

## Interdisciplinarity to Improve the Pedagogical Process from the Academic, Labor and Research Fields

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### Abstract

This essay aimed to analyze interdisciplinarity in order to improve the pedagogical process from the academic, labor and research spheres. Currently, it is recognized the importance of breaking down the barriers between different disciplines to enhance the comprehensive training of students of Physical Culture and promote a more complete and comprehensive view of knowledge. Interdisciplinarity consists of collaboration and dialogue between different disciplines. This implies fostering the relationship and exchange of knowledge between different areas of knowledge. In the academic field, it allows students to develop transversal skills and competencies that are fundamental for today's working world. In the work environment, it is a value appreciated by companies to adapt to changes and face complex challenges. In the research field, it plays a relevant role as a complete and rigorous tool for discoveries and the search for innovative solutions.

**Keywords:** interdisciplinarity; academic; work; research; pedagogical process.

### 1. Introduction

In the world of higher education, interdisciplinarity has become an increasingly necessary practice. For Garcia (2011) [1], interdisciplinarity occurs when several teachers from different disciplines join together to jointly solve a given problem with the help of their respective knowledge.

In this sense, the interdisciplinarity model has allowed us to visualize the understanding of the Integral training process, its transversal and horizontal implication, allows us interrelationships between the different contents of the multidisciplinary preparation that continues of the new generations [2].

Interdisciplinarity is understood as the teaching-learning process of joint work carried out between two or more disciplines that revolve around the same topic, which allows students to obtain knowledge and generate new answers to what they have learned, with the common goal of analyzing, assessing, and addressing a particular problem from different points of view [3]. Therefore, interdisciplinarity is an excellent strategy to develop critical thinking skills and problem solving, from the different documents that support the teaching-learning process (curriculum, study program and descriptive letters).

At present, one of the greatest challenges of higher education is to improve the training processes in the students of the bachelor's degree in physical Culture. From the previous approach, the following question was formulated: Why is interdisciplinarity necessary to improve in the academic, labor and research fields from the pedagogical process in Physical Culture students? To answer this question, it is necessary to emphasize interdisciplinarity as a relevant strategy to improve the teaching-learning process in higher education, which refers to combining different fields of study to explore specific topics or problems among disciplines [4].

Numerous studies have demonstrated the benefits interdisciplinarity [5-9], as a response to the needs of higher education, in the academic, labor and research fields, interdisciplinarity allows a more complete and meaningful learning for students. In order to approach a subject from different perspectives, a broader and deeper vision of the subject is achieved.

The need to implement strategies that promote the integral formation of students is increasingly evident. In this sense,

interdisciplinarity stands as a pedagogical process to provide a global and transversal vision of knowledge [10].

For this reason, the objective of this essay was to analyze interdisciplinarity in order to improve the pedagogical process from the academic, labor and research fields in Physical Culture students.

## 2. Development

### 2.1. Academic Scope

In the academic field, interdisciplinarity allows breaking with the traditional limits of the subjects, its purpose is to promote a global vision of knowledge at international, regional and local levels of collaborative culture, promoting a climate of teamwork, through a more meaningful learning for the development of habits, skills, attitudes and cognitive and emotional skills, which allow students to understand broader and integrated contexts, which translates into a more complete and deeper vision of the problems and situations to be solved [11].

According to what has been expressed, it is important to highlight that the academic component comes from social needs, which are expressed by history in the form of contents, objectives, methods, strategies, and form of evaluation.

According to Martinez (2017) [12], he stated that:

Teaching to work in school as a sphere of professional performance, is to teach the student to solve professional problems, which is done from the teaching-learning process of each year of the career and is guaranteed in the process of work-research practice (p.3).

In academia, interdisciplinarity implies overcoming traditional subject boundaries and promoting the connection of content from different disciplines.

This allows students to obtain a broader and more complete vision of complex concepts. In this way, critical analysis skills, problem solving, and creative thinking are fostered [13].

Interdisciplinarity is presented as a comprehensive approach to academic, work and research within the pedagogical process. This perspective seeks the integration and collaboration of different disciplines, with the objective of developing a deep and global knowledge on a given topic [14].

The application of interdisciplinarity in the field of higher education allows us to design projects and teaching programs that encourage collaborative work among students for the development of skills, abilities, and attitudes for critical, creative, and innovative thinking.

### 2.2. Labor Scope

The performance of the professional has a pedagogical and psychological sense, in which competences are developed, related to "knowing, knowing how to do, knowing how to be and knowing how to live together, fundamental pillars of higher education, in any educational field of the Physical Culture professional, from the analysis of professional practice for a performance in correspondence with the demands of social life" [15].

