

## Active Methodologies In Higher Education

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### Abstract

*Active methodologies are the educational conception that enables the higher education student to be the protagonist of his learning. The present study aims to analyze the active methodologies that can be used in the context of higher education, aiming to facilitate and qualify the learning of students. In this sense, some of these methodologies considered innovative today are presented, as well as the flipped classroom, problem-based learning and project-based learning, through a qualitative-bibliographic-research. The work had as theoretical foundation some current and relevant books and articles, which were found in the "Google Scholar" database. The selected materials were analyzed and interpreted for the preparation of the article. With this study, it was found that active methodologies allow the teaching and learning process to be developed through significant and useful pedagogical practices for the students' lives. Thus, in this perspective, such a process can favor critical and reflective thinking, autonomy, problem-solving skills, group work and the active participation of students during classes. Therefore, it is understood that the flipped classroom, problem-based learning and project-based learning are modalities of active methodologies that can be used in Higher Education. These can promote participating, collaborative subjects and producers of their knowledge, aiming to facilitate and qualify students' learning.*

**Key Word:** Active Methodologies; Higher Education; Innovation.

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### I. Introduction

Nowadays, it is considered important to reflect and discuss the methodology to be adopted for the development of teaching and learning in the context of Higher Education. The methodologies adopted for the development of teaching practice need to meet the intended objectives.

This means that, if educators want students to be active participants, it is necessary to adopt methodologies and carry out activities that provide students with the opportunity to participate in them in an engaging way. If what is desirable is related to students becoming creative, this requires that they have opportunities, through tasks, that stimulate their initiative in order to awaken their creativity (MORAN, 2015). In summary, the methodologies adopted can lead the subject to achieve the proposed objectives, as well as to advance/deepen their knowledge.

In this sense, it is up to educational institutions, when adopting methodologies, to consider the changes that have occurred in society. For this reason, it is essential to think about using pedagogical models capable of meeting the current social and professional demands.

According to Moran (2015, p. 18) "the more we learn close to life, the better. Active methodologies are starting points to move towards more advanced processes of reflection, cognitive integration, generalization, and re-elaboration of new practices." To this end, it is understood that pedagogical action must be linked to the joint

construction of knowledge. In other words, it is essential that teachers and students build knowledge, establishing interactions, dialogues and sharing of ideas, learning collaboratively.

Thus, the objective of this study is to analyze the active methodologies that can be used in the context of higher education, aiming to facilitate and qualify the learning of each student, thus favoring the construction of significant knowledge for their development, as a citizen and professional in contemporaneity.

## **II. Material And Methods**

The present study was characterized by a qualitative research, of a bibliographic nature, with the objective of analyzing the active methodologies that can be used in the context of higher education, aiming to facilitate and qualify the learning of students. Thus, this work was theoretically grounded by scholars of the aforementioned theme. In other words, the study had some books and articles as its theoretical foundation. The search for these resources took place through the "Google Scholar" database.

According to Michel (2015), in qualitative research there is a dynamic, special, contextual and temporal relationship between researcher and object of study; It requires that social phenomena be interpreted in the light of context, time, facts and analysis of interferences. The real-life environment corresponds to the source for obtaining the data, and the researcher's ability to interpret reality, with impartiality and logic, based on existing theory, is essential to give meaning to the answers. In qualitative research, the researcher proposes to collect and analyze descriptive data, which are obtained directly from the situation studied. In this type of research, reality is verified in its natural context, seeking to interpret or give meaning to the phenomena. In short, in qualitative research, the researcher has the purpose of understanding and interpreting a certain object of study.

Gil (2010) addresses that bibliographic research is developed through stages, involving the choice of the theme, the preliminary bibliographic survey, the formulation of the problem, the elaboration of the provisional plan of the subject, the search for sources, the reading of the material, the file, the logical organization of the subject and the writing of the text. Its sequence depends on factors, as well as the nature of the problem, the level of knowledge that the researcher has on the subject, the degree of precision to give to the research, among others that are intended.

Thus, some materials, considered relevant and current, were gathered and selected as research sources. Soon after, they were analyzed and interpreted for the elaboration of the article. It is perceived that the methodological procedure adopted has its importance in the production of scientific knowledge, as it is capable of generating interpretations, understandings and contributing to the production of other research.

## **III. Result And Discussion**

### **Higher Education**

In the past, Higher Education in Brazil was considered a privilege for a few people, due to the fact that many came from dominant families in the country's political and economic sphere. The students, who were part of the privileged group, were more concerned with their personal training than with professional training. However, it is currently possible to see that Higher Education students come from various social classes, although it is evident that the number of vacancies is still not enough to serve all people who wish to enter this level of education.

