

Enhance Didactics Through The Use Of Science And Innovation Within The Teaching-Learning Process Of Physical Education

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Abstract: The primary aim of the article is to examine the pedagogical intervention aimed at enhancing didactics through the utilization of science and innovation within the teaching-learning process of Sport Sciences and Physical Activity. The qualitative research conducted is descriptive in nature and is based on a non-experimental design. The intentional selection of participating subjects was confirmed by 31 students pursuing a Bachelor's Degree in Sport Science and Sports in Italy, with 16 of them being female (51.62%) and the remaining 15 students being male (48.38%). Among the eight teachers involved, 62.5% are female, while 37.5% are male. The methods utilized included observation, questionnaires, document review, application of inclusion criteria, and statistical analysis to assess the reliability and validity levels of the data, resulting in a confidence interval of 90% and a significance value of $p=0.1$. The statistical analysis was carried out using the SPSS program version 23 to delve deeper into the significance of integrating science and innovation into the art of teaching as part of the structural components of didactics, such as content, objectives, methods, means, and evaluation, aimed at enhancing the quality of education.

Keywords: Pedagogical Intervention; Didactics; Science; Innovation, Physical Education.



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1. Introduction

In the recent decades of the 21st century, the global landscape has undergone swift transformations. It is imperative for both students and educators to acclimate to these societal changes. This adjustment is necessary to equip individuals with the necessary tools to effectively navigate the continuous shifts in academia, workforce requirements, and research landscapes. These tools are crucial for problem-solving endeavors, which are increasingly reliant on scientific and innovative approaches. Such approaches offer an avenue for scientific and technological progress, particularly in

the enhancement of educational systems and the academic journey of university students. It is pertinent to ponder upon the role of pedagogical interventions in enhancing didactics through the lens of science and innovation. To address this query, meticulous planning, organization, and structuring of intricate systems are indispensable for the modification of the teaching-learning paradigm. Methodological procedures play a pivotal role in this process, encompassing essential components of didactics such as objectives, content, methods, forms, didactic strategies, means of teaching, and evaluation criteria. As these procedures evolve over time, a systematic and methodical approach is essential to enact transformations that are described in a discipline-specific manner. This entails refining theories and practices to unveil and sustain pedagogical interventions aimed at enhancing didactics through science and innovation. In this regard, Bunge (2017), proposes that "the theory of theory consists of the method, by the theory of knowledge (epistemology) lies in a clear rebuttal of theories through the observation of nature and the experimentation that constitute the essence and success, of the scientific method". According to Pierre & Pollán (1979), "many teachers do not teach their classes since educational research, where they accompany educational disciplines or at least the disciplines traditionally recognized as (pedagogical, didactic and sociological) of education". Science and innovation to improve didactics is a path of pedagogical intervention of relevance to constitute scientific and critical reflection with the aim of efficiently solving the development and improvement of the mission of education, according to Ortiz (2015). With this, the processes of production and application of knowledge are currently used to explain the role of science and innovation, seeking a common good for educational development. (Fernández et al., 2011). According to what Pérez y Zagalaz (2001) raised, as is known "Logical analysis of the behavior of human civilization in the modern was inevitably leads us to science, technique and research as a bulwark of advancement to provide on a greater or smaller scale all spheres of social life of the higher and higher middle educations". In the realm of education, where numerous opportunities exist for the advancement of science through methodological and innovative approaches in the teaching domain, educators are encouraged to capitalize on these prospects by cultivating more dynamic classes that challenge existing paradigms. This endeavor commences with pedagogical interventions aimed at enhancing didactic practices through the integration of science and innovation, drawing from the practical experiences of individual teachers. The didactic and methodological processes crucial for pedagogical intervention to enhance didactics through science and innovation must originate from the comprehensive preparation of prospective professionals, taking into consideration their unique requirements and the particular social milieu in which students are situated. Within the realm of scientific and innovative advancements aimed at enriching the pathways of the teaching-learning process, it is imperative to delineate novel teaching modalities that have been reshaped by specific societal demands. Furthermore, the educational content must be responsive to the social context, which is becoming increasingly intricate, necessitating the coverage of a broader array of subjects while upholding the foundational principles of education such as being, know-how, knowledge sharing, and coexistence of knowledge. Edu-

