ISSN: 1815-7696 | RNPS: 2057 | MENDIVE Vol. 23 No. 2 e4102 (April-June)
Leonard Rodríguez, F.; Ramos Romero, G.; Piclin Minot, J.; Alvarez Utria, D. "Historical background of the systematization of scientific results in postgraduate academic training".
https://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/4102

2025

Original article

Historical background of the systematization of scientific results in postgraduate academic training

Antecedentes históricos de la sistematización de resultados científicos en la formación académica de posgrado

Evolução histórica da sistematização dos resultados científicos na formação acadêmica pós-graduada

Felisa Leonard Rodríguez[1] 0000-0003-1248-3292 felisalr@cug.co.cu
Graciela Ramos Romero[2] 0000-0002-0713-3549 chelaramos5603@gmail.com
Jesús Piclin Minot[1] 0000-0002-1490-5084 jesusp@cug.co.cu
David Alvarez Utria[1] 0000-0002-1194-0036 david@cug.co.cu

[1] University of Guantánamo. Guantánamo, Cuba.
[2] University of Oriente. Santiago de Cuba, Cuba.

Received: 6/01/2025
Accepted: 6/05/2025

ABSTRACT

Postgraduate academic training has been studied extensively across various countries; However, perspectives on its execution, intentionality, comprehensiveness, and systematization remain limited. This article aims to present a periodization of scientific results in the postgraduate academic training process from 1962 to 2024. The study employed several methods: the historical-logical method to demonstrate the evolution of the process and the systematization of scientific results; analysis-synthesis to delve into and specify theoretical foundations; inductive-deductive reasoning

to understand the essence of the studied process and deduce its particularities; document analysis to examine key materials; the systemic-structural-functional approach, considering the systemic nature of the periodization; and methodological triangulation to validate findings and identify gaps from the applied methods. Collectively, these approaches facilitated the development of the proposed periodization, which conclusively underscores the necessity of conceptualizing a theoretical-methodological and instrumental framework to support the integration of scientific result systematization in postgraduate academic training within higher pedagogical education.

Keywords: methodology; periodization; systematization.

RESUMEN

La formación académica de posgrado ha sido muy estudiada en diferentes países, pero los criterios sobre su ejecución, intencionalidad, integralidad y sistematicidad aún son limitados. El objetivo de este artículo es socializar una periodización de resultados científicos en el proceso de formación académica de posgrado 1962-2024. Fueron utilizados los métodos: histórico-lógico, que demostró la evolución del proceso y la sistematización de resultados científicos; el análisis-síntesis, para profundizar y precisar en los fundamentos teóricos; inductivo-deductivo, para conocer en la esencia el proceso estudiado y deducir sus particularidades; el análisis de documentos, permitió penetrar en los más importantes para el estudio; el sistémico-estructural-funcional por el carácter de sistema que posee la periodización y la triangulación metodológica, que permitió comprobar las confirmaciones e insuficiencias derivadas de los métodos aplicados. Todos ellos permitieron elaborar la citada periodización, la que revela, de forma conclusiva, la necesidad de concebir un enfoque teórico-metodológico e instrumental para contribuir a la introducción de la sistematización de resultados científicos en el proceso de formación académica de posgrado en la educación superior pedagógica.

Palabras clave: metodología; periodización; sistematización.

RESUMO

A formação acadêmica de pós-graduação tem sido amplamente estudada em diversos países; no entanto, os critérios sobre sua execução, intencionalidade, integralidade e sistematização ainda são

limitados. Este artigo tem como objetivo apresentar uma periodização dos resultados científicos no processo de formação acadêmica de pós-graduação de 1962 a 2024. Foram utilizados diversos métodos: o método histórico-lógico para demonstrar a evolução do processo e a sistematização dos resultados científicos; análise-síntese para aprofundar e especificar os fundamentos teóricos; raciocínio indutivo-dedutivo para compreender a essência do processo estudado e deduzir suas particularidades; análise documental para examinar materiais-chave; a abordagem sistêmica-estrutural-funcional, considerando a natureza sistêmica da periodização; e a triangulação metodológica para validar os achados e identificar lacunas a partir dos métodos aplicados. Coletivamente, essas abordagens facilitaram o desenvolvimento da periodização proposta, que destaca conclusivamente a necessidade de conceber um referencial teórico-metodológico e instrumental para apoiar a integração da sistematização dos resultados científicos na formação acadêmica de pós-graduação no ensino superior pedagógico.

