Experience Report

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Active Methodologies as a pedagogical strategy: A report of teaching experience in undergraduate library science

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ABSTRACT

Introduction: Updated and applied face-to-face for 2 consecutive semesters, the discipline of Marketing of Services for Information Users was optionally offered in two classes, throughout 2022, in the Bachelor's Degree in Librarianship at the Federal University of Minas Gerais (UFMG). Objective: To report the teaching experience in the discipline, in which active methodologies were used as a pedagogical strategy. Methodology: The Report was characterized as qualitative, since the characteristics, stages, resources and conduct of teaching practice in the discipline were described, in addition to feedback from students via testimonials. Results: The research enabled the identification of ten citizen labs in Brazilian Federal Universities, which are aligned with relevant social issues and generate benefits in terms of innovations that can be socially shared. Conclusion: Although the discipline approached Marketing contents in the context of Librarianship, when applied through active methodologies, they provided a greater possibility of making tangible the abstractions and inherent concepts. The strategy reported in the case turned out to be rich, making it possible to develop experiences and situations linked to the context of the class and their daily experiences.

KEYWORDS

Active methodologies. Pedagogical strategy. Report of teaching experience. Library science.

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Metodologias ativas como estratégia pedagógica: Um relato de experiência docente na graduação em Biblioteconomia

RESUMO

Introdução: Atualizada e aplicada em modo presencial por dois semestres consecutivos, a disciplina de Marketing de Serviços para Usuários da Informação foi ofertada na modalidade optativa em duas turmas, ao longo do ano de 2022, no curso de bacharelado em Biblioteconomia, da Universidade Federal de Minas Gerais. Objetivo: Relatar a experiência docente na disciplina, na qual se lançou mão das metodologias ativas como estratégia pedagógica. Metodologia: O Relato se caracterizou como qualitativo, uma vez que, foram descritas as características, etapas, recursos e condução da prática docente na disciplina, além do feedback dos alunos via depoimentos Resultados: Percebeu-se que a experiência das metodologias ativas como estratégia provocou maior engajamento e despertou interesse pela temática

proposta. Conclusão: Embora a disciplina tenha abordado os conteúdos de Marketing no contexto da Biblioteconomia, quando aplicados por meio de metodologias ativas, proporcionaram maior possibilidade de se tornar concretas as abstrações e os conceitos inerentes. A estratégia relatada no caso se desvelou rica, sendo possível desenvolver experiências e situações vivenciadas no contexto da turma no cotidiano.

PALAVRAS-CHAVE
Metodologias ativas. Estratégia pedagógica. Relato de experiência docente. Biblioteconomia.

CRediT

JITA: A.Theoretical and general aspects of libraries and information.

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1 INTRODUCTION

It is an undeniable fact that in the historical process of the evolution of education, "teaching and learning" have undergone transformations, especially because "[...] teaching concepts and techniques have been questioned" (Paiva *et al.*, 2016 p. 145).

The main criticisms of the traditional teaching model are: (i) the inertia of the students, (ii) the role of the teacher, (ii) the mechanical way in which the teaching-learning process takes place, factors that do little to support the collaborative construction of knowledge (Sobrinho Jr; Moraes, 2022).

Thus, discussions about the need to rethink teaching-learning methodologies are recurrent and supported by reference studies such as Lev Vigotsky, Jean Piaget, Seymour Papert and Paulo Freire, who, involved in this perspective, forged a field of research popularly known as Active Methodologies in Education. Their ideas have been explored as a basis by several researchers today, such as Tori (2015), Paiva *et al.* (2016), Souza, Murta and Leite (2016), Santos *et al.* (2017), Stroher *et al.* (2018), Pereira and Silva (2018), Silva *et al.* (2019), Lotumolo Jr. and Mill (2020), Novaes *et al.* (2021), Sobrinho Jr. and Moraes (2022), Machado *et al.* (2022), and Ferreira, Ozório and Moreira (2023).

These researchers address trends that are in vogue in educational institutions in different countries. According to Tori (2015, p. 49), "schools cannot distance themselves from the social reality of their students." This position confirms the need to create contextualized and stimulating activities in the educational environment.

Tori (2015, p. 47) also points out that "with each generation, new behaviors emerge." Thus, "[...] learning and teaching in today's world is a complex task that requires commitment and an attitude that is open to change and appreciative of others" (Souza; Murta; Leite, 2016, p. 2).

As a result, education requires new formats for student-teacher interaction that require adaptation on the part of teachers and others involved in the academic process (Pereira; Silva, 2018). Espíndola and Pereira (2021 p.1) point out that active methodologies in the educational process "[...] contribute to the education of students". Sobrinho Jr. and Moraes (2022) point out that in order to be more effective, models based on active methodologies should be designed to be more dynamic, attractive and creative.

Given the above context, this article aims to report on the experience of using active methodologies as a pedagogical strategy by a teacher during his teaching internship, which took place in 2022. The experience took place in two classes, one in the first evening semester and the other in the second morning semester. The subject was optional and offered under the title: *Topics in Information Users: Marketing Services for Information Users,* at the UFMG School of Information Science for the undergraduate course in Library Science.

This article is divided into six sections. In addition to this introduction, the second section presents a brief "non-systematic" review of active methods as a pedagogical strategy. The third section deals with the location, the subject and the participants of the experiment. The fourth section contains the evaluation activities: description and methods. The fifth section presents the results obtained and, finally, the sixth section presents the conclusion, followed by the list of references.

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2 ACTIVE METHODOLOGIES AS A PEDAGOGICAL STRATEGY

Paiva *et al.* (2016) emphasize that during the teaching-learning process, both the educator and the student become subjects through dialogue. In other words, both subjects develop simultaneously in a constructivist process.

Santos *et al.* (2017, p. 3) point out that "[...] different theoretical assumptions and pedagogical actions permeate everyday school life" and that different theories have been discussed since the ideas of Comenius (1592-1670) to the present day. From period to period, Santos *et al.* (2017) emphasize that there have been multiple conceptions of teaching and learning.

Stroher *et al.* (2018), in order to identify the main pedagogical strategies understood as active methodologies, as well as the use of these strategies in the classroom, contextualize that it is necessary to have a pedagogical proposal based on methodological procedures, as a path to be followed in order to operationalize the desired results. In the same vein, authors Silva *et al.* (2019, p. 10) point out that "[...] any pedagogical practice must always be intentional and require planning and systematization". Based on this, they list six basic principles of active methods, namely

1) The student is the center of the teaching-learning process;
2) Innovation;
3) Projects;
4) Learning based on problematizing reality and reflection;
5) Teamwork;
6) The teacher is the mediator, facilitator and activator.

