

Original article

## Continuing professional development for tutors: a look in the context of university-business partnerships



**La formación continua del profesor tutor: una mirada en el contexto de  
vinculación universidad-empresa**

**Desenvolvimento profissional contínuo para tutores: uma análise no  
contexto das parcerias universidade-empresa**

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### ABSTRACT

This article presents an integrated view of the support and monitoring of faculty mentors without a pedagogical background as a natural and necessary process for their development, which constitutes an ongoing challenge in improving productive teaching practices. It reveals the logic behind the continuing education process for faculty mentors without a pedagogical background when considering the university-industry partnership, based on its systemic, coherent, and contextualized nature, as a methodological tool of social significance that facilitates the fulfillment of professional functions and efficient performance in these contexts. The objective is to propose a pedagogical strategy for

preparing faculty mentors within the university-industry partnership during the continuing education process. To this end, theoretical methods (analysis-synthesis, historical-logical, and systemic-structural-functional) and empirical methods (document analysis, interviews, and observation) were implemented. The main result is a pedagogical strategy structured in three stages with its corresponding actions, as an alternative to achieve pedagogical, labor and social improvements in the efficient professional performance of tutor teachers without a pedagogical profile.

**Keywords:** company; continuing education; professional; professor; tutor; university.

## RESUMEN

En el artículo se aborda una visión integradora de la atención y seguimiento del profesor tutor sin perfil pedagógico como proceso natural y necesario para su desarrollo, lo que constituye un reto permanente en el perfeccionamiento del quehacer docente productivo. Se revela la lógica que adquiere el proceso de formación continua de los profesores tutores sin perfil pedagógico al considerar el vínculo universidad-empresa, a partir de su carácter sistémico, coherente y contextualizado, como una herramienta metodológica de trascendencia social que favorece el cumplimiento de las funciones profesionales y el eficiente desempeño en estos contextos. El objetivo consiste en proponer una estrategia pedagógica para la preparación del profesor tutor en el vínculo universidad-empresa durante el proceso de formación continua. Para ello se emplearon métodos teóricos (análisis-síntesis, histórico-lógico y el sistémico-estructural-funcional), empíricos (el análisis documental, la entrevista y la observación). Como principal resultado se ofrece una estrategia de naturaleza pedagógica estructurada en tres etapas con sus correspondientes acciones, como alternativa para conquistar mejoras pedagógicas, laborales y sociales en el eficiente desempeño profesional de los profesores tutores sin perfil pedagógico.

**Palabras clave:** empresa; formación continua; profesional; profesor; tutor; universidad.

## RESUMO

Este artigo apresenta uma visão integrada do apoio e acompanhamento de docentes mentores sem formação pedagógica como um processo natural e necessário para o seu desenvolvimento, o qual

constitui um desafio constante na melhoria das práticas de ensino produtivas. Revela a lógica subjacente ao processo de formação continuada para docentes mentores sem formação pedagógica, considerando a parceria universidade-indústria, com base na sua natureza sistêmica, coerente e contextualizada, como uma ferramenta metodológica de relevância social que facilita o cumprimento das funções profissionais e o desempenho eficiente nesses contextos. O objetivo é propor uma estratégia pedagógica para a formação continuada de docentes mentores no âmbito da parceria universidade-indústria. Para tanto, foram empregados métodos teóricos (análise-síntese, histórico-lógico e sistêmico-estrutural-funcional) e empíricos (análise documental, entrevistas e observação). O principal resultado é uma estratégia pedagógica estruturada em três etapas com suas respectivas ações, como alternativa para alcançar melhorias pedagógicas, laborais e sociais no desempenho profissional eficiente de docentes tutores sem formação pedagógica.

**Palavras-chave:** empresa; educação continuada; profissional; professor; tutor; universidade.

## INTRODUCTION

In the professional training process, it is essential to establish connections with businesses so that students, from their undergraduate studies onward, confront the real-world problems of production and services. University-business partnerships, also known as university-industry or university-industry linkages, represent a relationship between two complementary subsystems of society that fulfill their respective social missions. The productive entity ceases to function solely as an entity focused on production or services, and instead incorporates educational activity, which becomes an integral part of its functions. This integration is based on two parallel and interconnected processes: the production process and the educational process.