Palavras-chave: metodologia; periodização; sistematização.

INTRODUCTION

The rapid scientific and technical development of contemporary society demands progress in the training of human resources, which favors the continuous improvement of the economic and social spheres that sustain humanity, especially the postgraduate academic and research training of professionals in Higher Education.

It is the key to understanding that postgraduate academic training is not structured only to meet the needs of the labor market, but rather its profile is shaped to develop a well-rounded professional, focusing essentially on the development of their personality, so that they demonstrate a willingness and commitment to social transformation as a primary priority.

In Cuba, postgraduate academic training is a requirement of the socialist social project being built, implicit in Resolution No. 140/2019, Regulations on Postgraduate Education, which aims to provide training in Higher Education. The need for training that closely links the university and the social context is considered, also valued in this way by Álvarez de Zayas (1996), which enhances knowledge for professional performance, in relation to current and future demands.

The goal is to provide postgraduate education with high professional competence and advanced capabilities for specialized professional performance, research, development, and innovation. In this regard, Horruitiner considered that: "Universities must offer syllabuses that meet the requirement of generating, through their intervention, new knowledge that guarantees sustainable human and social development through the articulation of academic and methodological activities oriented towards professional development" (2008, p. 43).

It is reaffirmed that mastery of teaching methods alone is not enough; it is necessary to focus on the systematization of scientific results as a basic condition for achieving a higher level of use of research in economic and social development, based on sustainability. Hence, policies defend the urgency of using science as a resource for innovation and problem-solving at all levels of society.

It is also considered that postgraduate academic training "responds to problems in professional and research practice, promotes the training needs in a specific field of knowledge" (Addine, 2021, p. 27), which implies penetrating the nature of the aforementioned training process for its improvement.

Postgraduate academic training and the systematization of scientific results as a problem in Higher Education has been analyzed by authors such as: Álvarez (1998), Clairat and Matos (2014), Diaz (2021), Bernaza *et al.* (2018), Sánchez-Beato *et al.* (2021), González-Benito *et al.* (2021) and Martín (2023), who not only address the different conceptions on which this training process is based, but also raise the need to think about training within the University, adapted to the historical and specific conditions and the link between the University and society.

In line with the above, the objective of this article is to present a periodization of scientific results from the postgraduate academic training process from 1962 to 2024.

MATERIALS AND METHODS

This article is the result of a pedagogical investigation that considers, from a qualitative perspective, the interpretation and essence of the phenomenon or process studied; it takes into consideration the context and the results obtained through the use of data collection techniques. This is a descriptive investigation that characterizes the historical evolution of the systematization of scientific results in the process of postgraduate academic training in Higher Education. The dialectical materialist

approach is used as the general method of knowledge, which served as the foundation for the system of methods used. The objective of this article was achieved through the use of the following methods.

Analytical-synthetic: This approach was used to delve deeper into the foundations of the postgraduate academic training process; it allowed us to delve into the literature dealing with the process and then synthetically determine the aspects that characterize it.

Inductive-deductive: through induction, the factors that govern the studied process were known in order to deduce its primary characteristics.

Historical-logical: allowed to analyze the evolution of the postgraduate academic training process.

Document analysis: Resolution No. 140/2019, Regulations of Postgraduate Education of the Republic of Cuba, was critically analyzed; the reports on the systematic work carried out by the coordinators and vice-deans of Research and Postgraduate Studies; and the minutes issued by the Center for Educational Studies. the postgraduate programs in the pedagogical area of the University of Guantánamo, including: Master's Degree in Educational Sciences, Master's Degree in Spanish-Literature Didactics, Specialization in Psychopedagogical Teaching, Specialization in Chemistry Teaching for Junior High Education, Specialization in Inclusive Care for Communication and Language Disorders as well as Doctorate in Educational Sciences, profile of the Institutional Research Project attached to the Center for Higher Education Study Improvement of Continuing Professional Training for Local Development in Guantánamo and documents from the National Accreditation Board of 2014, such as the Resolution on the Higher Education Evaluation and Accreditation System to articulate the strategic planning of the institution 2021-2025 with the mandates of the state and the government and induce the improvement of processes and their contribution to society.