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In a recent study, Lotumolo Jr. and Mill (2020) reflect on active methodologies as a pedagogical approach in the Brazilian context and conclude that they are an option that could contribute to transforming the reality of learning in Brazil. For the authors, the new forms of approach make it possible to train individuals who are more autonomous, aware, critical, responsible and prepared in society, and who have some functionalities that are articulated with the roles of teacher and student (Figure 1).

Some functionalities of active methodologies articulated with the role
of the teacher and the student
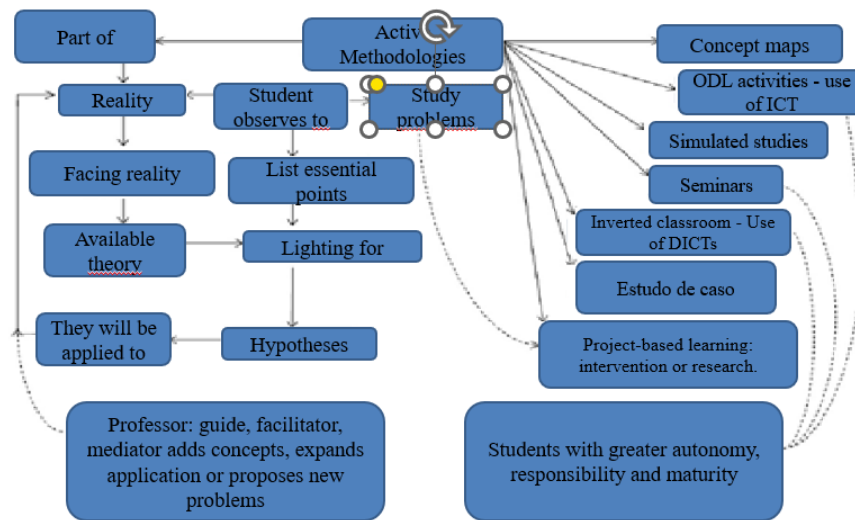
Source: Lotumolo Júnior e Mill (2020, p. 14)

Figure 1 shows the range of characteristics and the variety of potentialities of active methodologies in creating new proposals that start from "reality", placing the student in the role of greater autonomy, responsibility and maturity. In this way, the student observes the object and confronts it with reality, while the teacher acts as a guide, facilitator and mediator in the process.

Novaes *et al.* (2021, p.1) understand that active methods can be defined as "[...]".

can be defined as "[...] a set of methods that seek to develop students' autonomy in the process of acquiring knowledge". And they conclude that they are resources for improving the didactic process, through active teaching, seeking to develop a horizontal relationship through interaction and exchange of knowledge, making the content more attractive, dynamic and enjoyable.

Espíndola and Pereira (2022, p.3) point out that the use of elements of active methodologies in the teaching context was already provided for in the National Curriculum Parameters more than two decades ago.

> In 1997, the National Curriculum Parameters (NCP) already argued that games helped to simulate problem situations, contributing to their understanding and creativity, generating interest and pleasure for students (Espíndola; Pereira, 2022, p. 3).

Machado *et al.* (2022, p.69), however, warn that active learning methodologies are not only advances, but also challenges for teachers in their pedagogical praxis in higher education and point out that there are some barriers, as shown below:

> The research concludes that the barriers that still exist are: a lack of knowledge on the part of teachers, which increases uncertainty, with myths such as "working with active technologies takes too much time". Therefore, there is a need to train teachers in a collaborative approach to active methodologies in the teaching and learning process in higher education courses (Machado *et al.*, 2022, p. 69).

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Ferreira, Ozório and Moreira (2023, p. 19) analyzed the conceptions of five higher education teachers in relation to active methodologies and concluded that the challenges they face "[...] reveal a great concern with the quality of the work they do and, specifically, with the suitability of their work with their students". Nevertheless, although tacit, active methodologies are part of the theoretical and methodological repertoire of higher education teachers in their various forms and types of application (Chart 1).

Chart 1. Types of active teaching-learning methodologies

Types	References
Problem-based learning	Gomeset.al(2010)eMartinet.al.(2010)
Pedagogy of problematization	Marinet.al(2010)eParanhoseMendes(2010)
Problematization: Marguerez Arch	Marinet.al(2010),Pedrosaet.al.(2011),Gomeset.al(2010) e Prado et. al. (2012)
Case studies	Gomeset.al(2010),Pedrosaet.al.(2011)eLimberger(2013)
Reflective groups and interdisciplinary groups	Gomeset.al(2010)eCarraroet.al.(2011)
Mentoring groups and facilitation groups	Pedrosaet.al.(2011)
Group exercises	Gomeset.al(2010)ePedrosaet.al.(2011)
Seminars	Gomeset.al(2010)
Critical experience reports	Gomeset.al(2010)
Round tables	Carraroet.al.(2011)
Socialization	Pedrosaet.al.(2011)
Plenaries	Pedrosaet.al.(2011)
Dialogued presentations	Pedrosaet.al.(2011)
Thematic debates	Pedrosaet.al.(2011)
Commented reading	Pedrosaet.al.(2011)
Workshops	Pedrosaet.al.(2011)
Film presentations	Pedrosaet.al.(2011)
Musical performances	Pedrosaet.al.(2011)
Dramatizations	Maiaet.al.(2012)
Playful-pedagogical dynamics	Gomeset.al(2010)eParanhoseMendes(2010)
Oral evaluation (self-evaluation, of the group, of the teachers and of the cycle)	Marinet.al.(2010)

Source: Paiva et. al. (2016, p. 150)

Chart 1 is the result of an integrative review by Paiva *et al.* (2016), covering the period from 2010 to 2014, in the main Brazilian journal databases (BVS, CAPES and SciELO), which list 22 different types of operationalization of active methodologies, ranging from methods already established in the literature to those in which there is little reference to the type.

3 THE PLACE, OBJECT AND THOSE INVOLVED IN THE EXPERIMENT

Before reporting on the operationalization and practice of the types of active methodologies applied in the experiment, it is necessary to introduce the "educational institution", the "course", as well as the object "discipline" and the teachers involved, identified here only as "trainee", "coordinator" and "supervisor".

The experiment took place in Belo Horizonte, at the School of Information Science (ECI) of the Federal University of Minas Gerais (UFMG), in the Bachelor of Library Science course, in two classes: one in the first semester of 2022 in the evening, from 19:00 to 22:30, and another in the second semester of 2022 during the day, from 7:30 to 11:10.