In this new mission of productive entities, the training of university students is a priority. Therefore, from the initial training process of professionals in Higher Education, transformations begin to occur in the search for new methods and styles of work, based on the responsibility of productive entities towards Higher Education institutions in fulfilling this goal.

This implies the insertion of new functions for the tutor professors of the companies who do not have a pedagogical profile, who, when categorized as university professors, become essential actors who

must integrate work, academic and educational practices in the context of university-company linkage.

These professionals, in fulfilling functions in the business sector and assuming the direction of university processes in the productive entity, require continuous improvement in accordance with the new demands imposed on them by social development.

The strengthening of university-industry ties in higher education, because of the implementation of the Cuban government's educational policy, led to changes in the training of professionals in this field. This gave rise to the role of the tutor professor without a pedagogical background, who has new functions within the university-industry partnership. This tutor provides ongoing guidance and support to university students in their professional, academic, and educational development throughout their training.

The tutor professor without a pedagogical profile is responsible for directing university processes in the initial training of professionals in the educational production scenario; these tasks are related to the direction of university training processes.

In his initial training, the tutor professor received preparation to fulfill the functions as a professional of his profile in the company but was not prepared to fulfill them in the management of university processes; therefore, the new functions as a tutor require knowledge of new content that will be developed during his continuing training.

Furthermore, the ongoing professional development of mentor teachers, understood as the training of practicing teachers in programs promoted both within and outside educational institutions, considers different possibilities for implementing the process and guiding these initiatives to improve their performance. This has been the subject of study by various authors, including Ricardo Cabrera *et al.* (2021), Espíndola Artola *et al.* (2022), and Álvarez Ayala *et al.* (2024). Others have investigated university-industry partnerships, addressing aspects of professional development, such as Herrera Rodríguez (2008), Alonso *et al.* (2020), and Bueno (2021).

Similarly, the pedagogical preparation of the tutor professor without a formal pedagogical background in the context of university-industry partnerships is considered a formative process - conscious, complex, systemic, and dialectical in nature- that recognizes the acquisition of knowledge,

skills, and values, and is systematic and continuous. This preparation is conceived as a training process for the professional who must fulfill the pedagogical role of tutoring professor, guiding students in their professional and personal development while simultaneously improving their pedagogical and methodological skills to ensure effective tutoring in a highly practical environment.

The contributions of the authors serve as a valuable theoretical platform and reference point for this research. However, shortcomings persist in the theoretical framework, among which the following stand out:

- Ineffective pedagogical approach in individual planning, as an essential element in the preparation of the tutor teacher, related to the objectives and essential contents for successful performance in fulfilling their functions and roles inherent to professional activity and personal development.
- There is a lack of specific theoretical and methodological proposals that have addressed, as an object of research, the pedagogical preparation of the continuing training of the tutor with the specificity that it requires.

These shortcomings are the expression of the contradiction between the demands that society places on the tutor professor in the context of the university-business link in his professional performance and the insufficient pedagogical preparation to integrate work, academic and educational practices.

In Granma, the potential demonstrated by the university-industry partnership and the research findings on the training of non-pedagogical faculty mentors within companies, along with the work of various authors on the subject, establish a theoretical foundation for this research. Furthermore, there is a need to develop new approaches for implementation in continuing education. Therefore, the author of this research proposes a pedagogical strategy for the training of faculty mentors in the university-industry partnership during the continuing education process.

## **MATERIALS AND METHODS**

The research implemented the dialectical materialist approach and the structural-functional systemic method, which allowed the orientation of the research process, and the enrichment of the methods and techniques used to reveal the essential relationships of the continuous training process of tutoring teachers in the context of university-business linkage.

For the implementation of the pedagogical strategy, a population of 15 tutor teachers without a pedagogical background was considered, and a sample of 10 was selected, representing 66.6% of the total population during the 2022-2023 academic year. The municipality of Yara was intentionally selected because it presents all three levels of management within the university-business partnership context (the Municipal University Center and businesses as educational production settings), and because it has close ties with the teaching departments in the non-pedagogical sciences area of the University, like the average for the other municipalities and the province of Granma. The average experience of the managers involved in this process ranges from 16 to 20 years and corresponds to the provincial average. The average number of graduates in non-pedagogical fields during the 2022-2023 academic year also corresponds to the provincial average. Information was obtained from 66.6% of the departments in the pedagogical area of the University, from 50.4% of the directors of the educational production scenario, from 100 % of the directors of the university centers (through group interviews in preparation meetings), and from 100% of the tutor teachers without a pedagogical profile.

