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Innovative Practices in Higher Education

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ABSTRACT

This research seeks to reflect on Innovative Practices developed in Higher Education, within the scope of degrees in the last 10 years, according to publications of articles in order to identify which teaching practices, carried out in Higher Education, were considered innovative. For such production, the type of research addressed is qualitative, exploratory in nature. The database analyzed was Scielo (Scientific Electronic Library Online). All articles found were individually and previously evaluated, to verify the approach in accordance with the research theme, considering the bias of degrees. First, Brazil was defined as the place of exploration, with the search for terms in Portuguese in national articles. Was distinguished in the analyzed articles the innovation present in two categories: innovation in pedagogical resources and innovation in practices and methodologies. Innovation in pedagogical resources was observed in two articles analyzed. In both, it was associated with technological resources, such as the use of social networks and ICTs. Innovation in teaching practices and methodologies was observed in the other articles analyzed, with eight being its number. In these articles, the following practices were considered innovative: training meetings, proposals for pedagogical advice, internship methodology combined with research, interdisciplinary training program, practical application of concepts learned in the discipline, online course development, blended learning and classroom inverted.

KEYWORDS

Educational innovation. University education. Innovative strategies

Práticas Inovadoras no Ensino Superior

RESUMO

Neste artigo, se discutem Práticas Inovadoras desenvolvidas no Ensino Superior, no âmbito de licenciaturas, nos últimos 10 anos, de acordo com publicações de artigos; a fim de identificar quais práticas docentes, realizadas no Ensino Superior, foram consideradas inovadoras. Para tal produção, o tipo de pesquisa abordada é qualitativo, de caráter exploratório. A base de dados analisada foi a Scielo (Scientific Electronic Library Online). Todos os artigos encontrados foram individualmente e previamente avaliados, para verificação da abordagem em concordância com o tema da pesquisa pensando no viés de licenciaturas. Primeiramente, foi delimitado o Brasil como o local de exploração, com a busca dos termos em português em artigos nacionais. Distinguiu-se nos artigos analisados, a inovação presente em duas categorias: inovação em recursos pedagógicos e inovação em práticas e metodologias. A inovação em recursos pedagógicos foi observada em dois artigos analisados. Em ambos, foi associada a recursos tecnológicos, como utilização de redes sociais e TICs. A inovação em práticas e metodologias de ensino foi observada nos demais artigos analisados, sendo oito a sua quantidade. Em tais artigos, foram considerados inovadoras as seguintes práticas: encontros formativos, propostas de assessoramento pedagógico, metodologia de estágio aliado à pesquisa, programa de formação interdisciplinar, aplicação prática de conceitos apreendidos em disciplina, desenvolvimento de curso online, *blended learning* e sala de aula invertida.

PALAVRAS-CHAVE

Inovação educacional. Ensino superior. Estratégias inovadoras.

Prácticas Innovadoras en Educación Superior

RESUMEN

En este artículo se discuten las Prácticas Innovadoras desarrolladas en Educación Superior, en el ámbito de las titulaciones en los últimos 10 años, según publicaciones del artículo, con el fin de identificar qué prácticas docentes, realizadas en Educación Superior, fueron consideradas innovadoras. Para dicha producción, el tipo de investigación que se aborda es cualitativo, de carácter exploratorio. La base de datos analizada fue Scielo (Scientific Electronic Library Online). Todos los artículos encontrados fueron evaluados individualmente y previamente, para verificar el enfoque de acuerdo con el tema de investigación, considerando el sesgo de las titulaciones. Primero, Brasil fue definido como el lugar de exploración, con la búsqueda de términos en portugués en artículos nacionales. Se distinguió en los artículos analizados la innovación presente en dos categorías: innovación en recursos pedagógicos e innovación en prácticas y metodologías. La innovación en recursos pedagógicos se observó en dos artículos analizados. En ambos, se asoció a recursos tecnológicos, como el uso de redes sociales y las TIC. En los demás artículos analizados se observó innovación en prácticas y metodologías docentes, siendo ocho su número. En estos artículos se consideraron innovadoras las siguientes prácticas: reuniones de formación, propuestas de asesoramiento pedagógico, metodología de pasantía combinada con investigación, programa de formación interdisciplinar, aplicación práctica de conceptos aprendidos en la disciplina, desarrollo de cursos online, *blended learning* y aula invertida.