According to the website of the School of Information Science, it was created in 1950, the same date when the course began under an agreement between the Minas Gerais State Department of Education and the National Book Institute. In 1976, the Postgraduate Course in Library Science and Library Administration was created at the Master's level, and in 1997, the Ph.D. course was created in the Postgraduate Program in Information Science - PPGCI (institutional website: https://70anos.eci.ufmg.br/historia-da-eci/).

In 2000, after an extensive debate, as presented by Barbosa *et al.* (2000), the name was changed from the School of Library Science to the School of Information Science. In 2015, the course was created, also at the doctoral level, in Knowledge Management and Organization, called PPGGOC.

Since its creation, the UFMG Bachelor of Library Science has undergone several curricular reformulations and updates, always in line with social, technological and cultural developments (Barbosa *et al.*, 2000).

At the time of this report, the curricular structure of the Bachelor of Library Science provides for the completion of the course in 4 years (8 semesters), with compulsory and elective subjects. The compulsory subjects account for 1,650 hours, and of these, only the subject TGA Administration (offered in the 1st semester) and the subject Information Unit Management (offered in the 2nd semester) are linked to interdisciplinarity with Administration Science or Management. On the other hand, the elective subjects represent 450 hours and have more options linked to Administration Science (institutional website: https://ufmg.br/cursos/graduacao/2375/91512).

1.2 Object: Course offered

The subject that is the subject of this experience report was offered as an elective course with a 60-hour workload, completed in person, under the name Topics in Information Users: Marketing Services for Information Users.

<p align="center">Chart 2. Subject data</p>

Code	TGI065
Subject	TOPICS IN INFORMATION USERS D: Marketing of Services for Information Users
Course	Library Science
Pre-requisite	Not available
Class	TBN room ECI 2010
Teacher	Supervised student: Leandro Cearenço Lima Guiding advisor professor: Marlusa de Sevilha gosling Responsible professor: Helena Maria Tarchi Crivellari
Day and Time of Classes	Friday (7:00 p.m. to 10:30 p.m.)
Syllabus. Introduction to Services Marketing. Main elements of Services Marketing. Positioning services in competitive markets. The communications mix for services. Pricing and revenue management. Distribution and delivery of services. Process planning in services. Quality in services. Relationships and	

Source: Prepared by the authors (2023)

Following the syllabus and the theoretical framework guiding the content, the course was divided into four units. The basic bibliography was the book Services Marketing: people, technologies and strategies. 7th ed. São Paulo: Pearson, 2011, by Lovelock, Wirtz and Hemzo. In addition to this basic reference, we used a complementary list of books and articles.

Figure 2. Class content
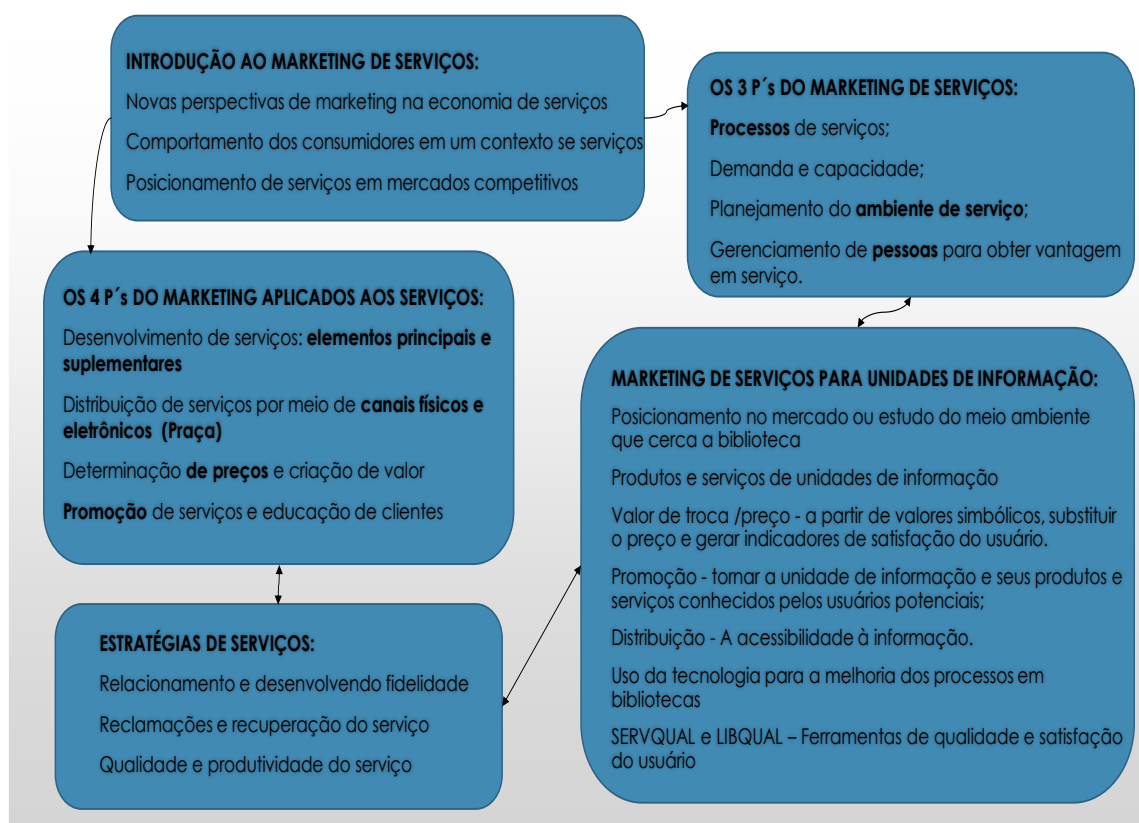
Source: Prepared by the authors (2023)

In order to organize the content in the 60 hours available, the course took place in 15 meetings, and a schedule was drawn up, providing for lectures and activities throughout each semester.