Theoretical and empirical research methods were implemented. Theoretical methods included: analysis-synthesis, which allowed for obtaining information about the treatment of the topic of continuing professional development for tutor teachers without a pedagogical background by national and international authors, as well as for determining the stages of the strategy; induction-deduction, which contributed to the study of theoretical positions, the links in the functioning of said training within the context of university- industry collaboration, and in the processing of the information obtained in the diagnosis; and the historical-logical method. He determined the background of the research topic.

As empirical methods: document analysis was used to gather information on the historical evolution of the continuing education process of tutors without a pedagogical profile in the context of university-business linkage, and in the diagnostic study, based on the study of the Professional Model, the teaching process plan, the file of the tutor professors in the context of university-business linkage, as well as continuing education and class plans; observation was used during the exploration stage of the situation of the research problem, of the teaching-learning process where the tutor professors without a pedagogical profile work in the context of university-business linkage, as well as for the evaluation of the application of the strategy; likewise, the unstructured interview was

carried out with the heads of Teaching Departments, the directors of the Municipal University Centers and managers of companies.

The proposed strategy consists of three stages with their corresponding actions. These stages are:

Stage I. Determination of the foundations that guide the pedagogical preparation of continuing education.

Stage II. Design and execution of the pedagogical preparation of the content of continuing education.

Stage III. Post-active evaluation of continuing education preparation.

The following presents the proposed strategy for the pedagogical preparation of the tutor teacher in the university-business link during the continuing education process.

## RESULTS

The overall objective of the proposed strategy is to promote the pedagogical preparation of the content of the continuing training of tutor teachers for the fulfillment of their functions and the improvement of professional performance in the university-business link.

The characterization of the object includes the results of the diagnosis, which indicates the object's current state and highlights the problem around which the strategy revolves and is developed. This characterization includes the results of the diagnostic study of the current state of teacher-tutor preparation, using short- and medium-term objectives that enable the transformation of the object from its current state to the desired state. It also includes the stages, actions, resources, means, and methods corresponding to these objectives. Three stages are proposed for the execution of the process:

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**Stage I. Determination of the foundations that guide the pedagogical preparation of continuing education based on its functions, roles, qualities, tasks and responsibilities, which make up the content of its professional activity, as well as the diagnosis**

The objective of this stage is the analysis and evaluation of theoretical and practical information to conceive the pedagogical preparation of the continuing training of the tutor teacher that is derived from different sources of information.

To achieve the objective of this stage, three actions are established:

1. Analyze the policies that guide the preparation of the pedagogical content of the continuing training of the tutor teacher.

The heads of Teaching Departments, the directors of the Municipal University Centers and the managers of the companies as the main actors in the process, carry out a broad and thorough search of the most up-to-date elements that manifest themselves as policies and that are in congruence with the social demands that are raised to the tutoring professors.

To obtain the information, it is considered necessary to:

- a) The study and analysis of specialized sources that reveal contemporary trends in the preparation of the tutor teacher.
- b) The observation of needs and potentialities required in the preparation of the pedagogical content of the continuing training of the tutor teacher.

In identifying the specific elements that the policies of the education system address, the following actions must be taken:

- Review of documentary sources. The following will be considered:
  - a) Documents that define the general policy regarding the training, methodological work, and research of faculty mentors.
  - b) Regulatory documents and their specificities.
  - c) Political and legal documents that establish support for faculty mentors.

- The criteria of managers, tutors and specialists, with positive results in the attention given to tutoring teachers through interviews and surveys.

## 2. Identify the elements that characterize a university higher education professional.

This action aims to determine if it meets the ideal model of the university professor, which will be assumed to structure the formative influences.

## 3. Diagnose the pedagogical preparation needs of continuing education.

The diagnosis is carried out to understand the needs of the pedagogical preparation of continuous training, individual and collective; it is carried out in the Teaching Department of the University, in the Municipal University Centers and the company, taking into consideration dimensions and indicators.