Systemic-structural-functional: due to the system nature of periodization.

Methodological triangulation: allowed to verify the shortcomings arising from the applied methods.

These methods allowed us to fulfill the objective of the article presented here. The following indicators were used to carry out the aforementioned periodization:

- Conceptions and approaches to the systematization of scientific results in the postgraduate academic training process.
- The designation of the subjects involved in the different aspects of the postgraduate academic training process for the systematization of scientific results.

The indicators were determined based on the features that characterize the evolution of the systematization of scientific results in the postgraduate academic training process. In addition, the specific historical and social conditions at each stage were assessed; it is taken into account that they reflect the main projects undertaken and that these are related to the conception of humanity and society to which we aspire. These elements have influenced the constant improvement of the National Education System, as well as the most substantial transformations in postgraduate education.

The periodization was determined by the following historical milestones:

1. Reform of Higher Education in Cuba (January 10, 1962).
2. Creation of the Ministry of Higher Education in 1976.
3. Establishment of the first Regulation of Postgraduate Education in the Republic of Cuba (Resolution of the Ministry of Higher Education 199/93).

In correspondence with these milestones, three fundamental stages were distinguished:

- **Stage I (1962-1975).** Emerging transformations in the postgraduate academic training process during the period of change in the university context.
- **Stage II (1976-1992).** Institutionalization of the postgraduate academic training process for university teachers.
- **Stage III (1993-2024).** Consolidation of the postgraduate academic training process for university teachers in pursuit of greater social relevance.

RESULTS

The result obtained with the application of the indicated methods was a periodization of scientific results in the postgraduate academic training process from 1962 to 2024.

The triumph of the Cuban Revolution in 1959 marked a new social dynamic that transformed the concept of Higher Education. The nation needed to benefit from the scientific and technological future that was on the horizon. Therefore, universities had to play a leading role in social development and the generation of scientific results, which needed the emergence of postgraduate academic training within university faculty.

In the first 60 years, with the rapid growth of the university, a product of the social transformations initiated by the Revolution in power, postgraduate studies began to be developed with the presence of foreign projects and advisors at Cuban universities.

Various international projects facilitated the initiation of postgraduate academic training for new university professors. These include projects from the United Nations Educational, Scientific and Cultural Organization, the Canadian government project, and the initiatives of French universities at the universities of Havana and Oriente. These initiatives facilitated the initiation of postgraduate academic training in Cuban Higher Education.

The scientific policy of the country was subsequently institutionalized through the creation, in 1961, of the Cuban Academy of Sciences, which was responsible for communicating the main scientific and technical results of the country. Following its implementation, the social commitment to science increased within its faculties, giving this activity greater prominence. Its scientific programs were oriented toward solving priority social problems. However, during these years, scientific results were poorly systematized and introduced to society.

The implementation of the Educational Policy thesis outlined at the First Party Congress in 1975, essentially aimed at ensuring high qualifications and continuous development of the teaching staff at higher education institutions, led to the launch of various master's programs, both in Cuba and abroad. At the same time, a strategy was conceived for the training of doctorates, advised by specialists from other countries, including the Union of Soviet Socialist Republics.

The aforementioned background made possible to carry out the study of the historical evolution of the systematization of scientific results in the postgraduate academic training process in the period between 1962 and 2024, under the criterion of studying its trajectory, taking as the object of periodization the systematization of scientific results in the postgraduate academic training process.

The logic followed to establish the stages expressed in the periodization is explained below.

Stage 1 (1962-1975). Emerging transformations in the postgraduate academic training process during the period of changing university context.