Chart 3. Schedule of class content

Class	Date	Planned content
01	01/04	- Opening class - presentation of the program, class content, form of assessment, guidance on mid-term and final assignments
02	08/04	— - Lecture - Introduction to services marketing - Lecture - Services marketing and librarianship
03	29/04	— - Expository class - Conclusion of Session I - Activity I –"Living Wheel"
		— — Expository class - Unit II - Main Elements of Services Marketing - Content

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04	06/05	Consumer Behavior and Products
05	13/05	– - – Expository class - Unit II - Main Elements of Services Marketing - Content Squares - Presentation of intermediate work GROUP 1 - Squares (chapter and thematic article)
06	20/05	– - Expository class - Unit II - Main Elements of Services Marketing - Promotion content - Presentation of intermediate work GROUP 2 - Promotion (chapter and thematic article)
07	27/05	– - Expository class - Unit II - Main Elements of Services Marketing - Processes content - Presentation of intermediate work GROUP 3 - Processes (chapter and thematic article)
08	03/06	– - Expository class - Unit II - Main Elements of Services Marketing - People content - Presentation of intermediate work GROUP 4 - People (chapter and thematic article)
09	10/06	– – Expository class - Unit II - Main Elements of Services Marketing - Price content - Activity II - group dynamics related to the content of unit II (Simulated Market)
10	18/06	– - Lecture Unit II - Main Elements of Services Marketing - Quality Content - Speaker Andréa Fraga Dias Campos - Master's student in Knowledge Management and Organization - ECI/UFMG – - Recorded expository class - Theme: Quality and Productivity in Services - Guidelines for carrying out Activity III
11	24/06	– - Expository class - Closing of Unit II - Expository class - Unit III - Services Marketing Management
12	01/07	- Expository class - Unit III - Service Marketing Management Tools
13	08/07	– - Expository class - Unit IV - Service Marketing Management Tools - Service Marketing Implementation - Activity IV - related to unit III - Application of the Business Model Canvas as a Marketing Plan Tool
14	15/07	– - Expository class - closing of Unit IV - Services Marketing Management - Presentation of final group work
15	22/7	– - Answers to questions, discussion and feedback on course activities – - End of semester

Source: Prepared by the authors (2023)

3.3 Involved: Trainee teacher, supervisor and supervisor

The "trainee" teacher, who leads the class, is a doctoral student in the Postgraduate Program in Knowledge Management and Organization at ECI - UFMG.

As a requirement of the Program, the teaching internship is compulsory for two

semesters for scholarship holders from CAPES or FAPEMIG institutions, and is therefore a compulsory curricular component (Noronha; Almeida, 2022, p.545).

> The trainee contributes by passing on his or her knowledge to the students, which is reciprocated in the form of challenges posed in daily teaching, such as preparing lessons, preparing material, correcting activities and teaching. (Noronha; Almeida, 2022, p. 545)

In this way, the internship is a fundamental part of the doctoral student's training, allowing contact with teaching practice and, on the other hand, allowing students to get closer to the undergraduate and postgraduate programs and to contact with the routine of the school environment.

The choice, preparation and teaching of the course "Marketing of Services to Information Users" is closely linked to the academic career of the trainee, who holds a Bachelor's Degree in Business Administration with a specialization in Marketing, a Master's Degree in Information Science, and is also studying for a PhD in Information Science.

In addition to his academic career, the intern is interested in the interdisciplinary aspects between information science and management science, and has even published a paper on this relationship between the fields (Lima *et al.*, 2022a).

The supervising professor at the time was part of the PPGGOC teaching staff and played a key role, especially in the process of designing the course. It is worth mentioning that she had already supervised another trainee in virtual mode the previous year due to the COVID-19 pandemic. This circumstance limited the possibilities of exploring the pedagogical possibilities envisaged, but did not prevent the success of the project.

The previous edition of the course took place in the first semester of 2021 and was, albeit remotely, successful in generating a publication that, unlike this experience report, focused on exploring the content in the form of a systematic literature review (Campos; Gosling; Gosling, 2022).

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4 EVALUATION ACTIVITIES: DESCRIPTION AND METHODS

This section describes the assessment activities and the forms and methods used to carry out the course that is the subject of this report. There were a total of four different activities, all defined as active methodologies according to the literature consulted.

It is worth mentioning that on the first day of class, the teacher was introduced and each student was asked to introduce themselves, answering 3 questions: 1) if they worked or did any other activity; 2) why they chose the course and 3) what they expected from the course. The aim of these questions was to get to know the reality and context of the students and to align expectations.

4.1 Round table: "Living wheel"

The name of the first activity was changed from round table to live circle, alluding to a popular television program and considering the intended format. According to Paiva *et al.* (2016), the round table activity is characterized as an active methodology. It can be described as a modality in which ideas are exchanged or debates take place on a specific topic. Very common in television programs, it is called round table or live circle because of the format in which the participants are usually arranged around a round table or, if there is an audience, in a semicircular structure facing the audience.

Figure 3. TV Cultura live circle

Source: https://images.app.goo.gl/ZRCi1sTytJh21cGn8 (2014)

As for the guidelines and method: as the first three classes covered the "theme" content of **Unit I** "Introduction to Services Marketing", the first day covered the fundamental concepts, such as: (i) What is Marketing? and (ii) What is the difference between Marketing and Services Marketing? In addition, some examples of its application in Information Units were given.

On the second day, expository classes began, covering the first chapter of the book by Lovelock, Wirtz and Hemzo (2011). Each student was asked to read the first chapter beforehand and to produce two questions to share in the dynamics to be carried out in the following class. They were also asked to write down the answers and their location on the chapter page of the book.

The teacher, in the role of mediator, selected the first student to ask one of the questions and held a round, with the other students "answering" the question. At the end of each round, the student who had prepared the question revealed the answer and its location in the text of the chapter of the reference book. This is how each round went, following the order in which the students were positioned. The live circle dynamic took place on the third day of class.

4.2   Seminar

The seminar, also listed by Paiva *et al.* (2016) as an active teaching method, is characterized as an activity aimed at dividing specific content into several successive and ordered presentations.

Since Unit II of the course dealt with the content of the marketing mix applied to services, it was divided into several chapters, each of which dealt specifically with one element. The mix consisted of: main and complementary elements; place; price; promotion; processes; service environment; and people.

Due to the small number of students in the class, they were instructed to work in

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pairs. While the pairs were being formed, the teacher wrote on the board each component of the marketing mix with the corresponding dates and the order in which they would be presented, each on one day of the class.

Another guideline was content: in addition to the chapter in the book, the teacher selected an article on the same topic for the presentation. Each group's presentation was made with slides reproduced on an overhead projector and lasted a minimum of 15 minutes, with the freedom to ensure that the maximum time did not exceed 2 hours, considering the arguments, comments and participation of other classmates and the teacher.

4.3 Simulated Market

Still exploring the content of **Unit II,** and considering that there were not enough pairs for each of the marketing mix compounds, the dynamic activity called "Simulated Market" was used to work on the concept of price and the sub-concepts derived from it, such as "perceived value", "cost", "reference value", and others.

The Simulated Market is a playful educational activity and, according to Paiva *et al.* (2016), an active teaching method. It involves the simulation of a real market situation, in which each student plays a role in a playful way, and by performing what is assigned to them in the context, the situations begin to happen as in the real world.

Based on a previously prepared context, the teacher distributed a sheet of paper with different characteristics and actions for each trio. There was one trio representing customers, one trio representing consultants, and another trio representing sellers/service providers of a particular product/service. If there were more students, other roles could be assigned, such as technical experts, competing companies, etc.