cators are tasked with undergoing training to yield more profound outcomes in the realm of science and innovation, with the aspiration of generating novel theories pertaining to the fundamental components of the structures underpinning the teaching-learning process. In essence, this entails a paradigm shift in pedagogical interventions concerning objectives, contents, methodologies, formats, didactic strategies, instructional modalities, and assessments.

2. Pedagogical intervention to improve didactics through science and innovation

According to the Secretariat of Public Education (SEP, 2009), it considers that “Educational research has sought to pin down solid knowledge; because its realization involves the incorporation and mobilization of specific knowledge to develop in students’ competencies, which are based on knowledge, skills, values of the consequences of attitudes”. Teachers as decisive agents in the change of didactics from the real pedagogical; in addition to proposing the elements of knowledge of the subjects that have the faculties of science as a determining element that influences the progress of teaching in an effective way for educational quality (Mellado, 1996). Science and innovation represent accomplishments that have significantly contributed to enhancing the educational methodologies employed by teachers in facilitating the teaching-learning process through which students are nurtured and cultivated, grounded in scientific approaches; owing to the intricate and ever-evolving transformations that have ensued. The field of education within our nation has undergone substantial modifications to its curricula and schemes, wherein science is intertwined with instruction to foster didactic and pedagogical endeavors within educational institutions, striving to impart a comprehensive array of knowledge rooted in scientific advancements to enhance didactics, necessitating the transmission of intricate information to students for comprehending the objective realities and the implications on human existence. As a consequence of these societal shifts, educators ought to lean on pedagogical and didactic principles, aligning with their calling and professionalism to educate within their pedagogical realm, engaging in research to hone their instructional techniques and grasp the meaningful insights sought by students. According to Benitez (2016), *“from this set of reforms and changes, the most controversial relate to the evaluation process on the performance of teaching work, especially if it is about changing and innovating in practice in the classroom”*.

According to Abreu et al. (2017), They propose that *“the main exchange has focused on the origins of the conditions of the object of study of science, its structural categories of didactics, laws, principles, its pillars, evolution, its general or disciplinary character and its relationship with Pedagogy, Didactics and methodologies”*. It is understood that didactic innovation refers to changes in the teaching-learning process and these may be related to changes in curriculum content; in addition, of the structural categories of didactics such as: objectives, content, methods, forms, didactic strategies mean of teaching, evaluation (Macanchí et al., 2020). It is important that teachers participate in the construction of new teaching knowledge, providing possible solutions to the problems that teaching that arise in pedagogical interventions to improve didactics through science and innova-

tion (Briscoe, 1991). The subsequent table delineates the components that constitute the scientific characteristics of pedagogical intervention aimed at enhancing didactics.

Table 1. Scientific character of pedagogical intervention to improve didactics

Scientific Character	Pedagogical intervention to improve didactics
Object	Teaching-learning process.
Laws	The dialectical unit between objective and method as guiding categories of the teaching-learning process, instructional process and education
Pillars	Linking theory with practice, according to the pillars of education (being, know-how, knowing how to share and living knowledge)
Principles and its relationship to the University's vision	Principles are necessary for pedagogical intervention for the implementation of the teaching-learning process and the application of science and innovation to improve didactics and their linkage with Vision of the University
Rules	From the usual to the particular, from what, known to the unknown, from the simple to the complex
Structural categories of didactics	Objectives, content, methods, forms, didactic strategies mean of teaching, evaluation.