Through the Higher Education Reform in Cuba, enacted on January 10, 1962, a Cuban scientific, technological, and humanistic university was envisioned, one that would incorporate high-level scientific research and training into university life. This represented a major challenge for the existing university faculty. Therefore, it constitutes a fundamental milestone in this phase.

Period 1962-1966: simultaneous sending of scholarship holders to the socialist camp, incipient beginning of some aspects of theoretical and applied science, through the creation of the Cuban Academy of Sciences, the National Center for Scientific Research, universities and a worker-peasant preparatory faculty.

Likewise, following the creation of the National Center for Scientific Research in 1965, one of which objectives was, and continues to be, the preparation and development of the highest-level professionals in the field of biomedicine. An analysis was initiated into how to advance and what recognition should be granted to those who completed this advanced stage of their training. Based on this, regulations were drawn up provisionally naming the master's and doctoral degrees. Similarly, based on internal regulations, the first defenses of the then-called master's and doctoral theses were held at the end of the decade.

Likewise, in this decade of the sixties, the following were created, among others: the National Center for Scientific Research, the Institute of Animal Science, the Institute of Nuclear Physics, the Animal Health Center, the Digital Research Center, the Institute of Agricultural Sciences, the Cuban Institute of Sugarcane Derivatives Research, the Institute of Technological Research, the Institute of the Chemical Industry, the National Directorate of Standardization, the Institute of Tropical Agriculture, Mathematics, Oceanology, Astronomy, all linked to Higher Education.

The first doctoral defense was held in Cuba in 1969. Initially, the doctoral training system drew on European experiences of being essentially based on research work with scientific contributions.

From 1967 to 1978, numerous scholarship recipients trained at European and Asian universities returned, along with the first post-university reform graduates, with a growing number of doctorates at the end of this period. Master's theses were defended at the Institute of Animal Science and the

University of Havana. This led to the development of professional master's degree holders trained by foreign institutions both inside and outside the country.

With the implementation of the first National Postgraduate Law, 1281/1974, passed by the Council of Ministers, the National System of Scientific Degrees was created. The goal was to train university graduates to produce scientific cadres at the highest levels of development in each branch of science in Cuba. Its approval laid the groundwork for the regulation of master's and doctoral degrees. The degree equivalences were specified in terms of content, objectives, and scope of degrees obtained in capitalist and socialist countries; however, the training they provided focused on students' ability to master global scientific and technological advances and improve their professional performance.

Academic training in Cuba began to gradually increase following the implementation of the Educational Policy thesis outlined at the First Party Congress held in 1975, essentially aimed at ensuring high qualifications and continued development of the teaching staff at higher education institutions. This led to the launch of various master's programs, both in Cuba and abroad; a strategy was also conceived for the training of doctorates, advised by specialists from other countries, including the Union of Soviet Socialist Republics.

The Theses and Resolutions of the First Congress of the Communist Party of Cuba established that the 1970s saw major and profound changes in the economic and social structure of the country. Specifically, in postgraduate education, there was a quantitative and qualitative evolution of institutions, courses, students, graduates, and professors. Furthermore, thousands of students from all latitudes, especially from the underdeveloped world, have benefited from scholarships granted by the revolutionary government since the 1960s.

The Constitution of the Republic endorsed the legal nature of postgraduate academic training, which served as a starting point for initiating the process of institutionalizing the systematization of scientific results and their legalization through decrees and resolutions of the ministries, institutions and agencies of their legislative bases, demonstrating the need to move to a higher level.

Regularities of the stage:

- Insufficient concepts and approaches to the systematization of scientific results, as it is not a priority for postgraduate academic training in Higher Education.

- Lack of national plans, strategies, regulatory documents, and regulations governing emerging postgraduate activities; those carried out were carried out with the help of foreign technical assistance, demonstrating insufficient focus on the systematization of scientific results in the academic training process.
- Lack of theoretical, methodological, and practical-research preparation in the teachers and students´ postgraduate academic training process for the systematization of scientific results.
- Low incorporation of content, from the postgraduate academic training process, that addresses the issue of systematizing scientific results.