On the other hand, students need to develop skills and competencies that allow them to enter and adapt to the working world successfully to face complex situations with innovative ideas and creative solutions, favoring future Physical Culture professionals.

Interdisciplinarity has a significant impact on educational institutions or companies since they address complex problems from multiple disciplines and find innovative solutions. Also develop, the ability to work in teams and combine specialized knowledge, according to the skills for the current labor market [16-18].

These authors agree when they define the term training as interdisciplinarity has become a fundamental strategy to improve the academic, labor and research fields from the pedagogical process.

Interdisciplinarity allows to deepen the development of competencies as skills that the individual possesses to perform labor or productive actions, from the set of knowledge, skills, attitudes, and values necessary to carry out their work with quality [19]. Interdisciplinarity highlights the links between the various curricular areas, reflecting an accurate scientific conception of the world, which shows how the phenomena are not presented separately, but are interrelated, from the academic, labor and research areas, related to the pedagogical process.

This consists of a common work bearing in mind the interaction of scientific disciplines, their concepts, guidelines, methodology, procedures, data, and the organization of teaching and also constitutes a didactic condition and a requirement for the fulfillment of the scientific character of teaching [19-20].

### 2.3. Research Scope

Over the last two decades, the sciences have increasingly become more interdisciplinary, favoring the solution of complex problems in a more comprehensive manner.

According to Morin (1997) [21], "discipline is a category of organization within scientific knowledge; it institutes the division and specialization of labor and responds to the diversity of the domains covered by the sciences." (p.1). Many of the problems and challenges we face today require a multi- and trans-disciplinary approach in order to be understood and addressed effectively. Collaboration among researchers from different disciplines is essential to generate new knowledge and solutions that transcend traditional barriers.

It is necessary that teachers employ strategies and methods that enable students to understand and assimilate knowledge from intellectual and practical activities, which provide them with the opportunity to respond to various circumstances that justify logically, in a coherent way of overcoming, as well as to promote a cognitive interest in an active way knowledge [22].

In order to provide a scientific response to the professional problems encountered by students in training, it is unavoidable to characterize the conception from a professional-research approach, which must be structured and oriented, based on the demands posed by the pedagogical, methodological, and scientific work according to the reality of the context [23].

In this same vein, the problem of research in the faculty is to improve the process of interaction and cooperation between the areas of development of new knowledge and for the development and management of academic and research processes [24-26].

In an increasingly globalized, technological, and complex world, it is necessary to promote a multidisciplinary approach that integrates different areas of knowledge and encourages collaborative work [27].

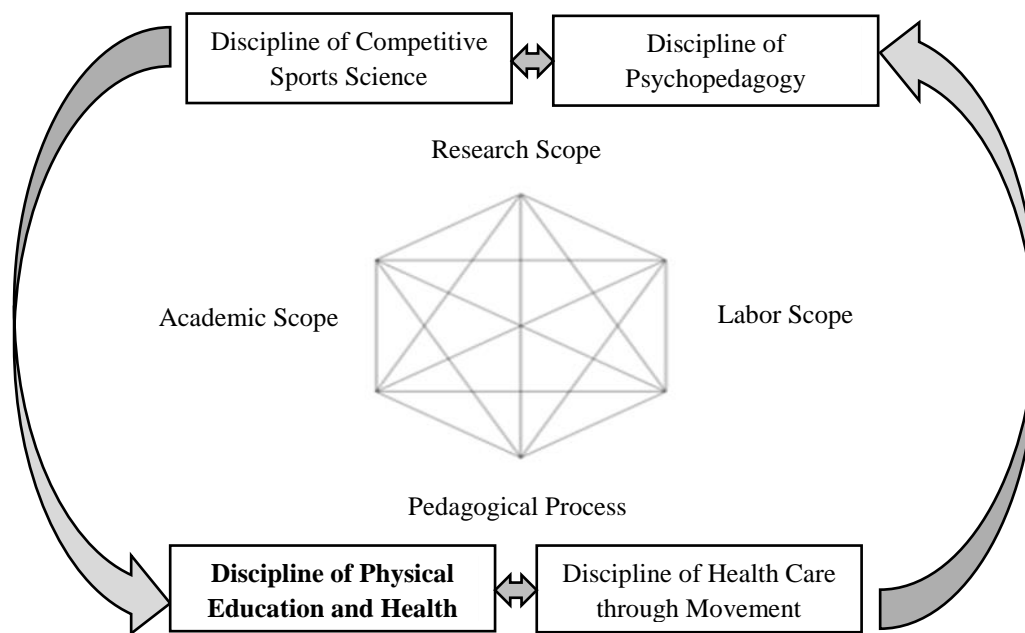
Currently, ICTs are an indispensable strategy for educational centers, since they allow an interaction that goes from a passive attitude to a permanent activity, to a permanent search and reformulation of contents by students and teachers [28].

