connections with their object of study, by choosing the best teaching strategies, and encouraged to theorize from their experience in real practice settings.[1]

Hence, it is necessary to train nurses who are aware and committed to their own method of knowledge construction, in other words, technically qualified professionals, but above all, protagonists of a new history, by learning citizenship and committing themselves to social transformation.[16]

FINAL CONSIDERATIONS

Bearing in mind the aforementioned, it is perceived about the use of active teaching methodologies that still has much to debate, about bringing more possibilities within the university, making professors and the institution itself, along with students adhering to this new form of teaching, to which seeks to break with the traditional model, remembering that breaking does not only mean a detachment, but that there is also a reduction in the huge gap between reality and what is idealized for education, with a view to a more transformative education.

It is noted that there are difficulties concerning the change of new forms of education in education in Brazil, professors are accustomed since their formation to the use of vertical methodologies, in which the use of chalk board, textbooks and application of tests. Printed for student evaluation are the most used forms in the school environment, making them continue to use these methodologies, without working with new ways of teaching that enable the academic their participatory role in learning.

Hence, the use of educational technologies is relatively new, but it has provided changes in education that transform the teaching method into something more motivating for the student's personal and critical growth, making it active in this process. And bringing to the target audience of this study, the connection of these technologies with the teaching

method that will complement the construction of nurses able to provide sensitive care, with skills that portray their professional identity in an ethical, human and social manner.

Considering the above-mentioned, there is a need to broaden the discussion on the subject, especially regarding the role of management personnel and the pedagogical training necessary for the effectiveness of teaching in health, which, even with all the guiding directives and restructuring of this teaching, do not guarantee appropriate training towards the desired professional profile.

REFERENCES

1. Mendonça ET, Cotta RMM, Lelis VP, Carvalho Junior PM. Paradigmas e tendências do ensino universitário: a metodologia da pesquisa-ação como estratégia de formação docente. Interface (Botucatu) [internet] 2015 jun [acesso em 10 nov 2017]; 19(53): 373-386. Available at: Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-32832015000200373&lng=en

2. Oliveira RR, Ferracioli L. Análise comparativa de desempenho de alunos de ensino médio em atividade com modelagem computacional exploratória e atividade tradicional sobre movimento dos corpos. Ens Pesqui Educ Ciênc [Internet] 2015 dez [acesso em 19 out 2017]; 17(3): 685-706. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-21172015000300685&lng=en&nrm=iso

3. Costa MAR; Souza VS; Teston EF; et al. Permanent education in health: the freire concept as an aid in care management. Rev Fun Care Online [Internet] 2018 abr/jun [acesso em 20 jun 2018]; 10(2):558-564. Available at: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/6368/pdf

4. Paim AS, Iappe NT, Rocha DLB. Métodos de enseñanza utilizados por docentes del curso de enfermería: enfoque en la metodología de investigación. Enferm Glob [Internet] 2015 [acesso em 12 fev 2017];14(37):136-52. Available from: https://revistas.um.es/eglobal/article/view/eglobal.14.1.186291/169001

5. Orlandi EP. Análise do Discurso: princípios e procedimentos. 6ª Ed. Campinas, SP: Pontes; 2005.

6. Brasil. Conselho Nacional de Saúde (Brasil). Resolução nº 466, de 12 de dezembro de 2012. Brasília, 2012.

7. Silva JC; Araújo AD. A metodologia de pesquisa em análise do discurso. Grau Zero — Revista de Crítica Cultural. 2017 5(1).

8. Orlandi, EP. Análise de Discurso: princípios e procedimentos. 11 ed. Campinas: Pontes Editores; 2013.

9. Aragão MN, Soares IG. (Trans)formando e ousando o método de ensino em enfermagem no cuidado à saúde mental. Rev port enferm saúde mental [Internet] 2014 dez [acesso em 19 mar 2017]; (12): 59-64. Available at: http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S1647-21602014000300008&lng=pt

10. Freire, P. Pedagogia da autonomia: saberes necessários à prática educativa. 36. ed. São Paulo: Paz e Terra, 2016.

11. Quadros JS, Colomé JS. Metodologias de ensino-aprendizagem na formação do enfermeiro. Rev baiana enferm [Internet] 2016 abr/jun [acesso em 27 abr 2018]; 30(2): 1-10. Available at: https://portalseer.ufba.br/index.php/enfermagem/article/view/15662/pdf_43

12. Cotta RMM, Silva LS, Lopes LL, Gomes KO, Cotta FM, Lugarinho R et al. Construção de portfólios coletivos em currículos tradicionais: uma proposta inovadora de ensino-aprendizagem. Ciênc Saúde Colet [Internet] 2012 mar [acesso em 27 abr 2018]; 17(3): 787-796. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232012000300026&lng=en

13. Freitas ER, Barbosa AJG, Reis GA, Ramada RF, Moreira LC, Gomes LB et al. Educação em saúde para mulheres no climatério: impactos na qualidade de vida. Reprod clim [Internet] 2016 [acesso em 13 abr 2018]; 1(31): 37–43. Available at: http://recli.elsevier.es/pt/educacao-em-saude-mulheres-no/articulo/S141320871600008X/

14. 14. Kalinowski CE, Massoquetti RMD, Peres AM, Larocca LM, Cunha ICKO, Gonçalves LS et al. Metodologias participativas no ensino da administração em Enfermagem. Interface (Botucatu) [Internet] 2013 dez [acesso em 19 fev 2018]; 17(47): 959-967. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-32832013000400019&lng=en

15. BRASIL. Ministério da Educação. Diretrizes Curriculares Nacionais. Brasília; 2001.

16. Alves EATD, Cogo ALP. Nursing students' perception of the learning process in a hospital setting. Rev gaúch enferm [Internet] 2014 mar [acesso em 20 jan 2018]; 35 (1): 102-109. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-14472014000100102&lng=en

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