Stage II (1976-1992). Institutionalization of the postgraduate academic training process for university teachers

In 1976, the Cuban Ministry of Higher Education was established through Law No. 1306, which marks the milestone of this second stage. The entire system of university centers was consolidated throughout the country through the emergence of the National Network of Higher Education Centers. The foundations were laid for what is now the National Postgraduate Education System and its consolidation as an independent system. From this point on, organizational guidelines for initial training with a broad profile were adopted, which determine the emergence of academic postgraduate programs for the specialization of professionals in all sectors.

In its early days, postgraduate education was organized along two fundamental lines: one aimed at scientific degrees and the other at ensuring the necessary development for all higher education graduates. Procedures and regulations were developed for each of these areas, enabling their growth and qualitative improvement.

In 1978, postgraduate education, as a result of its gradual evolution, was structured into two areas of work: professional development and postgraduate academic training; the latter is part of the National System of Scientific Degrees. Law 1307 established the Vice-Deanships of Research and Postgraduate Studies to address specialties and provide continuing education. Since then, its progressive development has begun, responding to the interests of the socioeconomic development of the country.

The 1980s were characterized by a high number of students pursuing doctoral training abroad, and at the same time, doctoral programs were established in Cuba, driven by the political will of the Cuban Revolution and thanks to international support. This allowed for the creation of the critical

mass necessary for the development of scientific research. Furthermore, distance learning technology was regularly used, leading to an increase in postgraduate academic training; this was intended to harmonize the teachers' ongoing development in relation to the demands of curricula and programs. Regulations were issued that guaranteed their institutionalization. These included Decree-Law No. 37/1980, which establishes the granting of the degree of Candidate of Science in a specialty; the first Law No. 1281, which regulates the National System of Scientific Degrees as the legal basis for the institutionalization of the academic training process; and the program that covered the development and prospects of postgraduate studies in 1986.

The institutionalization of the postgraduate academic training process equally encompassed all its organizational forms in general. Despite efforts to institutionalize and give legal substance to the problems of postgraduate academic training, not only in Higher Education but also as a complex social problem, the systematization of scientific results for solving problems that arise in educational contexts, as well as their introduction into social practice, is not explicitly recognized.

In the 1990s, typical changes occurred in the main aspects of the economic, political, and social life of thecountry. Higher education, and especially postgraduate education, also suffered the consequences of the collapse of the socialist bloc, the intensification of the economic blockade, the threatening attitude of US power circles toward Cuba, and, consequently, the deterioration of the economic and social model. Despite this, postgraduate academic training increased throughout the country, and various self-funded postgraduate programs began to be offered in Cuba for foreign students.

In 1992, the essential process of developing regulations for postgraduate studies was solidified in the country. The accumulated experience and interaction with other countries, particularly in Latin America, made possible to ratify the general objectives of postgraduate studies and refine the standards for both professional development and academic training. That same year, the Board of Directors of the Ministry of Higher Education approved the Postgraduate Education Program, which, as a novelty, included a master's program. Furthermore, nearly 3,500 Cuban professionals reached the scientific doctorate degree. Despite the increased institutionalization and legalization of this training process at this stage, the systematization of scientific results in postgraduate academic training continued to be a low priority; the training provided was essentially limited to didactic content.

An approach to the systematization of scientific results in the postgraduate academic training process was undertaken. A group of researchers from the Central Institute of Pedagogical Sciences systematized the set of theoretical and practical scientific results derived from the first twenty years of education in Cuba. Teaching topics in Higher Education are included in teacher training.

As in the previous stage, these regularities demonstrated the achievement of a higher stage in the postgraduate academic training process.

Regularities of the stage:

- Insufficient concepts and approaches to the systematization of scientific results, on an interpretive basis, since it was not a priority in the academic training process.
- Increased regulatory and methodological documents governing the legal basis of postgraduate academic training, which has expanded the educational opportunities for production and service professionals.
- Insufficient theoretical and methodological preparation of graduate students for the systematization of scientific results in the academic training process.

Stage III (1993-2024). Consolidation of the postgraduate academic training process for university teachers in pursuit of greater social relevance.