For Gomez and Ruiz (2016) [29], "the increasing importance of having comprehensive learning for teamwork implies the development of interdisciplinary training" (p.68).

Interdisciplinarity has become a key tool to improve the pedagogical process in various fields, both academic, labor and research. This approach seeks to integrate different disciplines in order to solve complex problems and promote a comprehensive approach to education.

In an increasingly globalized and changing world, professionals must have multidisciplinary skills to meet the challenges of their respective work areas. The ability to work in teams with people from diverse backgrounds and knowledge can contribute to the generation of innovative and effective solutions [30]. Interdisciplinarity is an increasingly relevant approach in academia, work, and research. This strategy consists of collaboration between different disciplines to address complex problems and develop innovative solutions. The main objective of interdisciplinarity is to integrate different knowledge and approaches to improve the pedagogical process.

**Figure 1:** Interdisciplinary relationship to improve the academic, labor and research fields from the pedagogical process from the Academies.



*Note:* Own elaboration

Likewise, interdisciplinarity allows us to establish solid links between theory and work practice. By integrating theoretical knowledge with practical experience, students acquire skills, attitudes and competencies that will be useful in their future professional performance. In this way, the transition from academia to the workplace is facilitated, as they mutually nourish and enrich each other's contributions [31]. From the academies, which make up the Department of Physical Culture Sciences, a holistic approach is promoted in the training of our students to enrich the understanding of the different topics, objectives, contents, methods, didactic strategies, means and integrative evaluation as a key tool to improve the pedagogical process, for critical and reflective thinking of students.

Discipline is conceived as the set of knowledge or knowledge of a theoretical nature, based on research procedures and accumulated practice, institutional and socio-historical character of a community, communication and information

networks, culture, and tradition, based on research methods of new knowledge [32-33].

This enriches the quality of the results and favors the advancement and development of new theories. In addition, it promotes cooperation among researchers from different areas of knowledge, providing an environment for the exchange of knowledge and experiences [34].

#### 2.4. Pedagogical Process

Santos et al. (2017b) [30], to achieve this goal, teachers must have the opportunity to learn about interdisciplinarity throughout their formative process, which should encourage them to assume an interdisciplinary position that modifies their pedagogical practices and improves the quality of their work.

To improve the pedagogical process, interdisciplinarity as a strategy in the field of higher education in the Physical Culture

degree, various subjects or areas of knowledge are integrated to provide students with a holistic view, including the study of biological sciences such as human anatomy and kinesiology, physiology, biochemistry, nutrition, biomechanics and their relationship with pedagogy, psychology, and sports subjects.

The pedagogical process can lead to the connection between different knowledge and to a more meaningful learning. However, the problems of today's world require comprehensive solutions, which cannot be addressed from an interdisciplinary perspective [35].

For Perera (2009) [36], "to practice interdisciplinary, to be truly interdisciplinary, means, in essence, to possess a way of thinking, acting and feeling, based on a new conception of reality, of human beings and their complexities and, of course, of education" (p.44).

### 3. Conclusion

It can be concluded that interdisciplinary to improve in the academic, labor, and research fields from the pedagogical process is fundamental for the integral formation of Physical Culture undergraduates. Through the pedagogical process, which seeks to provide a solid base of knowledge in the different disciplines that are studied, these areas must be rigorous and constantly updated, in correspondence with the professional work of future professionals to meet the challenges and enables an integration of knowledge of the processes, to provide timely and effective solutions to meet the great challenges facing humanity in the world of work in the XXI century.

Among the main limitations presented in interdisciplinarity are related to the intellectual egocentrism imposed by some disciplines in order to improve the pedagogical process, from the academic, labor and research fields. In addition to the institutional contexts and the absence of a systematized conception of the different knowledge and problems. Interdisciplinarity allows to enhance the different views for students, according to the objectives, methods, means and processes for the consolidation of a more meaningful learning process of future professionals.

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### Conflict of Interest

There is no conflict of interest between the authors.

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