PALABRAS CLAVE

Innovación educativa. Educación superior. Estrategias innovadoras.

1 Introduction

Initially, it should be noted that this research was conducted in the year 2021, during the pandemic period due to COVID-19. Although the pandemic caused global social impacts, especially due to the reach and speed of the virus' dissemination, it was not necessary to interrupt our research. It is noteworthy that the theme of innovation was present in educational discussions due to the technological use that was made during this period to make the classes viable, but in the articles selected in this article in the delimited period did not present this discussion yet.

In the last four decades (1980, 1990, 2000, and 2010), transformations occurred rapidly in the field of technological and scientific development, which impacted life in society and caused changes in social, political, and cultural contexts. Technology accelerated social changes and it was necessary to advance in the way of producing and sharing knowledge in education.

In this context, considering that school institutions are related to other institutions in society, schools may also be required to change their organization and teaching practices. The new generations have provided new ways of being in the world, as well as new forms of social relationships. In large part, these changes are related to technological advancement, especially with media technology and the emergence of social networks. New ways of storing and sharing knowledge have also impacted this context. Thus, discussions began about how educational institutions should deal with this context and with the new profile of students they started to receive; revealing the need to use diversified strategies and methodologies for the development of knowledge. In the educational field changes have occurred, but not in the same proportion as in other sectors and institutions, and not in the same way in the different educational contexts, both regarding the nature of the institutions (public and private) and the different regional contexts.

In this context it becomes quite common to use the word innovation in all sectors of society, and in education this was no different. But what is innovation? What is innovation in the educational context? First of all, it is necessary to understand that innovation is a term that has entered the educational field due to its use in the capitalist sphere, in view of market demands, and that the position we take in relation to education in this text is from the perspective of education as social transformation and human development, not an education aimed at simply inserting individuals in the labor market. We understand that it is necessary to problematize and discuss what has been considered as innovation in the educational field. A priori, innovation is linked to change, always associated with a positive bias. By origin, the word innovate, from the Latin *Innovare*, means to renew, to change, and the prefix *IN-*, "in", means new, recent. Thus, we can initially understand that innovating the educational field is perceived as modifying the field in a positive way, although only the "new" is enough to make a field better.

Thus, in this article, we will address: what is considered innovation in education? Especially, what is innovation in undergraduate courses in academic work? To this end, based on the readings of the articles selected in this paper, it was considered that innovation is associated with the use of technologies, curriculum change, and methodological changes in classes. It was also discussed which parameters are listed to consider that there is innovation in higher education.

From the cutout established for the research, articles that discussed higher education practices in undergraduate courses were selected, due to the field of action and the specificities of these professionals, who must teach how to teach. Moreover, it is a level of education that has been constantly required to innovate. According to the World Declaration on Higher Education for the 21st Century (1998),

[...] higher education systems must increase their capacity to live in the midst of uncertainty, to change and provoke change, to meet social needs and promote solidarity and equality; they must preserve and exercise scientific rigor and originality, in a spirit of impartiality, as a basic prerequisite for achieving and maintaining an indispensable level of quality; and they must place students at the center of their concerns, within a continuum perspective, to thus enable the full integration of students into the global knowledge society of the new century (UNESCO, 1998).

Seeking to know some practices considered innovative in higher education, articles that discuss such practices, predominantly carried out in undergraduate programs, were selected to identify concepts and methodologies associated with them.

According to Imbernón (2013), the educational institution should be the engine of innovation and teaching professionalization. Identifying innovative practices in higher education enables the analysis of the movement made by the faculty to escape traditional practices and meet the needs of today's student. Considering this statement, innovating suggests reevaluation of pedagogical methodologies to improve the teaching and learning process.

The present research seeks to reflect on Innovative Practices developed in Higher Education, within undergraduate courses in the last 10 years, according to articles published, to identify which teaching practices, carried out in Higher Education, were considered innovative.

Some questioning will be necessary to know if in the 21st century such practices should still be considered innovative; inferring whom these practices serve: the capitalist system which denies good working conditions to the educator, making him/her work hard to do a good job or the professional who always seeks to reinvent himself/herself.

2 Theoretical Assumptions

The school is influenced by the changes that occur in society, just as it can also contribute to social changes. In the current context, in which the capitalist economic system is in force, school education, public and private, becomes at times exclusionary and entrepreneurial, an oligopolized commodity.