The establishment of the first Regulations for Postgraduate Education in the Republic of Cuba, through Ministry of Higher Education Resolution 199/93, was a milestone in this period. This regulation heralded a new period of improvement in Higher Education by laying the normative foundations for academic training, which contributed to strengthening professional competencies to generate scientific and technical results for society. Its implementation addressed the various impacts on postgraduate activities, essentially generated by the disintegration of the Union of Soviet Socialist Republics and the socialist bloc. The following were legalized as academic organizational forms: the postgraduate specialty and the doctorate. The master's degree is not included, as it was officially approved in 1995.

This meant new opportunities for students at certain institutions to pursue one of these degrees. However, these regulations did not include a master's degree, as it had to be first ratified by the Executive Committee of the Council of Ministers. Although reference was made to general concepts, structures, functions, and procedures of postgraduate education, aspects related to the

systematization of scientific results were not explicitly specified, but there was some convergence. One of the changes that occurred to improve the organization, direction, and projection of postgraduate education around the improvement process was the creation, in 1994, of the Advisory Commission for Postgraduate Education as an advisory body to the Directorate of the Ministry of Higher Education. This resulted in accelerated growth in academic activity and the implementation of a strategy for the qualitative improvement of these programs.

In 1996, as a policy of the Cuban state to prioritize the activity of permanent improvement, Resolution No. 6/96 was established, which put into effect a new Regulation of Postgraduate Education, which was not modified until 2004, taking into account the result of the continuous improvement of Higher Education, the accumulated experience and the results of interactions with postgraduate practice in other countries, mainly in Latin America. The master's degree is prioritized as one of the organizational forms of academic training.

In early 1999, the University System of Accreditation Programs was established to accredit university processes, programs, and institutions. Its first subsystem, the Master's Degree Evaluation and Accreditation System, was implemented during the 1999-2000 and 2000-2001 academic years. The University Program Evaluation and Accreditation System, the undergraduate program, was completed, and work is underway on the Doctoral Program Evaluation and Accreditation System.

The fundamental objective was to achieve the highest levels of quality in postgraduate academic training and, at the same time, avoid a disorganized increase in master's programs with marked quality gaps. The master's degree program was established in Cuba in 1994 and, from that moment on, experienced accelerated growth, which gave way to the implementation of a strategy for the continuous qualitative improvement of its programs starting in 1997. This strategy is focused on achieving higher levels of quality in postgraduate academic training.

The 21st century has been characterized from the very beginning by the Battle of Ideas. In the 2002-2003 academic years, with the approval of new postgraduate regulations, a process of improving academic training for production and service professionals began. These regulations included courses, diplomas, and master's degrees; the addition of a postgraduate specialty. These regulations incorporated the experience accumulated over the past seven years. Their main modifications were: the necessary flexibility to promote mobility and interprogram cooperation; greater efficiency and quality in postgraduate work; interdisciplinarity and better adaptation to student training needs; and

priority given to distance postgraduate education, including the use of Information and Communication Technologies. A set of specific strategies was developed aimed at, among other actions, fostering academic networks and developing cooperative doctoral programs and postdoctoral fellowships.

The transformations experienced in Cuban universities due to the measures established during the Special Period made possible to adapt postgraduate education to social conditions and oriented research toward addressing current needs in the field of professional competencies. The combination of these factors made possible to legislate a new Postgraduate Education Regulation, known as Ministerial Resolution 132 of 2004, to which Instruction 1 on standards and procedures for postgraduate management was appended. It establishes the development of postgraduate education in two directions: professional development and academic training.

In 2006, Instruction No. 1 of the Director of Postgraduate Studies of the Ministry of Higher Education was approved as an Annex to Resolution No. 132/04, which implemented the Rules and Procedures for Postgraduate Management. Both legal instruments are in force and govern postgraduate activities.

The incorporation of the 2010 Economic and Social Policy Guidelines of the Party and the Revolution into the social and economic life of the country, in relation to the Science, Innovation and Environment Policy, included in Guidelines 129-139 and 228, has been aimed at raising the quality of human resource training for the nation, with an emphasis on updating university training programs to serve the economic and social development of the country.