According to Article 43 of the Law of Guidelines and Bases of National Education (LDB), Law No. 9,394/1996, Higher Education aims to:

I - to stimulate cultural creation and the development of the scientific spirit and reflective thinking;

II - to train graduates in different areas of knowledge, able to enter professional sectors and to participate in the development of Brazilian society, and to collaborate in their continuous training.

III - To encourage the work of research and scientific investigation, aiming at the development of science and technology and the creation and dissemination of culture, and, in this way, to develop the understanding of man and the environment in which he lives.

IV - to promote the dissemination of cultural, scientific and technical knowledge that constitute the heritage of humanity and to communicate knowledge through teaching, publications or other forms of communication;

V - to arouse the permanent desire for cultural and professional improvement and to enable the corresponding implementation, integrating the knowledge that is being acquired in an intellectual structure that systematizes the knowledge of each generation.

VI - To stimulate knowledge of the problems of the present world, the national and regional ones, to provide specialized services to the community and to establish a relationship of reciprocity with it.

VII - to promote extension, open to the participation of the population, aiming at the dissemination of the achievements and benefits resulting from cultural creation and scientific and technological research generated in the institution.

VIII – to act in favor of the universalization and improvement of basic education, through the training and qualification of professionals, the carrying out of pedagogical research and the development of extension activities that bring the two school levels closer together.

Thus, it is understood that nowadays Higher Education in Brazil must consider that issues related to science and technology lead to constant changes in contemporary society in various sectors, signaling the importance of rethinking, innovating and rebuilding the teaching and learning process, seeking to articulate social and professional practices, qualify and contextualize the educational process.

According to Silva (2011), the institution of Higher Education has the duty to offer students the necessary conditions to discover new knowledge, to become critical and reflective, to know and decide what is necessary for their lives as citizens of the world, thus contributing to the context in which they live.

In view of this, it is necessary for university professors to rethink issues related to teaching methodologies, the role of the professor in relation to the student, the institution and society. Regarding teaching methodologies, Gil (2011, p. 20) addresses that "modern Pedagogy has numerous teaching methods. It is convenient for the teacher to know the advantages and limitations of each method to use them at the most appropriate times and in the most appropriate ways".

Therefore, Higher Education must be aware that the courses offered are not developed through simplified and/or decontextualized information, few stimulating activities, focusing almost exclusively on mandatory content rather than on active methodologies.

### **Active Methodologies**

According to Sobral and Campos (2012), active methodologies refer to an educational conception that aims to stimulate critical-reflective teaching-learning processes, so that the student participates and is committed to the development of his learning. These methodologies propose the elaboration of teaching situations that provide a critical approximation of the student with reality; reflection on problems, generating curiosities and challenges; the provision of resources to investigate problems and solutions; the identification and organisation of the hypothetical solutions best suited to the situation and the implementation of such solutions.

In this sense, it is understood that active methodologies are the educational conception that enables higher education students to be the protagonist of their learning, the construction of critical and reflective thinking, which can favor their active participation in the world around them, interacting with the reality presented.

Thus, it becomes essential to bring pedagogical actions closer to life for the effectiveness of learning. "Active methodologies are starting points to move towards more advanced processes of reflection, cognitive integration, generalization, and re-elaboration of new practices" (MORAN, 2015, p. 18). To this end, it is important to emphasize that there are factors that can contribute to the learning process, as well as the creation of challenges, activities, games that really bring the necessary skills for each stage, that request pertinent information, that offer stimulating rewards, that combine personal paths with meaningful participation in groups, that are inserted in adaptive platforms, that recognize each student and at the same time learn from interaction, all this using the appropriate technologies (MORAN, 2015, p. 18).

From this perspective, it is understood that the student who has the possibility of learning actively does not agree to become just a receiver of information provided by the teacher, as this type of learning requires active engagement during the process of knowledge construction. Thus, the student should focus on his goals, seek to expand his knowledge with autonomy, allowing him to achieve his goal.

It is relevant to mention that there are modalities of active methodologies, among which the following stand out: the flipped classroom, problem-based learning and project-based learning. According to Valente (2014), the approach related to the flipped classroom says that the content and instructions regarding a certain curricular subject are not transmitted by the teacher in the classroom. Then, the student must study the material to later attend the classroom, so that this space will be destined to learn actively, through activities that involve problem solving or projects, discussions, laboratories, among others, with the support of the teacher and the collaboration of colleagues.

The educator, when working through the flipped classroom, will be able to coordinate discussions in the educational environment where students create, collaborate and put into practice their learning with lectures, videos and other resources that they had the opportunity to view outside the class. In the academic context, the teacher can organize students into groups to solve a problem and assist in clarifying the content (EDUCAUSE, 2012).