In this teaching case, the teacher called each trio out of the classroom and away from the rest of the students and gave them the following instructions:

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4.3.1 The first "client" trio: were told about the object or service they were about to negotiate/contract, but could not reveal certain personal characteristics of the "client" character. On the other hand, this trio was not told the value, cost or any price reference for the object.

4.3.2 The second "seller" trio was told about the object, its market value and cost. However, he didn't know for sure characteristics such as preferences, purchasing power or whether the customer had researched the competitor's market to get a sense of the price reference. He was free to charge the price that guaranteed him the highest possible profit margin, as long as the client accepted and closed the deal.

4.3.3 The third trio, "Consultants": received information as a price reference for the object in the competing market. However, he did not know the characteristics of the buyers, nor could he predict the final price that the trio of sellers would offer for the object of the negotiation.

No other instructions were given before the dynamic and the content to be worked on had not yet been explored in the previous expository classes. Therefore, the dynamics took place naturally, and only the teacher who prepared the situation could predict the possible outcomes, from which the content of the lesson would be purposefully explored.

4.4 Project

Unit III worked on the content dealing with Service Marketing strategies. To implement these strategies in real-life situations, there are specific methods or tools. Thus, in addition to the content of the chapter in the reference book, the teacher presented in a four-hour lesson the concept and some articles containing the application of four marketing tools in various contexts, such as the NPC Diagram and Blue Print (Campos; Gosling; Lima, 2022); the Business Model Canvas or BM Canvas (Lima *et al.*, 2022b) and Kanban.

After a discussion with the students about the best tool to use in an Information Unit to define marketing strategies, they decided between the NPC Diagram, which would be able to map the paths of the user and the service provider in an Information Unit, and the BM Canvas, which would serve to model management plans for Information Units. It's worth noting that the students didn't know any of the tools presented beforehand and, according to the feedback, they liked them and realized how useful they were in the context of Information Units. Finally, they chose BM Canvas.

To carry out the project listed by Paiva *et al.* (2016) as an active teaching methodology, the first class worked in a single group of 6 members, and the second class in a single group of 8 members. The BM Canvas tool was used, created and methodologically developed by the Swiss Alexander Osterwalder in 2004 (Osterwalder, 2004) and improved in 2010 (Osterwalder; Pigneur, 2010).

Figure 4. Business Model Canvas
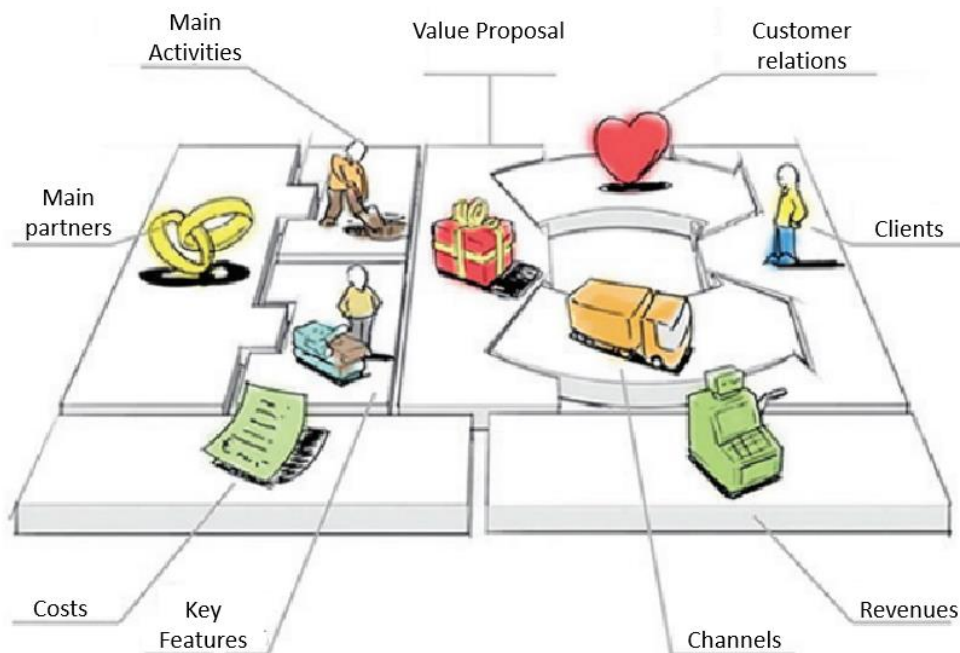
Source: Osterwalder; Pigneur (2010, p.9)

The BM Canvas is a chart made up of nine sub charts, which follow a logical flow in an orderly fashion, serving as a structuring tool for both modeling businesses and modeling objectives within a business:

> Following the suggestion of a logical sequence, the elements are arranged as follows: (I) customer segment, "who are our customers?"; (II) value proposition, "what benefits do we offer?" and "what needs do we meet?"; (III) channels, "how

do we serve customers? " and "which are the most cost-effective?"; (IV) customer relationships, "what kind of relationship?" and "what relationships do we build?"; (V) revenues, "where do payments come from?" and "how are they made?"; (VI) key resources, "what resources are needed?"; (VII) key activities, "what activities do we perform?"; (VIII) key partners, "who are our key partners?"; and (IX) costs, "what are the most representative costs?". (Lima *et al.*, 2022b, p. 75, based on Osterwalder; Pigneur, 2010).

To carry out the project, the teacher gave the students a week to decide in which type of Information Unit and in which context they would apply the proposed tool. Once the decision had been made, a lesson was set aside for a simulation of the project. In other words, the project was subdivided into an evaluative dynamic, as a form of training, and then developed by the students to be presented as the final work of the course.

5 RESULTS

In order to present the results while preserving the identity of the participating students, the following parameters were established: The first letter T plus the number 1 or 2 would identify each class. The letters A through Z would be assigned to identify each student. Thus, a specific student from the first semester of 2022 would be identified as T1A and, following the same logic, a specific student from the second semester of 2022 would be identified as T2N, for example. As a result, the dynamic of the round table, identified as a living circle, was engaged by the students who raised significant questions about the content being worked on and, in each round, the question raised was answered from different perspectives until the questioner reported the location and the answer found in the text of the book chapter.

In this first activity, 7 students participated in class T1 and 14 questions were recorded. In class T2 there were 8 participants and 16 questions were presented and discussed. All the main points of the text were explored in both classes and the final answers were validated by the other participants, the teacher and the reference itself. In other words, as Sobrinho Jr. and Moraes (2022) pointed out, it was possible to see that the students were no longer inactive and contributed to the joint construction of knowledge.