The policy on postgraduate education was approved in 2017 through the promulgation of Instruction No. 01/2018 for the Directorate of Postgraduate Education of the Ministry of Education (MES), which established the rules and procedures for managing postgraduate programs. This resolution, in one of its final provisions, establishes the rules and procedures for planning, developing, and monitoring postgraduate activities.

In 2019, Ministerial Resolution 140, Regulations on Postgraduate Education, came into force. It continues to recognize two forms of postgraduate education: professional development and postgraduate and doctoral academic training. Academic training encompasses the following: postgraduate specialty, master's, and doctoral degrees; the last one is part of the National System of Scientific Degrees. This resolution updates the legal framework for academic training and, as a

new development, establishes six principles that guide this work, highlighting the participation of professionals in social development through ongoing processes of knowledge creation, dissemination, and application. To achieve this, it is necessary to include a new principle that takes into account the systematized nature of scientific output in academic training.

In 2020, the previous resolution of 2019, related to the rules and procedures for the management of postgraduate studies, was repealed and replaced by Instruction No. 1/2020, which ratified the two variants of postgraduate education in Cuba: professional development and academic training. These consider that it involves professors, tutors and students in diverse scenarios and pursue different objectives, with a diversity of forms, methods, traditions and other particular characteristics of the different areas of knowledge and professional branches.

The aforementioned resolution updated the legal framework for academic training and established six principles that guided this work, emphasizing the participation of professionals in social development through ongoing processes of knowledge creation, dissemination, and application. To this end, it was necessary to include a new principle that took into account the systematized nature of scientific output in academic training.

Regularities of the stage:

- An increase in the number of regulatory and methodological documents governing the postgraduate academic training process was observed, thus contributing to its development, which, as a new development, includes Master's programs. However, these lack specific guidelines for the systematization of scientific results based on legal grounds.
- A phase of improvement began in the academic training process as a form of ongoing development. This constituted a milestone in the history of the University of Guantánamo, in particular, and the MES in general, and was favored by the consolidation of master's and doctoral programs. Despite its achievements, there are insufficient concepts and approaches to systematizing scientific results in the postgraduate academic training process.
- It lacked instrumental pathways that would enable the systematization of scientific results in the academic training process, guided by a hierarchical principle, hence the need to develop a methodology that takes into account the knowledge, skills, and attitudes to be developed by its students.

The periodization carried out made possible to determine the following historical trends:

- The systematization of scientific results in postgraduate academic training has gone from not being a priority to receiving greater attention in its development.
- There is a need to continue deepening the teachers and students' preparation in the postgraduate academic training process and the systematization of scientific results.

The regularities corresponding to each stage and the historical trends demonstrate the systematic nature of the periodization created, which is corroborated by the methodological triangulation carried out.

DISCUSSION

The authors of this article initially assessed its contribution to the fulfillment of the research objective, given that the periodization developed stemmed from the theoretical component of the methodology offered and from the fulfillment of the objective of the article; it provided a periodization of scientific results that could be disseminated from this perspective.

Given the nature of the outcome offered, it was understandable that this discussion was of a qualitative nature, since the periodization of scientific results in the postgraduate academic training process from 1962 to 2024 was characteristic of the way the authors theoretically conceived it and corresponded to the methods used for its development. This result arose from the understanding that other modes of periodization did not always allow for arriving at regularities at different moments in the evolution of a given process, nor did they derive from them generalities that the authors called historical trends, which also constituted conclusive ways of understanding the development of the research object.

This type of periodization was not exclusive to the object of the research from which it originated; it could be used in other types of research and was already applied by other researchers, who considered it valid. In consultation with other authors, the proposed criteria were enhanced; for example, the normative and methodological documents analyzed that governed the postgraduate academic training process and the research studies reported revealed little reference to methods and procedures that would contribute to the systematization of scientific results and their periodization.

In consultation with De Armas *et al.* (2020), criteria were established regarding the historical background of the link between the University and society, but from a less specific perspective. The approach of these and other authors to different aspects that were implicit in the theoretical systematization presented was evident, but which partially justified its validity and importance. Baute and Iglesias (2020), Ecuadorian authors, also referred to systematization in Popular Education and in the training of university professors. Their assessments were adequate, but applied to very specific training processes. González and Vázquez (2021) also approached the understanding of systematization processes, but with their specificities in health education.