Silva (2015) reports that this modality provides students' self-knowledge and helps them to develop skills (personal, organizational, professional, relational, cognitive and social), the ability to solve problems and argue, creativity, collaborative work, knowledge sharing, knowledge construction, cognitive conflict resolution, issues that are important for citizens of the twenty-first century. In such an approach, the learner is the center of the teaching and learning process. This, in turn, must have commitment and responsibility for their learning. The teacher has the role of facilitating the construction of knowledge of students. For this to happen, the student must

research at home, so that the time in the classroom can be used with interactive activities, projects, thematic discussions, practical exercises and investigative work.

Problem-based learning as an active method for the development of the teaching and learning process, aims to solve some problems evidenced in the real world, as well as to allow the development of reflective thinking; to encourage research work and scientific investigation; to bring the individual closer to the environment in which he is inserted; arouse the permanent desire for improvement through the development of self-assessment skills, self-regulated work and independent study; to stimulate the exchange of knowledge and experiences between people of different generations, the knowledge of the problems existing in the world and the student to establish a relationship of reciprocity with society through professional services (MARTINS; ESPEJO, 2017).

The authors cited above also point out that in problem-based learning, the center of the educational process is the student. This, in turn, is a teaching and learning methodology in which a question is used to start new content to be learned, direct, motivate and focus learning. The students need to solve it, and for there to be acquisition, communication and integration of information, it is necessary to work in groups. For this reason, complex and real problems are addressed, with the purpose of motivating students to identify and research the concepts and principles indispensable to work with such issues. For the problem to be actually solved, students can use their previous knowledge, their hunches and their ideas for a possible solution. During the process, there is the possibility of developing an inventory of what you need to know to find a solution. From this, students question the teacher and/or colleagues, seek information by conducting research in the library, on the Internet or even interviewing experts.

According to Bender (2014), project-based learning is defined by the use of authentic and realistic projects, which are linked to an issue, task or problem that has the purpose of motivating and involving students during the educational process, aiming to teach them academic content in the context of cooperative work for problem solving. Masson et al. (2012) highlight that the main characteristics of this methodology refer to the student being considered the center of the teaching and learning process; to develop in tutorial groups; the educational process is carried out in an active, cooperative, integrated, interdisciplinary way, and is oriented towards the student's learning.

Projects should be authentic examples and revolve around the type of problem that students face in the world in which they live, to be applied to a real situation, as well as an existing organization, a professional or a group of professionals, to which the students have access and/or interest; consider the contents presented of a given discipline, so as not to be restricted to them. To ensure that the projects are developed in line with the contents of the disciplines, it is necessary for students to deliver a content report presenting a discussion on how the concepts presented at the end of each meeting will be applied in the project; be delimited in their objectives and extension, so that there is the possibility of carrying them out in the period intended for the course. (NETO; SOSTER, 2017).

For Masson et al. (2012), learning through projects can favor the relationship of the various contents, making it easier for students to build their knowledge with the integration of disciplinary contents, in an interdisciplinary philosophy, thus seeking meaningful learning. That is, starting from the students' knowledge for the construction and expansion of their knowledge, making them aware during their learning, in the sense of learning to learn, developing skills related to choice, decision, planning and assuming responsibilities.

In summary, active methodologies are considered an alternative for innovation in Higher Education. Souza et al. (2014, p. 285) point out that "innovation is understood as the rupture with the dominant paradigm, the advancement in different areas, alternative forms of work that break with the traditional structure". To innovate at this level of education, it is essential to reflect and discuss new ways of developing the educational process, aiming at its qualification.

With this study, it was found that active methodologies allow the teaching and learning process to be developed through significant and useful pedagogical practices for the students' lives. Thus, in this perspective, such a process can favor critical and reflective thinking, autonomy, problem-solving skills, group work and the active participation of students during classes. Therefore, it is understood that the flipped classroom, problem-based learning and project-based learning are modalities of active methodologies that can be used in Higher Education. These are capable of promoting participating, collaborative subjects and producers of their knowledge, aiming to facilitate and qualify students' learning.

#### **IV. Conclusion**

In Higher Education, it becomes relevant that the pedagogical work is developed through current pedagogical trends, taking into account the experiences of academics. For the generation of students of the twenty-first century, the pedagogical space consisting of rows of desks and a blackboard, where they must pay attention to the contents taught by the teachers, without interacting, having to memorize them for tests, is not at all attractive and stimulating for the development of their learning. It should be noted that, increasingly, professions are demanding that work be carried out as a team, and it is essential in their development to find solutions and know

how to deal with unusual situations. For this reason, the teaching and learning process in Higher Education can be developed through active methodologies, as well as the flipped classroom, problem-based learning and project-based learning. They can favor students with skills and competencies that are essential to the exercise of professions, thus meeting the interests and needs of students today. To this end, it is understood that the teaching work carried out by such methodologies must place the student as the protagonist, through engaging, challenging activities that facilitate and qualify the students' learning. Thus, the role of the teacher should be linked to guiding, challenging and facilitating the educational process. The student's role should be that of an active participant, responsible for their development and learning.

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