As Arteaga et al. argues (2016), in conceiving that “*the teaching of science has an indispensable duty to prepare the human being for the time it is for him to live, this is not obtained alone by imparting knowledge of the contextual environment; but the sea applicable to science to solve the problems of social life*”. The teaching-learning process should be formulated by the academic and research elements to address issues impacting pedagogical intervention and enhance didactics through scientific and innovative approaches, ultimately aiming to educate and cultivate well-rounded students who will become proficient professionals in the future. Understand the teaching importance as a determining component to publicize the knowledge of science, which influences scientific advances de-

rived from research and innovations to improve didactics in pedagogical intervention. (Kilag, Marquita & Laurente, 2023; Longhi, et al., 2004). Didactics is the discipline that makes up the teacher's act of transmitting teaching, in an accessible and affordable way, in order for students to learn, understand and address the most pressing problems of the teaching-learning process, according to structural categories, even from a peculiar disciplinary formation prior to the constitution of education and pedagogy. (Diaz, 1998; Ungaro, 2023). The educational institutions are required to promote educational science and innovation to enhance didactics in pedagogical intervention, aiming for continuous improvement as a welfare. The various levels of student engagement in sciences play a crucial role in shaping their learning experiences and activities, serving as a foundation for innovation in the educational domain. This improvement targets the transformation of the teaching process and its alignment with the educational system in Italy, as science has proven to enhance teachers' educational practices and influence the teaching-learning process development. The incorporation of science education emphasizes the importance of addressing recurring issues systematically to empower teachers as facilitators and promoters of effective teaching-learning processes within the educational setting. This approach aims to enhance learning activities, expand understanding of phenomena occurring during the teaching-learning journey, and foster a closer connection to reality through analysis, synthesis, reflection, and interpretation. When contemplating the queries posed, it is incumbent upon educators to enhance their contributions in a more efficient, effective, and impactful manner to fulfill the objectives of disseminating the foundational theoretical, empirical, and methodological knowledge, with a paramount emphasis on research. This endeavor fosters the exploration of novel alternatives in order to enhance the credibility and validity of methodologies in stimulating students' curiosity and engagement through pedagogical interventions that are enriched by scientific advancements and innovative practices. The pioneering spirit that defines educators is unfortunately stifled by the educational curricula, which, despite being adaptable, constrain the ingenuity of those involved in educational settings to merely delivering subject matter to their students. Didactics encompasses a myriad of structured principles, assessments, and logic that have the potential to spur innovative approaches to holistic education, such as delineating clear objectives and employing diverse methodologies as primary conduits for transmitting knowledge across cognitive, affective, and emotive domains.

Science communication involves referencing the fundamental underpinning of human endeavors to alter the observable reality using theoretical and empirical methods of human cognition to address hypotheses. This is done through various scientific methodologies to facilitate informed decisions promoting the progression of cultural and artistic ideologies, forming the basis for analytical, reflective, critical, humanistic, and constructivist educational practices. The pursuit of truth in science relies on the correlation between epistemology, ontology, axiology, and methodology, enabling educators to utilize their expertise for enhanced outcomes in educational interventions. Scientific inquiry empowers individuals to make informed choices regarding the acceptance or rejection of scientific theories based on empirical meth-

odologies such as observation, experimentation, measurement, surveys, questionnaires, and interviews. These empirical methods are crucial in the formulation of scientific models that elucidate shifts in paradigmatic theories. Theoretical approaches like analysis-synthesis, inductive-deductive reasoning, modeling, systemic thinking, theoretical-deductive reasoning, and historical-logical analysis further contribute to the development of scientific knowledge. To respect, Garcia (2008), *"it is certainly expressed that the idea of a method that contains firm principles, immovable to conduct scientific activity with the results of research"*. Science has led modern societies to live scientific advances that cover all unthinkable areas, from medicine, agriculture, nuclear energy to technological advances, this is where we need to intervene, seek and propose new knowledge for the science of analysis, synthesis, reflection and interpretation and criticism, to make the educational context more dynamic and divergent in the Universities of Sports Sciences and Physical Activity. The science that seeks truth is the axiological, creativity and innovation aspects indispensable for pedagogical and didactic problems for the solution of the educational context, which is reflected as a complex process to propose varied responses to didactic improvements. We can refer to two equivalents on "science is not only knowledge, but the expression and systematics of this" Monserrat (1987). Thus, for Zimmy (1961), *"science is the organized set of knowledge gathered with the use of systematic observation"* quoted by (Albert, 2007).