In Brazil, the process of development of a business sector in education is old, going back at least to the period of the military dictatorship. However, this was concealed, since legislation prohibited educational institutions, "by their nature", from making profit. It was only with the enactment of the 1988 Constitution that the possibility of the existence of for-profit schools became explicit. The subsequent regulation of this provision in the Law of Directives and Bases and complementary legislation accelerated their growth. Besides the offer of openings, in person or at a distance, both in basic education and, on a larger scale, in higher education, other commercial activities have spread. In basic education, the sale of teaching materials and educational "packages" has grown, including brand rentals, through franchising, evaluation, and in-service teacher training (OLIVEIRA, 2009, p. 741).

In this context, the aim is innovation in education, with a recent focus on changing the teaching-learning processes, giving the student a more active role in the construction of their learning, and the teacher the responsibility to create conditions for this to happen, in a mediating approach.

In the student-centered learning methodology, the teacher acts as a learning facilitator, promoting resources and a favorable environment for knowledge construction. According to Zimring (2010), the good learning facilitator invests the most time making resources available to students, pointing out that most of the time there is no need to teach, but that it is a resource to stimulate their interests. In this case it takes a lot of imagination, reflection, and work.

This context justifies a literature review to identify what is understood as Innovation in Higher Education and what practices have been considered innovative in Brazil. Thus, the analysis of articles published between 2011 and the first semester of 2021 was reported.

To understand and analyze Innovative Practices, we propose to reflect about the concept of innovation, as we pointed out earlier, it is a term that gained prominence in the capitalist theoretical field from the studies of Joseph Alois Schumpeter in the early twentieth century. According to this economist, innovation and change were factors that interfere with economic growth and development. Schumpeter (1934) conceptualizes innovation as the introduction of new products, ways of producing, or even the introduction of new combinations from something that already exists. The concept is also associated with the concept of entrepreneurship, considering that for the author the emergence of our entrepreneurs and new organizations in the economic scenario leads to transformations in the market.

Throughout the 20th and 21st centuries, other economists and researchers from other fields have researched and discussed what innovation is and its impacts on the economic scenario. A reflection of this was the increasingly frequent demand generated in the educational field for innovation to occur. It happens that educational institutions should not organize themselves from a business structure. Especially public universities should be based on the social quality of education, which means that they should contribute to social transformation in a way that defends ideals of social justice and equal opportunities.

Thus, it is necessary to emphasize that this research seeks to analyze innovation from this place that should be occupied by an educational institution: innovation as social transformation based on the social quality of education. It assumes, then, a critical position in relation to the impacts of the capitalist system on pedagogical and managerial organization in higher education. It is considered that thinking about innovation, in the context of Education, implies thinking about strategies to offer something new and effective in the teaching and learning process.

Innovating in Higher Education, according to Masetto (2003), implies a set of changes, affecting key points and constitutive axes of the higher organization generated by social changes, reflections intrinsic to the mission of Higher Education. Still, the author justifies the need for Innovation in Higher Education by

[...] current demands of the "Knowledge Society" lead to a crisis in the professional careers themselves, due to the demand for new skills and competences, without disregarding technical competence: teamwork, adaptation to new situations, application of knowledge and learning, continuous updating through research, openness to criticism, search for creative, innovative solutions, fluency in several languages, mastery of computers and computer processes, team management, dialogue among peers. Such demands directly affect the university in its role of training the professional required by today's society. This necessarily leads to thinking about innovation in higher education (MASETTO, 2003, p. 199).

In this sense, Masetto (2003) reiterates that these are necessary aspects to promote essential, innovative changes in higher education, which are: "[...] curricula, pedagogical methods, continuous teacher training, including pedagogical training; in addition to the critical incorporation of technology, distance education, and the understanding and exploration of virtual environments" (MASETTO, 2003, p. 199-200).

Teaching with undergraduate research and the use of new technologies in the classroom are advocated as proposals to make the university student the subject of the learning process, radically changing the previous arrangement of delivering all the information already ready [...] (MASETTO, 2003, p. 200).

Messina (2001) identifies two components that distinguish innovation: "[...] a) the change of meaning with respect to current practice and b) the intentional, systematic, and planned character, as opposed to spontaneous changes" (MESSINA, 2001, p. 226). The author also emphasizes innovation as something open, in the sense of multiplicity of forms and meanings, according to the context in which it is inserted, not as an end, but to transform educational systems. Thus, she highlights that innovation can fulfill a projective function.