Methods such as surveys, participant observation, and interviews are used. Results are tabulated by dimensions and indicators; the following should be considered:

- Defining the objective.
- The determination of the pedagogical content, in accordance with the objective.
- The selection of the population and the sample.
- The selection of the methods and techniques to be used.
- Determining the sources of information.

To carry out the diagnosis, methods of obtaining relevant information are applied, which are: selecting those responsible for conducting the application process, preparing the people who will apply the instruments, coordinating the actions for the processing and delivery of the results, and ensuring the necessary material support.

The process of determining individual and collective educational needs requires information processing, qualitative analysis of the results of statistical processing, determination of the main needs derived from the analysis carried out, and classification of these needs for individual or collective attention.

## **Stage II. Design and execution of the pedagogical preparation of the content of continuing education**

This second stage considers the design, pre-active and application evaluation (including interactive evaluation).

The design outlines the components that guide the implementation of the pedagogical training program for continuing education content for teacher tutors. It considers the following elements:

- Selection, structuring and organization of the pedagogical content of the continuing training of tutor teachers.
- Design of organizational forms. This will consider courses, postgraduate training, diplomas, scientific exchanges, conferences, workshops, methodological meetings, open classes, methodological classes, project tasks, seminars, and others.
- Material and human resources, schedules; all by management levels.
- Preparation of the program for the preparation of the pedagogical content of the tutor teachers by a working team under the direction of the Head of Department of the University, the Municipal University Center and the company.
- Develop the methodological guidelines.
- Develop guidelines for evaluating the performance of the tutor teacher, which includes top management at all levels as the main people responsible for directing the preparation process, pedagogical content and evaluation of the performance evolution of the tutor teachers; the establishment of indicators and the specific context in which they work in the company.
- Analysis and approval in the Departmental Scientific Commission and in the Scientific Council of the corresponding Faculty.

To implement the pre-active evaluation (also called preliminary or planning evaluation), a group of people who actively participate in preparing the pedagogical content of the continuing professional development for teacher tutors are consulted. This group includes administrators, users, and facilitators. The following actions are then carried out:

- a) Interviews and surveys of selected people to evaluate the design.
- b) Compilation of information from interviews and surveys applied to the selected staff.
- c) Processing and evaluative analysis of the collected information.

- d) Analysis and approval by the Departmental Scientific Commission and the Scientific Council of the Faculty, of the corrected version of the design to be implemented.

The application's essential purpose is to develop the set of activities that guarantee the fulfillment of the objectives of the Continuing Education Program, the University's Teaching Department as the management level that directs the process of preparing the pedagogical content of continuing education, the Municipal University Centers and the Companies.

Main actions to consider:

- Participation of tutor professors in the approval of programs.
- Flexibility of the approved program, so that it can be adapted to the needs that arise in the development of continuing education.
- Implementation of preparation actions by the drivers.
- Locating and creating bibliographic sources.
- Development of pedagogical content with an interdisciplinary character.
- Use of forms and methods that encourage teacher participation.
- Creating a climate that fosters communication between the people involved and the level of commitment of the tutor teachers.

The interactive evaluation (also called methodological or developmental) of the process of preparing the pedagogical content for continuing education is implicit in the application and is carried out by the different levels of continuing education management (University Teaching Department, Municipal University Center, and company), in accordance with their assigned functions. These functions provide the necessary elements for timely and dynamic decision-making. They include:

- Obtaining information on compliance with the planning of preparation activities, both individually and collectively.
- The acquisition of information from data provided by management levels, under the following criteria: satisfaction with the activities carried out, main achievements and difficulties during the development of the activities carried out, and suggestions to improve this process.
- Obtaining information from data provided by the facilitators of the continuing education process.
- Observing the activities of the teaching-learning process.

- Obtaining information from data provided by the different levels of management involved in the pedagogical preparation process of tutoring teachers.
- The results of the continuous training process, which allow us to know the level of development and performance achieved.

### **Stage III. Post-active evaluation of continuing education preparation**

Its purpose is to obtain evaluative and characterizing information for decision-making through design, implementation, and conclusions. This entire process will be conducted by the University's Academic Departments, Municipal University Centers, and companies, in the execution of the evaluation.