Teachers bear the responsibility of continuously adapting their teaching practices in response to emerging changes within the educational landscape. This adaptation aims to enhance didactic methods and foster a mindset of creative and flexible thinking among students. Such an approach also seeks to cultivate analytical, evaluative, and interpretive skills, while emphasizing the necessary depth of understanding to address societal needs. As Ezpeleta (2004) proposes, *"science and innovation mean that for decades studies have changed in the education sector, he notes that innovation and teaching practice are more likely to succeed when they have emerged from schools themselves"*. When discussing innovation, it is crucial to aspire towards enhancements that can positively impact the general societal welfare, centered around the notion of advancement for the sake of progress itself rather than change for change's sake. With regard to what Sanchez raised (2005), referring to how to: *"the aim is to improve the process of intentionality of the teaching-learning process with a clear purpose for all of us to improve the efficiency, effectiveness of the quality of the educational process, through science and innovation in the application of methods and strategies that will solve the set of problems of planning and organization at the didactic level"*. From the position of Margalef and Arenas (2006), *"innovation is the creation of something unknown, the perception of what is created as something new and the assimilation of something like new"*. Educational innovation is significantly intertwined with technologies and pedagogical approaches, rather than focusing on alterations within the educational environment to emphasize the significance of science and innovation in shaping classroom organization strategies, underpinned by a didactic and methodological framework rooted in information and communication. For Tierney & Lanford (2016), referring to: *"higher education is currently facing global forces that require innovative research, innovative pedagogies and innovative organizational structures. For these reasons, we suggest that a theoretical understanding of innovation is imperative for the continued development of higher education in the 21st century"*.

Bearing in mind, as expressed by Carbonell (2001), "*by defining innovation as a series of interventions, decisions change attitudes, ideas, cultures, content, models and pedagogical practices*". Innovation implies something new for someone and that the novelty of the sea assimilated for the common well-being of the education system. Citing González and González (2017a), "*innovation entails changes that lead to the transformation of the object to improve educational practice*". In other words, innovation can be defined as a determining element for educational development, socio-economic scientist at national and international level in search of better solutions for the well-being of school management and quality of teacher performance efficiently; it is then decisive to achieve the success of the teaching-learning process, which innovation plays a leading role from the cognitive, socio-affective dimensions for creation and improvement. (War et al., 2014). We believe that science and innovation are necessary tools that guarantee the quality of teaching work, these foundations bring us a relationship between the knowledge they establish in the different levels of teachings of the education system, in essence the Sports Sciences and Physical Activity. Theming objective of this article is to analyze pedagogical intervention to improve didactics through science and innovation of the teaching-learning process of Sports Sciences and Physical Activity.

3. Materials and Methods

The study being suggested is of a qualitative nature, specifically utilizing a descriptive approach within a non-experimental framework. Its primary aim is to enhance pedagogical practices in order to enhance the didactic process through the application of scientific innovations within the teaching and learning experiences of educators within their respective domains. Furthermore, it seeks to investigate the perspectives of students pursuing a degree in Sports Sciences and Physical Activity.

The research participants consist of:

- 31 students enrolled in the Bachelor's Degree program in Motor and Sport Science. Of these, 16 students are female (51.62%) and the remaining 15 are male (48.38%).
- 8 teachers, 5 are female (62.5%) and 3 are male (37.5%).

The selection of this specific population was deliberate, and further details can be found in Table 2.