3 Methods

This research is based on the qualitative approach and has an exploratory nature, of thematic analysis. It was delimited as period for search, articles published between 2011 and the first half of 2021; as initial cut we searched for the terms "innovative practices", "innovation in teaching", "education and innovation". We selected only articles that discussed innovation in higher education in undergraduate degree courses, and it was possible to find 10 articles published from 2012 to 2017 as shown in the table below:

Table 1. Selected papers.

AUTHORS	TITLE	YEAR
Quintanilha, L. F.	INOVAÇÃO PEDAGÓGICA UNIVERSITÁRIA MEDIADA PELO FACEBOOK E YOUTUBE: UMA EXPERIÊNCIA DE ENSINO-APRENDIZAGEM DIRECIONADO À GERAÇÃO-Z	2017
Ricoy, M. C.; Couto, M. J. V. S.	AS BOAS PRÁTICAS COM TIC E A UTILIDADE ATRIBUÍDA PELOS ALUNOS RECÉM-INTEGRADOS À UNIVERSIDADE	2014
Junges, K. S.; Behrens, M. A.	UMA FORMAÇÃO PEDAGÓGICA INOVADORA COMO CAMINHO PARA A CONSTRUÇÃO DE SABERES DOCENTES NO ENSINO SUPERIOR	2016
Cunha, M. I.	QUALIDADE DA GRADUAÇÃO: O LUGAR DO ASSESSORAMENTO PEDAGÓGICO COMO PROPULSOR DA INOVAÇÃO E DO DESENVOLVIMENTO PROFISSIONAL DOCENTE	2015
Oliveira, C. B.; Gonzaga, A. M.	PROFESSOR PESQUISADOR – EDUCAÇÃO CIENTÍFICA: O ESTÁGIO COM PESQUISA NA FORMAÇÃO DE PROFESSORES PARA OS ANOS INICIAIS	2012
Pereira, E. M. A.; Carneiro, A. M.; Gonçalves, M. L.	INOVAÇÃO E AVALIAÇÃO NA CULTURA DO ENSINO SUPERIOR BRASILEIRO: FORMAÇÃO GERAL INTERDISCIPLINAR	2015
Silva, D. J. A.	FORMAÇÃO DE PROFESSORES DE LÍNGUA PARA A AUTONOMIA: O BURACO É MAIS EMBAIXO	2013
Augusto, T. G. S.; Amaral, I. A.	A FORMAÇÃO DE PROFESSORES PARA O ENSINO DE CIÊNCIAS NAS SÉRIES INICIAIS: ANÁLISE DOS EFEITOS DE UMA PROPOSTA INOVADORA	2015
Pereira, D. R. M. César, D. R.	INOVAÇÃO E ABERTURA NO DISCURSO DAS PRÁTICAS PEDAGÓGICAS	2016
Valente, J. A.	BLENDED LEARNING E AS MUDANÇAS NO ENSINO SUPERIOR: A PROPOSTA DA SALA DE AULA INVERTIDA.	2014

Source: prepared by the authors.

The Scientific Electronic Library Online (Scielo) was the database used to select the articles. Thus, all articles found were individually and previously evaluated, to verify the approach in accordance with the research theme "Innovative Practices in Higher Education" having as cutout works that discussed undergraduate degrees.

In the search, besides the clippings, the search was limited to articles published in Portuguese, with Brazil as the field of research or discussion. Thus, for the purpose of corpus research for analysis, the preference was for terms in the Portuguese language and national articles. During the analysis, other articles were found that presented Innovative Practices in Higher Education, but they did not fit the cut-off (undergraduate courses) and were therefore disregarded in the analysis. The articles selected according to these criteria cover the period from 2012 to 2017.

For the discussion and analysis to be presented, assumptions of content analysis were also mobilized, considering "that the method of content analysis is marked by two borders: on one side the border of traditional linguistics and the other the territory of the interpretation of the meaning of words (hermeneutics)" (CAMPOS, 2004, p. 612).

According to Bardin (2016), "content analysis appears as a set of techniques for the analysis of communications that uses systematic and objective procedures to describe the content of messages" (BARDIN, 2016, p. 38), but, still according to the author, the interest is not only in the description of the contents, but their treatment and what they can teach us after this process. Bardin (2016) discusses that "[...] the intention of content analysis is the inference of knowledge regarding the conditions of production (or, eventually, reception, inference that uses indicators [...])" and, further, "[...] the content analysis is the manipulation of messages (content and expression of this content) to highlight the indicators that allow inferences about a reality other than the message [...]" (BARDIN, 2016, p. 38).