However, it was recommended that the type of periodization used in this article be applied to other training processes to confirm the positive assessment made by researchers who have already applied it.

The possibility of periodization without the need to delineate strict stages in the development of the research process, encompassing the entire period, was presented as a valid theoretical and methodological alternative. This perspective allowed for a more holistic view of the phenomenon studied and opened up new possibilities for the systematization of scientific results, allowing for further exploration.

The objective of this article -to socialize a periodization of scientific results in the postgraduate academic training process 1962-2024- was met and justified the need to conceive new theoretical and methodological approaches for the systematization of scientific results in said process.

REFERENCES

Addine Fernández, F. (2021). Principios para la dirección del proceso. En *Compendio de pedagogía*. Editorial Pueblo y Educación.

Álvarez de Zayas, C. M. (1996). *La universidad como institución social*. Editorial Academia.

Álvarez de Zayas, C. M. (1998). *Pedagogía como ciencia o epistemología de la educación*. Editorial Félix Varela.

Baute Álvarez, L. M., & Iglesias, M. (2020). La sistematización como metodología de la Educación Popular y su utilización para la mejora de la formación pedagógica del profesor universitario.

Ciencia y Tecnología, 20(27), 10-18. https://cienciaytecnologia.uteg.edu.ec/revista/index.php/cienciaytecnologia/article/view/381

Bernaza, G., Troitiño, D., & López, Z. (2018). *La superación profesional: mover ideas y avanzar más*. Ministerio de Educación Superior.

Clairat Wilson, R., & Matos Borges, R. (2014). La tarea integradora: eje integrador en el colectivo de año. *EduSol*, 14(48), 1-12. https://edusol.cug.co.cu/index.php/EduSol/article/view/950

De Armas Ramírez, N., Endocrino, J., Aguiar, S., Pacheco, E., & Milán, E. (2020). Curso teórico-práctico para preparación metodológica de profesores universitarios sobre educación a distancia. *Revista Edumecentro*, 14(1), 1-10. https://revedumecentro.sld.cu/index.php/edumc/article/view/e1993

Díaz Castellanos, M. J. (2021). Perspectivas de la formación académica desde una visión trascendental universitaria. *Revista Scientific*, 6(21), 356-375. https://www.indteca.com/ojs/index.php/Revista_Scientific/article/view/609

González-Benito, A., López-Martín, E., Expósito-Casas, E., & Moreno-González, E. (2021). Motivación académica y autoeficacia percibida y su relación con el rendimiento académico en los estudiantes universitarios de la enseñanza a distancia. *RELIEVE. Revista Electrónica de Investigación y Evaluación Educativa*, 27(2), 1-15. https://revistaseug.ugr.es/index.php/RELIEVE/article/view/21909

González Sarría, J. D., & Vázquez Cedeño, A. F. (2021). Reflexiones sobre la educación para la salud en Cuba. *Revista Conrado*, 17(80), 61-67. https://conrado.ucf.edu.cu/index.php/conrado/article/view/1811

Horruitiner Silva, P. (2008). *La universidad cubana: el modelo de formación*. Editorial Universitaria.

Martín Garateix, M. (2023). Formación académica de posgrado. Impacto para el desarrollo sostenible de la educación superior cubana. *Revista Cubana de Educación Superior*, 41(1), 1-15. https://scielo.sld.cu/scielo.php?pid=S0257-43142023000300008&script=sci_arttext

Sánchez-Beato, E., San Martín, S., Rodríguez-Torrico, P., & Jiménez, N. (2021). La integración de las competencias éticas en los estudios universitarios. *Revista Tecnología, Ciencia y Educación*, (25), 1-10. https://www.tecnologia-ciencia-educacion.com/index.php/TCE/article/view/866

Conflict of interest

Authors declare no conflict of interests.

Authors' contribution

The authors participated in the design and writing of the article, in the search and analysis of the information contained in the consulted bibliography.