The **seminar** was presented by class T1 and was attended by 3 pairs. Student T1B presented the topic of the Praça alone since student T1A had left the course. Student T1D, a member of the last pair, also presented alone because during the seminar another student, T1C, also withdrew from the course, and there was no way to reassign the others since the previous presentations had already been made. Each presentation lasted between 25 and 30 minutes in class T1.

Class T2 was divided into 4 pairs and all participated. Each presentation took about 40 minutes. The pairs explored the activity well, related the book chapter to the thematic article, gave examples they had already noticed or experienced, used videos and quotes from other bibliographic sources, and showed mastery of the content, both in the presentation and in their answers to the questions of their colleagues who were watching the seminars.

Most slides were well produced, demonstrating the students' familiarity with the tool. The speeches were well articulated, which was to be expected given that the classes were already in their 7th semester.

There were some expressions of discomfort from the more introverted students, and the teacher acted as a mediator and guide, as indicated in the literature by Silva *et al.* (2019), Lotumolo Jr. and Mill (2020), and Ozório and Moreira (2023), giving tips on posture, font size, and color contrast for better viewing of the slides, as well as tips on content distribution so as not to overload the screens and allow for harmony, cohesion, and

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coherence of the elements.

The dynamic activity of the **simulated market** was the discipline's major milestone for integrating theory and practice, corroborating Lotumolo Jr and Mill (2020), awakening greater clarity and concreteness in the students, based on contextualization close to their experience.

concepts and abstractions of "price", "value" and "cost", which are little explored theoretically in the Library Science course.

Specifically in relation to the activity, student T2N said: "I liked it. At first, I didn't think it would take off because the activity seemed a bit loose, but then it did, and you can tie it in with the theory." The teacher then explained that "in the beginning it would be like this because the activity depends on interaction to happen and I prefer to act with minimal intervention to make it more realistic". Student T2N also said that all her classmates enjoyed it and that the activity was light, fun and with subtle interventions, obtaining the following response from the teacher "If I tie things up too much, give a lot of explanation beforehand, things get a bit forced, then it doesn't look like a real market situation. It stops being a simulation and becomes a theater with scripted speeches".

As for the **project** to apply BM Canvas as a tool for modeling an Information Unit, the objective was teamwork, a strong element pointed out by Silva *et al.* (2019) as characteristic of active methodologies.

Class T1 chose to develop a "service proposal for digitization and digital curation, implementing websites and applications, such as repositories, for libraries specializing in music", resulting in Chart 4, in which each element was explained and justified orally in a presentation that lasted approximately 1 hour.

Chart 4. BM Canvas as a project to create digitization and curation services for music libraries

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Main partners	Key Activities	Value Proposal	Customer Relations	Segmentos de Clientes
- Catalogs. - Publishers. - Consultants or consultancy firms. - References in the field (musicians, conductors, librarians, teachers). - Partner libraries. - Record labels. - Music and video streaming platforms.	- UX Design - Curation of digital works - Digitization and digital preservation **Main Features** - Library professionals. - Information Technology IT professionals (Analysts, Programmers). - Communications and Marketing professionals.	- Optimization - Easy access - Convenience - Document management - Interoperability - Maximizing the collection as a learning tool.	- Contact via chat, telephone and email - In person (when document management is required, preservation actions) **Distribution Channels** - Digitally - Social networks	- Bibliotecas especializadas em música que carecem de informatização. - Bibliotecas especializadas que atuam na área musical. - Bibliotecas especializadas em música localizadas em Belo Horizonte e região metropolitana. - Unidades de Informação com âmbito no digital.

	- Physical structure (office, machines).			
Cost Structure		Revenue Source		
- Fixed and variable - Maintenance in general. Travel. Personnel. - Infrastructure - Website hosting and maintenance - Contrato com editoras.		- Sale of library website and application - Digitization service, conversion to current formats - Digital curation of the collection (analysis, indexing and dissemination) - Rent scores that are not in the public domain. - Downloading audiovisual collections that are not in the public domain - Advice on training the author team - Support for site adjustments and improvements		

Source: Prepared by the students of class T1 (2022)

The T2 class chose to develop a website for the Belo Horizonte Fashion Museum, since it doesn't have its own website and has limited space on the Belo Horizonte City Hall website. The students also orally presented the work.

Chart 5. BM Canvas a project to create a website for the Belo Horizonte Fashion Museum
Belo Horizonte

	BMCanvas as a proposal to create a website for the Belo Horizonte Fashion Museum (MUMO-BH) The creation of a website for MUMO will broaden access to the collection of fashion in the capital of Minas Gerais in its many aspects.			
Main partners	Key Activities	Value Proposal	Internal and external relationships	Target audience
● Fashion Museum professionals ● Supporting and sponsoring companies ● Government companies ● Associations and foundations associations and foundations ● Philanthropic institutions ● Fashion schools	● Website development ● Collection management and information and knowledge security ● Marketing services ● Research support ● Communication with users, target audience and service providers ● Personalization of service	●Website with a functional structure ● Clarity ● Personalized service ● Practicality ● Accessibility ● Constant availability ● Access to culture related to fashion and its connections ● Reference as a fashion museum in Brazil ● Social participation ● Transparency ● Privacy and	● Website with a functional structure ● Clarity ● Personalized service ● Practicality ● Accessibility ● Constant availability ● Access to culture related to fashion and its connections ● Reference as a museum in Brazil ● Social participation ● Transparency ● Privacy and security policy	●People interested in broadening their knowledge of fashion (history, characters, clothing, etc.) ● Teachers, researchers, higher education students, secondary and elementary school students institutions ● Entrepreneurs and executive

	Recursos		Canais de Distribuição	
		security policy ● Preservation, research and dissemination of collections related to fashion in the capital of Minas Gerais ● Reference in memory, conservation and research of fashion, instrumentation and behavior	● Preservation, research and dissemination of collections related to fashion in the capital of Minas Gerais ● Reference in memory, conservation and research into fashion, instrumentation and behavior	investors in the field of Fashion and related fields ● Potential users
	● Web designers, developers and programmers ● Librarian / information and knowledge manager ● Fashion specialists ● Trained and qualified fashion professionals ● Software Equipment and technological resources for website development Inserting, updating and monitoring of the Museum's social networks		● Media in general ● Folders, pamphlets, flyers, postcards ● Active social networks ● Means for active prospecting with companies with potential users, by sending e-mails ● Passive prospecting, through referrals from loyal customers ● Identifying potential users ● Contacting schools and companies ● The museum's own website ● Newsletters	

Estrutura Custos	Fonte de Receitas
●Professionals to design and maintain the website ● Marketing services (traditional and digital) and communications ● Librarians, museologists and specialists in fashion and culture; ● Finance, logistics, infrastructure, information security and strategic planning managers	●Publicizing course offers, lectures, partnerships with companies and visits ● Friends of the Museum Association ● Parade events ● Virtual tour

● Technological infrastructure: equipment (computers, peripherals, servers); operating systems, networks; electrical installations	● Renting spaces for events related to the Museum's theme

On the last day of class, the teacher spoke to each student individually, asking for their point of view on the course. Here are some excerpts from the reports.