Table 2. Participating subjects and gender

Subject	Participating subjects	Gender		%	
		F	M	F	M
Students	31	16	15	51.62	48.38
Teachers	8	5	3	62.5	37.5

The main distinctive elements of the methodological approach of this research are detailed below:

- *Document Review*

The revised documents served as a tool for comprehending and delving into the research-related elements, while also assessing the efficacy of pedagogical interventions in enhancing didactics through scientific and innovative approaches. This process facilitated the identification of necessary modifications across various facets of the teaching-learning framework, involving the restructuring of key didactic components such as objectives, content, methods, resources, organizational protocols, and assessment strategies. These adaptations, adjustments, and corrections were implemented in the study plan, course outlines, and didactic planning.

- *The observation guide*

This tool was utilized with the intention of assessing the pedagogical intervention of educators within the educational process. It enabled the gathering of data, offering significant insights for examination, interpretation, and reflection. Furthermore, it allowed for the observation of teachers' utilization of scientific methods and innovative approaches to enhance didactic practices in pedagogical settings.

The evaluation scale

It was used, which is described without continuation.

They always comply (5): It corresponds to teachers who meet the parameters of the activities presented in the observation guide, and one corresponds to the object of study, science and innovation to improve didactics in pedagogical intervention.

Sometimes they comply (3): When teachers begin to present their ideas about science and innovation, but they do not conclude satisfactorily to present their ideas exponentially to improve didactics in pedagogical intervention.

They do not comply (1): It is up to teachers on very short occasion to use some of the indicators that seem to be reflected in the observation guide.

- *Questionnaire*

The survey was administered to students in order to assess whether instructors integrating science and innovation to enhance didactics in the teaching-learning process, adheres effectively to the principles. It comprises six items consisting of dichotomous inquiries. The outcomes were ascertained through percentage computations.

- *Inclusion Criterion*

We had the managers and teachers of the Department of Sports Sciences and the Academy of Psycho-pedagogy who provided us with their consents.

- *Statistical analysis*

It was used with the aim of specifying reliability and validity data with the SPSS version 23 statistical program, according to the mean statistics, deviation standard, coefficient of variation, confidence level to know the dispersion of the mean values and with a confidence level of (90%), significance level of $p=0.1$. Made to the 31 students and the eight teachers investigated.

- *Procedures*

It is important that managers, teachers and students identify with prior notice to make an affective and cordial climate in a previous meeting. The times were made every three months, for two years with the group students and teachers research reasons; in addition, the instruments were applied under the same natural conditions so as not to affect such a research process. It is essential to highlight the protection of the code of ethics and consent.

The research tools were implemented at three times during the 2022-2023 school year.

In a first stage of piloting, it was used to adjust and decrease errors in terms of instrument applicability; in addition, an approach was made to check the level of acceptance by the subjects investigated. At the diagnostic stage, the validity and reliability of key informants was confirmed; in addition to knowing and collecting significant levels of data. In the final stage, we applied the research instruments and corroborated the results obtained with the diagnostic phase, then checked that the results yielded are similar, with a minimum of error and a confidence interval of (90%), significance value of $p=0.1$.

3. Results

The most pertinent discoveries are presented based on the methodologies utilized for data collection, namely observation and surveys.

The most notable findings derived from the observations conducted by teachers are presented, consistently adhering to guidance and highlighting the class objectives in their pedagogical approaches. These objectives serve as a pivotal and instructive element, as well as a prospective endeavor towards guiding orientation, aligning with the pre-defined social objectives that the student consciously supports. When considering whether teachers incorporate scientific methodologies into their pedagogical practices during classes, a group of five instructors consistently implement these crucial activities due to the profound and dynamic transformations they have instigated. In this regard, Oviedo (2012), "*these of new challenges sets up a new scenario conducive to innovation and the development of new initiatives by teachers*". As for whether teachers are innovative throughout the teaching-learning process in their classes, five teachers always comply. Pedagogical intervention to improve didactics has to be an innovative organization, dedicated to the correct use of innovative methods as an assertive, leading, creative personal attribute, with concrete actions and objectives, as a necessity to meet the needs given in the teaching-learning process (Sánchez et al., 2018). On the other hand, if teachers apply the pedagogical principles of didactics during their interventions in their classes, five always comply, according to ethical principles, responsibility, perseverance, which contribute to the strengthening of the emotional staff, spiritual and bodily growth of students of the Bachelor's Degree in Sport Science. Regarding the utilization of the structural categories of didactics by teachers in the context of their pedagogical interventions, it is observed that six teachers consistently adhere to the objective elements encompassing content, methods, forms,

teaching media, teaching strategies, and evaluation. This adherence has been correlated with an enhancement in the performance outcomes of pedagogical interventions.