Given these methodological assumptions, the contents of the selected publications were described and categorized, to discuss what has been considered as innovation in higher education, in undergraduate courses. To achieve the results presented below, the central categories were listed as innovation in pedagogical resources, curricular innovation and innovation in practices and methodologies.

4 Analysis, Results, and Discussion

Among the ten selected articles, we initially highlight the article entitled Teacher training for science teaching in the early grades: *analysis of the effects of an innovative proposal, in which Augusto and Amaral (2015) investigated the training of teachers for science teaching in the early grades*, through the analysis of the effects of an innovative proposal. A qualitative analysis was carried out through the observation of the work of 13 teachers who studied for a Licentiate's Degree in Pedagogy at the University of Campinas (UNICAMP). Since the course curriculum includes the subject Pedagogical Theory and Production in Science and Environment, the authors researched which conceptions and practices declared by the teachers about teaching Science to the initial grades before, during and at the end of the subject, using questionnaires, essays, course observation and interviews. The course proposal was considered innovative by the authors.

This course included the subject Pedagogical Theory and Production in Science and Environment, which had an innovative approach by privileging, among other aspects, the teaching centered on phenomena and proposed to help the teacher to unveil science and fully reveal the environment. In theory, the subject could contribute to a differentiated training in Science for teachers of the early grades of elementary school and early childhood education and promote changes in their pedagogical practices (AUGUSTO; AMARAL, 2015, p. 494).

In this article, the approach to science in the training subject is considered innovative, considering that the curriculum proposes to meet current demands. It was concluded that most of the teachers understood the key ideas of the subject and that changes were promoted in their teaching practices.

It is concluded that the problematization promoted by the course and the theoretical and practical elements provided by it triggered a process of conceptual change that may lead to a future evolution in the conceptions and practices of these teachers in general. It was also verified that the teacher trainees began to value Science teaching, reflection on their own practice, and continuing education as a path to professional development (AUGUSTO; AMARAL, 2015, p. 506).

Although it is considered that there was an innovative methodological and curricular character in the discipline, the authors of this work consider that the teachers did not have enough knowledge of the specific area to take the innovative propositions for themselves, and the inconsistent initial training conflicted with "the innovative programmatic-methodological principles and guidelines that support some continuing education programs". In this article, innovation in science teaching was categorized as methodological and curricular modification. It can be seen that the analysis of the teachers' entire training course was essential to obtain data on the progress they had in their conceptions of science teaching in the classroom, which certainly impacts their classroom practices.

The use of Information and Communication Technologies (ICT) is usually associated with innovation. In this vein, Ricoy and Couto (2014), in the *article Good practices with ICT and the usefulness attributed by students newly admitted to university*, investigated the perception of students newly admitted to university education about good educational practices with ICT. Narrative research was conducted with 55 students from the Social Education course. Through this study, they concluded that the mere use of ICT is already associated by students as innovative practice, without associating them with innovative teaching strategies.

As results and main conclusions, it is highlighted that the simple use of ICT is associated by the participants with good practices, without questioning the combination of their use with that of teaching strategies of innovative type. It is found that they attribute good practices with ICT to the use of very current devices and applications. Participants identify different benefits in their use regarding: internet access, communication, publishing, and dissemination of content in a multitude of formats. [Good practices with ICT are linked by the participants to the use of computers, communication, devices, software, and the most innovative applications on the market. They consider these resources as means for the development of activities, in general, interesting, and useful (RICOY; COUTO, 2014, p. 910).

Thus, in this work, the focus given to innovation by the research subjects is on the technological resource as innovation in teaching practice. As an example of this, the author cites the use of technological equipment to help people with limitations in "sound communication", an issue considered by the interviewees as innovative. Considering that the interviewees were at the beginning of their graduation and that for them the use of technological resources is associated with good practices, throughout their training process it is important that this perception be demystified, because as future teachers it is important that they understand that good practices may or may not be associated with technology.