"I really enjoyed the course; I realized that Management and Marketing are very important and can be applied to information units. (T1B)

I really enjoyed the classes, they weren't tiring. (T1D)

I realized the importance of interdisciplinarity and how it contributes to meeting the needs of users of information units... and I really enjoyed the classes. (T1E)

The lessons were very light and practical, the time passed very quickly during the lessons. (T1F)

I really liked the way you conducted the course; the activities were great; the examples were realistic... congratulations. But if you're going to offer this course again, try changing the Lovelock, Wirtz and Hemzo (2011) book you used, it was out of touch with reality on some points. (T1G)."

Student T1G's main criticism of Lovelock, Wirtz and Hemzo's book (2011), which guides the subject, was in relation to the examples, which she considered "very utopian and North Americanized... our culture and context are a little different". I go on to say that "the reading is boring, quite repetitive on some topics, and finally, the book is out of date, as it doesn't reflect the context of our time". With regard to this last aspect, the student points to the transformations and technological advances of the last decade (2010-2020) which have altered reality too much.

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"I really liked the lessons, the examples were very realistic, there were things from our day-to-day lives being covered in both the activities and the examples. (T2H) Look... I really enjoyed the classes and talking to the staff they all said they liked them, there wasn't much to do at home and the activities were very practical. (T2I)

Wow, professor... now at the end of the course we're so overloaded with all the subjects, so with more practical classes, it makes us more involved, I've already studied Marketing in a postgraduate course, I liked the classes. (T2J)

I liked it. (T2L)

The way the assessment activities were conducted was very good, it was very interesting, the review was the only activity that wasn't dynamic. It was good because I and my colleagues were very overloaded at the end of the course. I could have put more effort into the review, it was the only activity that I wasn't 100% involved in. (T2M)

I thought the classes were very good, my colleagues were good humored. You took it lightly and with a lot of content. I liked the activities and the examples. During the lessons I kept imagining, thinking about entrepreneurs in big companies, how they exploit marketing to achieve their goals. You have no idea how much I was traveling, laughs (T2N)

> I liked the course, you were very empathetic and put yourself in the students' shoes, you gave us a lot of space to express ourselves. We need a bit of that, to break the rigidity. (T2O)
>
> At first I didn't think the subject was that interesting, I had a different view of what Marketing was and how it would be applied in the area of librarianship, I was surprised and I liked it. If you offer this course again, I'll recommend it to my colleagues who haven't taken it yet. (T2P)."

Class T2's criticism was also based on the book by Lovelock, Wirtz and Hemzo (2011). In general, some students pointed out that the book was out of date on specific issues related to the impact of new technologies on services marketing. However, on the other hand, they recognized that the book is rich in its treatment of marketing fundamentals, concepts and applications.

6 CONCLUSION

The aim of this article is to report on the teaching experience in two undergraduate Library Science classes, in the first and second semester of 2022, using active methodologies as a pedagogical strategy.

It is clear that the experience proved to be rich, provoked engagement and aroused the interest of the teacher and the students. Therefore, the teaching internship was a unique opportunity to learn and explore teaching strategies under coordination and supervision.

The experience allowed us to see that, although there are centuries-old and unquestionably successful pedagogical practices, active methodologies proved to be challenging and interesting, and can be referenced here as practices that, when well applied, reconsider the role of the subjects involved and the ways in which the object of study is explored, allowing for greater engagement and concretization of theoretical abstractions.

It is important to note that the students' reports are in line with the position of most of the authors considered in this article. It can be seen that the use of active methods as a strategy, which places the student as an active subject and the teacher as a guide and mediator in the process, shifts the student's traditional position of inertia to a more active and engaged behavior.

Another highlight was related to the sense of responsibility and group spirit that naturally developed in the students, since the increased space for dynamic activities that simulated the context of everyday reality, dialogue, the desire for the activities to succeed, the exchange of experiences and the interest in relationships were consequently awakened.

Regarding the interdisciplinarity and the context of marketing ideas as useful tools for library and information units, it is plausible to say, based on the course curriculum and the students' testimonies, that there is still a lot of progress to be made to make the contents more familiar to the undergraduate library students.

The main limitation of this experience is the low number of students enrolled in the course in both semesters. However, according to the results presented, the application of active methods in the planned activities demonstrates the success of the experiment, even with a smaller number of individuals.

As a suggestion for future research, the experience reported here could be replicated in larger classes or even in other courses in order to compare the results obtained. Another suggestion is that those involved in this research could continue with the pedagogical strategy adopted and produce new reports, this time of teaching cases, in which each of the active learning methods used and their respective results are examined in detail.

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REFERÊNCIAS

BARBOSA, R. R. *et. al*. Novo nome e novo paradigma: da biblioteconomia à ciência da informação. **Perspectivas em Ciência da Informação**, Belo Horizonte, v. 5, p. 81-91, 2000. Disponível em: https://encurtador.com.br/ix238. Acesso em: 15 jan 2023.

CAMPOS, A. F. D.; GOSLING, M. S.; GOSLING, I. T. S. Marketing de serviços e suas contribuições em unidades de informação: uma revisão de literatura. **Marketing & Tourism Review**, Belo Horizonte, v. 4, n.1, 2022. Disponível em: https://revistas.face.ufmg.br/index.php/mtr/article/view/7375 Acesso em: 15 jan 2023.

CAMPOS, A. F. D.; GOSLING, M. S.; LIMA, L. C. Processo de serviço de entregas em hortifrutigranjeiros: análise Process-Chain Network (PCN). **Revista Interdisciplinar Científica Aplicada**, Blumenau, v. 16, n. 2, p. 98-114, 2022. Disponível em: https://portaldeperiodicos.animaeducacao.com.br/index.php/rica/article/view/18076 Acesso em: 15 jan 2023.

ESPÍNDOLA, M. A.; PEREIRA, F. C. M. Metodologias Ativas de Aprendizagem aplicadas ao ensino técnico: modelo adotado pelo SENAC em Divinópolis-MG. **Educação Unisinos**, São Leopoldo, v. 25, p. 1-18, 2021. Disponível em: https://revistas.unisinos.br/index.php/educacao/article/view/19719 Acesso em: 06 fev 2023.