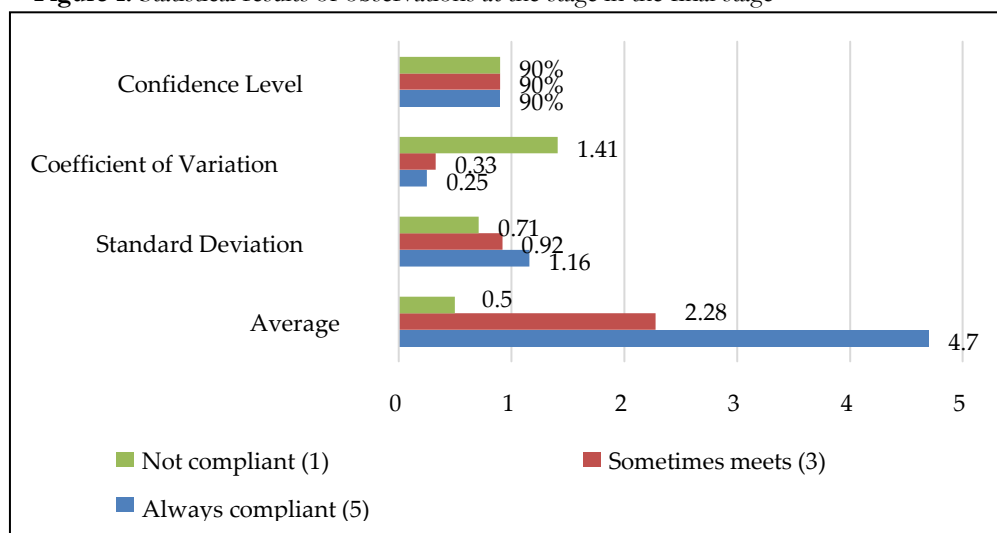
Table 3. Observation results during pedagogical intervention to improve didactics

No	Activities to be observed	They always comply (5)	Sometimes they meet (3)	Not compliant (1)
1	Teachers guide and emphasize the objectives of the class in their pedagogical interventions	7	1	0
2	Teachers relate content to science during classes in their pedagogical interventions	4	3	1
3	Teachers use the methods of science in the course of class in their pedagogical interventions	5	2	1
4	Teachers link theory with practice, according to the pillars of education in their pedagogical interventions	4	4	0
5	Teachers are promoters of analysis, synthesis, reflection and interpretation to improve didactics in pedagogical work	3	3	2
6	Teachers develop cultural, artistic, constructivist and humanistic thinking by using the scientific method in their pedagogical interventions.	4	4	0
7	Teachers are innovative throughout the teaching-learning process in their pedagogical interventions during their classes this section is linked to the vision of the University	5	3	0

8	Teachers apply the pedagogical principles of didactics during their interventions in their classes according to the mission of the University	5	3	0
9	Teachers use the structural categories of didactics during their pedagogical interventions.	6	2	0
10	Teachers promote scientific and innovative culture in in students through their pedagogical interventions	4	3	1

As per the outcomes derived from the transcribed notes of the eight instructors, the mean of the population stands at 4.7, exhibiting the necessary normal distribution, accompanied by a standard deviation of 1.16 units from the mean. This implies that the overall adherence of teachers to the fundamental didactic components, including objectives, content, methods, forms, teaching strategies, and evaluation, is consistently observed across different instructional sessions. Moreover, the confidence interval is set at 90%, with a significance level represented by $p=0.1$. The coefficient of variation is determined to be 0.25.