Still on the use of ICTs, Valente (2014), in the article *Blended learning and changes in higher education: the proposal of the flipped classroom*, discussed the different modalities of blended learning and the flipped classroom, how ICTs are used in different models of implementation of this pedagogical approach, how the flipped classroom can be implemented, in addition to positive and negative points of the methodology cited. The author cites blended learning or hybrid teaching as being "The integration of ICT in classroom activities". Thus, based on the authors studied, Valente defines in four models the hybrid teaching or blended learning programs: flex, blended blended, enriched virtual and rotation.

In the flex model, the anchor of the teaching and learning process is the content and the instructions that the student works on via the online platform. The flexible and adaptable part corresponds to the type of support he receives in the face-to-face situation [...]. The blended model consists of the scenario in which the student chooses to take one or more subjects entirely online to complement the face-to-face subjects. [...] In the enriched virtual model, the emphasis is on the subjects the student takes online, and he can perform some activities face-to-face, such as practical experiments, labs or even a face-to-face subject. [Finally, the rotation model consists of providing the student with the chance to alternate or circulate through different learning modalities (VALENTE, 2014, p. 85).

Valente (2014) reports that the flipped classroom consists of an "[...] e-learning modality in which the content and instructions are studied online before the student attends the classroom, which now becomes the place to work on the contents already studied, performing practical activities" (VALENTE, 2014, p. 85). In the study, it is evidenced that experiences with Physics students, using the flipped classroom approach, were incredibly positive. Through literature review, the author concludes, therefore, that blended learning and the flipped classroom are methodologies cited as innovation proposals to solve the dropout problem. In this case, the innovative practice is considered when there is methodological modification associated also with the use of technologies and new learning environments.

In this same sense, in the article *University pedagogical innovation mediated by Facebook and YouTube: a teaching-learning experience directed to generation Z*, Quintanilha (2017) evaluated how the use of virtual technologies such as Facebook and YouTube could contribute to the teaching and learning process of students at a university in Salvador. Such technologies, in the author's view, were used as mediators of a process of pedagogical innovation at the university, bringing students and teachers together in favor of learning.

The creation of a Facebook group and a YouTube channel, in a way that was optional for students to participate, facilitated the exchange of information and sharing of materials. Through a questionnaire applied to the students and a quantitative and qualitative analysis of the result, the author understands that the strategy used was innovative, meeting the interests of Generation Z. It is also noteworthy that the pedagogical intentionality to ensure the sharing linked to the pedagogical interventions performed can contribute to the improvement of the teaching and learning process and not only the use of Facebook group and YouTube channel.

From the perspective of the subject-student at universities today, in the article *Training of language teachers for autonomy: the hole is deeper*, Silva (2013) analyzes the aspect of the training of undergraduate teachers of languages in the "[...] expectation that they promote pedagogical practices towards autonomy in their future classrooms" (SILVA, 2013, p. 73). In this case, the author considers as a factor of innovation the reformulation of the course project and curricular innovation in view of the perspective of the formation of teachers of letters regarding student autonomy. Although he does not indicate solutions, he considers that, to achieve this goal, it is necessary that there is institutional support and collective adherence of the faculty for a reformulation in a more participatory way in the formation of the curriculum.

It is also necessary to empower students in decision-making processes and make them, in general assemblies with the faculty, openly put the potentialities and weaknesses of the course, in order to make the PPC a truly collective synergistic construction [...]. The internal institutional assessments should be progressively improved and transformed into instruments of effective actions, such as investment in continuing education for teachers, improvement of structure supply (laboratories, bibliographic collection) and parameter for long-term planning, in which the progress achieved can be observed (SILVA, 2013, p. 88).

It is noticed that, in this case, the intervention in the curriculum was understood as the main influence on the positioning of students regarding the various decision spaces within the educational environment.

Also noteworthy is the article *Innovation and evaluation in the culture of Brazilian higher education: general interdisciplinary training*, in which Pereira and colleagues (2015) report the results of an innovation program in Higher Education at the State University of Campinas (UNICAMP). It is the Higher Interdisciplinary Training Program (ProFIS), a regular two-year course, which presents innovations in the composition of its faculty (coming from all areas and academic units of the university), being taught full-time, of curricular composition with interdisciplinary character and structure aimed at inserting the student in general culture activities focused on scientific, social, human, cultural, economic, political, and ethical issues. The program was created to expand the access of students from public schools to Unicamp and is concerned with the guidance of professional choices with greater knowledge, critical sense, and maturity from the expansion of their knowledge and culture, as well as the use of the knowledge acquired in life in society. Through evaluations with students and teachers, it has been noticed that the program has been gradually fulfilling its objectives. After finishing the course, the students receive a Higher Interdisciplinary

Education certificate and can have access to a place in one of the 68 regular undergraduate courses at the university. In this article, innovative practices are considered as those that are interdisciplinary.