ESPÍNDOLA, M. A.; PEREIRA, F. C. M. Uso da Gamificação no Ensino Técnico: estudo sobre a percepção de docentes de uma escola de ensino técnico-profissional de Divinópolis-MG. **Educação, Ciência e Cultura**, Canoas, v. 27, n. 1, 2022. Disponível em: https://encurtador.com.br/rILP6. Acesso em: 06 fev 2023.

FERREIRA, G. M. S.; OZÓRIO, G. G.; MOREIRA, L. C. P. Metodologias ativas nas concepções de docentes do ensino superior "um nome novo que não diz nada"?. **Revista Internacional de Educação Superior**, Campinas, SP, v.9, p. 1-24, 2023. Disponível em: DOI: https://doi.org/10.20396/riesup.v9i00.8665518. Acesso em: 15 jan 2023.

LIMA, L. C.; *et. al*. A Ciência da Informação e a Relação com a Ciência da Administração à Luz de uma Possível Interdisciplinaridade. **Brazilian Journal of Information Science**: research trends, Marília, v. 16, p. 1-22, 2022a. Disponível em: https://revistas.marilia.unesp.br/index.php/bjis/article/view/13017 Acesso em: 15 jan 2023.

LIMA, L. C.; *et. al*. Ferramentas de Administração: aplicação do Business Model Canvas no serviço de intervenção precoce do Transtorno do Espectro Autista - TEA. **Revista PRETEXTO**, Belo Horizonte, v. 23, n. 4, p. 67-84, 2022b. Disponível em: http://revista.fumec.br/index.php/pretexto/article/view/9206 Acesso em: 15 jan 2023.

LOTUMOLO JUNIOR, J.; MILL, D. Reflexões sobre as metodologias ativas como abordagem pedagógica no contexto brasileiro. **Conjectura** – Filosofia e Educação, Caxias do

Sul, v. 25, n. 1, p. 1-29, 2020. Disponível em:
https://dialnet.unirioja.es/servlet/articulo?codigo=8126603 Acesso em: 15 jan 2023.

MACHADO, F. B. *et. al*. Metodologias ativas de aprendizagem: avanços e desafios no ensino superior. **REDES**, São Bento, PB, v. 2, n. 1, p. 60-70, 2022. Disponível em:
https://facsu.edu.br/revista/wp-content/uploads/2022/04/7.pdf   Acesso em: 15 jan 2023.

NORONHA, G. F. ALMEIDA; M. B. Estágio docente durante a pandemia: uma experiência docente em sistemas de recuperação da informação. **Informação & Informação**, Londrina, v. 27, n.2, p. 544–567, 2022. Disponível em:
https://ojs.uel.br/revistas/uel/index.php/informacao/article/view/45035 Acesso em: 15 jan 2023.

NOVAES, M. A. B. *et. al*. Metodologias ativas no processo de ensino e de aprendizagem: Alternativas didáticas emergentes. **Research, Society and Development**, Vargem Grande Paulista, v. 10, n. 4, p. 1-10, 2021. Disponível em:
https://rsdjournal.org/index.php/rsd/article/view/14091 Acesso em: 15 jan 2023.

OSTERWALDER, A. The business model ontology: a proposition in a design science approach. 2004. Tese (doutorado) - Université de Lausanne, Faculté des hautes études commerciales, Lausanne, CH. Disponível em: https://bit.ly/3jIcY8m Acesso em: 15 jan 2023.

OSTERWALDER, A.; PIGNEUR, Y. Business model generation: a handbook for visionaries, game changers, and challengers. John Wiley & Sons, 2010.

PAIVA, M. R. F.; *et al.* Metodologias ativas de ensino-aprendizagem: revisão integrativa. **SANARE** - Revista de Políticas Públicas, Sobral, v. 15, n. 2, p. 145-153, 2016. Disponível em: https://sanare.emnuvens.com.br/sanare/article/view/1049 Acesso em: 15 jan 2023.

PEREIRA, Z. T. G.; SILVA; D. Q. Metodologia Ativa: Sala de Aula Invertida e suas Práticas na Educação Básica. **Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación,** Canoas, v. 16, n. 4, p. 63-78, 2018. Disponível em:
https://dialnet.unirioja.es/servlet/articulo?codigo=6665947 Acesso em: 15 jan 2023.

SANTOS, P. K.; *et. al*. Metodologias ativas para aprendizagem na educação superior: reflexões teóricas para a permanência. *In*: CONFERÊNCIA LATINOAMERICANA SOBRE EL ABANDONO EM LA EDUCACIÓN SUPERIOR, 7., 2017, Cordoba. Anais Eletrônicos [...]. Cordoba, 2017, p. 1-7. Disponível em: https://encurtador.com.br/qzCD0. Acesso em: 15 jan 2023.

SILVA, F. G. A. *et. al.* O futuro do ensino: metodologias ativas na prática docente. *In*: CONGRESSO NACIONAL DE EDUCAÇÃO, 6., 2019, Fortaleza: Anais Eletrônicos [...]. Fortaleza, 2019, p. 1-12. Disponível em: https://encurtador.com.br/ruzDM. Acesso em: 15 jan 2023.

SOBRINHO JR, J. F.; MORAES, C. C. P. Parâmetros conceituais à estratégia pedagógica no contexto de metodologia ativa. **Cadernos Cajuína**, Teresina, v. 7, n. 1, p. 1-22, 2022. Disponível em: https://cadernoscajuina.pro.br/revistas/index.php/cadcajuina/article/view/565 Acesso em: 15 jan 2023.

SOUZA, A. L.; MURTA, C. R.; LEITE, L. G. S. Tecnologia ou metodologia: aplicativos móveis na sala de aula. *In*: ENCONTRO VIRTUAL DE DOCUMENTAÇÃO EM SOFTWARE LIVRE, 1., 2016, Belo Horizonte: Anais Eletrônicos [...]. UFMG, 2016, p. 1-8. Disponível em: https://encurtador.com.br/nvDHS. Acesso em: 15 jan 2023.

STROHER, J. N. *et. al*. Estratégias pedagógicas inovadoras compreendidas como metodologias ativas. **Revista Thema**, Pelotas, v. 15, n. 2, p. 734-747, 2018, Disponível em: https://periodicos.ifsul.edu.br/index.php/thema/article/view/891 Acesso em: 15 jan 2023.

TORI, R. Tecnologia e metodologia para uma educação sem distância. **EmRede** - Revista de Educação a Distância, Brasília, DF, v. 2, n. 2, p. 44-55, 2016. Acesso em: 15 jan 2023. https://www.aunirede.org.br/revista/index.php/emrede/article/view/64 Acesso em: 15 jan 2023.