The design and organization of the post-active evaluation develop the following actions:

- Define the specific objectives of the evaluation process.
- Determine the methods, techniques, and development of the instruments for data collection.
- Determine the sources of information.
- Select the human resources that will be involved in the evaluation process.
- Prepare the implementation schedule.
- Plan the material and financial resources.

The application of the post-active evaluation process has the following essential elements:

- a) The preparation of the management levels that participate in the evaluation process.
- b) The establishment of coordination relationships between the Teaching Departments of the University, the Municipal University Center and the company.
- c) The development of joint actions for data collection through the application of selected methods, techniques and instruments.

The conclusion of the evaluation process must guarantee the provision of relevant information regarding the indicators established in the content of this type of evaluation, enabling informed decisions about necessary changes in the design or subsequent redesign of the continuing education process. To achieve this, the following actions must be completed: information processing, qualitative

analysis of the processed information, refinement of considerations, inferences and proposals of alternatives for decision-making, and preparation of the final report.

## DISCUSSION

The strategy was developed based on the criteria of de Armas Ramírez *et al.* (n.d.), as well as the research conducted by Ricardo Cabrera *et al.* (2021), Rodríguez Valle (2022), Espíndola Artola *et al.* (2022), Leyva Ríos *et al.* (2023), Álvarez Ayala *et al.* (2024), and Ruiz Ducasse *et al.* (2024). Many of the authors studied agree on the essential role of the faculty mentor. They emphasize the pedagogical training that mentors should receive for their professional performance; however, they do not address the role of faculty mentors without a pedagogical background who work within the university-business partnership context. This highlights limitations in the design of intervention strategies at the business level, hindering the coherent and systematic action of these professionals.

the general features of a strategy according to de Armas Ramírez *et al.* (n.d.) were considered, among which the following stand out:

- Systemic approach, in which coordination relationships predominate, although relationships of subordination and dependence are still present (University Teaching Department, Municipal University Center and the company as a productive educational scenario).
- A structure, based on phases or stages related to the actions of orientation, execution and control.
- To respond to a contradiction between the current and desired state of a concrete object located in space and time.
- Dialectical character, which is given to it by the search for the qualitative change that will occur in the object (from the real state to the desired state).

The priority given to tutoring professors has encouraged the development of research proposals related to the processes, which aim to provide continuous training for its members, to promote professional pedagogical performance in the context of university-business collaboration.

The elements provided from a theoretical point of view and the assumed features of the definitions have relevant importance for the research, since in the context of university-business linkage

relationships are produced between the professional training of the tutor teacher without a pedagogical profile and of the professional in training and the demands of society.

In the social context (business), an individual's activity cannot be viewed outside of its relationships with society, because it is there that human activity in general takes place; a situation that fosters the self-transformation of individuals to a greater or lesser degree. Therefore, in the context of university-business collaboration, it is necessary to strengthen the pedagogical preparation of the tutor professor without a pedagogical background who works in the business setting as a training ground for university students. In this setting, the professional pedagogical aspect is somewhat neglected, resulting in a theoretical deficiency. This study proposes to reveal the nature of the pedagogical preparation of the tutor professor without a pedagogical background who works and fulfills responsibilities in these settings.

The implementation of the designed strategy makes a significant contribution to improving the training of teacher mentors without a pedagogical background, which has a direct impact on their professional performance and the consequent qualitative improvement of processes in the productive-educational setting. As a result, the teacher mentors demonstrated changes in their professional performance, including the following:

- a) Recognize the importance of planning and executing training activities, linked to methodological work, research and business.
- b) To understand the personal and academic characteristics of their students, motivated by a comprehensive pedagogical diagnosis.
- c) Demonstrate a strong willingness to participate in activities designed to improve your performance as a university professor.
- d) Demonstrate that the continuing education they received prepared them to fulfill their duties.

The university-business link, under the conditions of the University of Granma, and the strategy implemented, favor the development and progression of tutor professors without a pedagogical profile in their performance and fulfillment of their functions.

The continuing education of the tutor teacher in the context of university-business linkage is a process that involves the development of knowledge, skills and values that guide their transformative

and educational activity in the educational production scenario and the modes of action of this professional and the professionals in training.

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## 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.



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