It is emphasized that in addition to interdisciplinarity, curricular innovation can be observed in this study, since there was a curricular adequacy to welcome students new to university education, so that the curriculum could favor the formation as a whole of this individual and prepare them for permanence in higher education, transforming the pedagogical organization in order to consider the students.

In the article *Teacher researcher - scientific education: The internship with research in teacher training for the initial years*, Oliveira, and Gonzaga (2012) considered innovative the realization of internship together with research developed by students of the 9th period of the Pedagogy course of the Superior Normal School of the Amazonas State University during the development of the discipline Research and Pedagogical Practice II. The path to such conclusion started from the research process based on the following problem

[...] as a contribution to the consolidation of science education, what impacts an action plan can generate in the training of teachers for the early years, considering primarily the possibilities of redefining the concept of teacher-researcher centered on the articulation between internship-research? (OLIVEIRA; GONZAGA, 2012, p. 690).

To investigate and bring an answer to the problem raised, it was proposed to the class of students that during the internship researches were developed, having the school as a space of investigation and the object of study situations to be investigated within the school space. Such action boosted the students' maturation and led to the understanding of the classroom "[...] as a space for citizenship construction, basic principle of science education" (OLIVEIRA; GONZAGA, 2012, p. 7). In the case of the analysis performed by the authors, it is considered that innovative practice is related to methodological changes and the relationship between research and teaching.

It is essential that teaching and research are interconnected, and that the teacher can also be a researcher since the daily school practice that the undergraduate student will encounter demands an investigative posture. The new methodological proposal presented in this study gave the students the opportunity to develop an investigative look at real classroom situations and demonstrates that innovation can be achieved through an attitude towards new possibilities of action.

Considering that many professionals enter the higher education teaching profession after their initial training, in the article *Quality of graduation: the place of pedagogical advising as a driver of innovation and teaching professional development*, Cunha (2015) proposes to investigate experiences of pedagogical advising in higher education institutions, understanding such action as a driver of innovation, and teaching professional development. There is an emphasis on the importance of learning to teach in the trajectory of university

teachers, understanding that this training is established in temporal, political and cultural contexts that produce them.

The author used three advising models to analyze the assumptions and characteristics of the indicators, the understanding of training and professional development, the usual formats of training strategies, and the formats for follow-up and evaluation. They are, in descending order of centralization: model of centralization and control of actions, partial model of decentralization and control of actions, and decentralized model of follow-up and control of actions.

The pedagogical advising is considered an innovation when it is well done, so that it works according to the reality found in the teaching experience. The decentralized model of monitoring and control of actions brings autonomy and professional improvement based on collective and individual experiences. The study of Cunha (2015) comes "[...] to alert for a scenario that is demanding propositional initiatives of investments in the knowledge of teaching so that the university corresponds to what is expected of it in terms of social quality" (CUNHA, 2015, p. 28). Innovation, in this perspective, is considered pedagogical support for the professional development of teachers, organization of pedagogical work. It is noteworthy that in higher education the continuing education of teachers for the professional development of teaching is most often associated with courses and conferences, the pedagogical advice is considered a differential at this level of education.

The research of Junges and Behrens (2016), in the article An innovative pedagogical training as a path for the construction of teaching knowledge in Higher Education, was based on an experience of pedagogical training in a municipal public higher education institution, so that during one year ten formative meetings were held with the objective of reflection and awareness of the pedagogical trajectory to broaden the perception and concept about teaching, building knowledge capable of changing the teaching practice. This training, considered innovative by the authors, goes beyond what is offered in teacher training courses. Many times, the continuing education offered by higher education institutions to teachers are fragmented and decontextualized moments, therefore, it brings a reflection to higher education institutions, highlighting the need to invest beyond the *stricto sensu* degrees, but in search of continuing education uniting these two fields. The action research was carried out in four phases: initial diagnosis by means of a structured questionnaire, organization of the formative proposal, pedagogical training with themes suggested by the teachers, and evaluation of the formative process. This whole formative process shows that "the formation provided by the action research led the interviewed teachers to understand that university teaching goes far beyond mastering contents, encompassing specific competencies, pedagogical and human knowledge". In this article, innovation is also associated with the relationship established between teaching and research and, as in the article presented by Cunha (2015), the formative process studied contributes to the professional development of teachers.