Figure 1. Statistical results of observations at the stage in the final stage



Based on the most significant results obtained from the survey administered to students enrolled in the Bachelor of Sport Science program, it is evident that a small percentage (0.58%) of the respondents believe that instructors do not consistently incorporate scientific principles into the course content. The responses provided by the participants to the second question indicate that they believe teachers should emphasize analysis, synthesis, reflection, and interpretation to enhance the quality of education during lessons, with a percentage of 0.52% highlighting the importance of these aspects in the classroom. Analysis of the third question in the survey reveals that educators demonstrate innovation in their teaching practices, with 0.52% of the students acknowledging the innovative approaches employed by their teachers during the teaching-learning process. Regarding the fourth question posed to the respondents, findings show that 0.52% of them feel that teachers do not actively promote a culture of scientific innovation through their teaching methods, which is a noteworthy observation given that scientific knowledge is essential for informed decision-making and theory evaluation. The results from the fifth question indicate that a percentage of 0.55% of the participants believe that instructors do not sufficiently encourage scientific literacy among students, underscoring the need for a shift towards promoting critical thinking and cultural awareness in the contemporary era. In conclusion, students expressed their views on whether teachers adhere to the established objectives, methodologies, instructional strategies, and evaluation techniques, with 0.52% confirming that educators do follow the essential components of the teaching-learning process.

4. Discussion and conclusion

Many of the teachers investigated during their pedagogical intervention do not apply science, seen in this way this work does not seek to guide the importance of science and innovation as change to improve attitude in the agents involved in the teaching-learning process, allowing the emergence of new ideas, answers and perspectives, such as the needs and difficulties that we will seek in the university complex context where we are located. (Gonzalez and Gonzalez, 2017 b). It is inescapable pedagogical intervention in scientific disciplines, in particular didactics, to contribute to the contribution not only of knowledge in the field of education, they must promote teaching and learning as an essential means of transmitting science and innovation. In this regard, pedagogical intervention is the intentional action it develops in the educational task in order to meet the structural categories of didactics as objectives, content, methods, forms, teaching strategies means of teaching, evaluation to justify the fundamentals of knowledge, according to the functioning pedagogical intervention to improve didactics through science and innovation (Di Palma, 2023; Touriñán, 2011). Such expansive issues tend to emphasize the significance of statements related to the efficient and effective delivery of instruction within the classroom in pursuit of desired educational standards; in this context, it is possible that educators may lack the scientific resources as a model of knowledge and creativity and may overlook conventional and repetitive teaching methods, while science and innovation in pedagogical practices contribute to fostering a dynamic educational

process and enhancing the quality of instruction. It is important to analyze the relationship between science and innovation, such as the role attributed to didactic activities within the innovative process to improve didactics in pedagogical intervention, for much innovative is to invent something new for us to improve, propose, solutions that lead to design a relationship with the theoretical and empirical methods of educational science, propose new teaching resources implying individually and group to students to manifest their perspectives of analysis, reflection, may or may not be innovation, (Barraza, 2005). For this reason, educators and educational authorities collaborate towards the holistic development and comprehensive education of students, aiming to enhance pedagogical practices through educational interventions. This involves implementing a reform in didactic planning that is grounded in scientific principles and innovative approaches to enhance the overall quality of education. In essence, the University's mission is to equip students with comprehensive skills and knowledge to become proficient professionals of high quality and relevance on a national and international scale. This mission is closely associated with teaching, knowledge generation, as well as the application and dissemination of knowledge and technology.

Pedagogical interventions provide solutions for teaching work as a significant means in the integral training of students, based on the theoretical and empirical methods of science to improve the teaching-learning process. In conclusion, we can assert that pedagogical interventions represent viable options for enhancing didactics through scientific and innovative approaches, offering educators opportunities to introduce novel strategies in cultivating a transformative culture of knowledge among students; all while aligning with the foundational principles of didactics.

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