Pereira, Carneiro and Gonçalves (2015) conducted an analysis of two free online courses offered to distance university students ("Games in Education in Second Life" and "Academic Research on the Web") as a form of continuing education in the article *Innovation and evaluation in the culture of Brazilian higher education: general interdisciplinary training*.

In the study entitled Innovation and openness in the discourse of pedagogical practices, Pereira, and Cesar (2016), seek to observe new possibilities for didactic-pedagogical use in distance education in higher education. Starting from the concept of innovation and the idea that for this to happen one expects an openness to the new, leaving the traditional, the authors analyzed chats and forums of the courses. They noticed several characteristics in the behavior of students and professors, the most important being: hyper textuality allied to the immediacy of access to texts cited in class; growing interchangeability between the subjects in dialog - interactivity; acceleration and punctuality in communication, due to the need to certify presence; irony of the behavior associated with traditional teaching; flexibility of class time-space; playfulness and informality as values associated with the digital space and invoked as a positive experience in teaching/learning and affectivity, by which the event incorporates the importance of interpersonal experiences.

Some aspects considered present only in face-to-face teaching by many, were also identified in distance learning, such as interactivity and dialogue. The development of the online course was considered innovative by the authors, even though some points to be improved were pointed out. In this case, the focus of innovation is on the virtual environment and its possibilities that, as opposed to face-to-face teaching, would present opportunities associated with the student's time and space, as well as the use of text resources in digital environments.

5 Final Considerations

The course of this research highlighted important issues about "innovative practices" in the context of undergraduate courses in higher education. First, it is relevant to highlight that the number of papers that discuss or report on the term "innovative practices" has increased significantly in recent years of the timeframe analyzed in this study (2011-2021), but those that focus on undergraduate courses are still few. Most of the papers found were related to areas such as health and technology.

As for the works discussed in this article, after analyzing the selected material on university practices considered innovative, delimiting the context of experiences in undergraduate courses in Brazilian universities found on the Scielo platform, it is observed that innovative practices are considered those that change the way of acting and organizing teaching in relation to what we commonly name as traditional practices.

The term innovative is recurrently associated with technology, which can be justified by the numerous technological innovations that have occurred in society in recent decades. In this case, technology in education sometimes means new resources and not new methodologies and conceptions of education.

Thus, it was noticed in the analyzed articles, innovation presented from two main categories: innovation in pedagogical resources and innovation in practices and methodologies. Innovation in pedagogical resources was observed in two of the articles analyzed. In both, it was associated with technological resources. Quintanilha (2017) demonstrates a practice allied to the interests of Generation Z at the university, observing the facilitation in the exchange of information and sharing of materials, using the digital platforms Facebook and YouTube, obtaining satisfactory results. Ricoy and Couto (2014) investigated the perception of students newly integrated into university teaching about good educational practices with ICT, concluding that the simple use of ICT is already associated by students as an innovative practice, without associating them with innovative teaching strategies.

Innovation in practices and methodologies was observed in the other articles analyzed, with eight being their quantity. In these articles, the following practices were considered innovative: formative meetings, proposals for pedagogical advising, internship methodology allied with research, interdisciplinary training program, practical application of concepts learned in the discipline, development of online courses, blended learning and flipped classroom.

It can be observed that innovation brings into prominence both the use of pedagogical resources linked to technology and the use of methodologies and practices, all the practices reported are actions that went beyond what is usually developed in universities. A reflection on such practices was how much they were disseminated so that there would be progress and continuity in the development in other classes and/or courses. Because isolated success actions do not move the academic society, according to Imbernón (2013) "[...] innovation loses a good percentage of impact and collective improvement when it is produced in isolation and becomes a mere personal experience" (IMBERNÓN, 2013, p. 23)

The present study can contribute to future research, given the fulfillment of its objective (to discuss and present the experiences considered innovative that are being carried out in higher education, in undergraduate courses). In addition, it promotes reflection on how innovation is necessary and how it can assist in the renewal of higher education, driving other professionals to transform their practices and teaching, contributing to the improvement of the initial training of future teachers.

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