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Management model for postgraduate studies outside the university

Modelo de gestión de superación de posgrado extramuros

Modelo de gestão de melhoria de pós-graduação extramuros

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ABSTRACT

The Branch School of The National Institute of Sport, Physical Education and Recreation has faced difficulties in offering postgraduate programs to professionals from other institutions and provinces in the country, due to the current economic situation. This has led to a passive improvement through information and communication technologies, which does not always guarantee the active and interactive learning necessary for the development of professional skills in the field of physical activity and sports. The objective of this article was to design a postgraduate improvement management model, both face to face and hybrid, for the human capital attending the Branch School of The National Institute of Sport, Physical Education and Recreation. The theoretical methods used included analysis-



synthesis, modeling, abstraction, system approach, and explanatory hermeneutics. Empirical methods included the documentary review, the specialist criteria, and the structured interview-survey. Descriptive statistics was used for data processing. The research results showed positive theoretical validation by specialists and high levels of satisfaction among students. This study offers an innovative perspective for postgraduate improvement, presenting more accessible alternatives in both in-person and virtual modalities.

Keywords: Sports school; management; postgraduate; professional improvement

RESUMEN

La Escuela Ramal del Instituto Nacional de Deporte, Educación Física y Recreación ha enfrentado dificultades para ofrecer programas de posgrado a profesionales de otras instituciones y provincias cubanas, debido a la situación económica actual. Esto ha llevado a una superación pasiva, a través de tecnologías de la información y las comunicaciones que no siempre garantizan un aprendizaje activo e interactivo necesario, para el desarrollo de habilidades profesionales en el ámbito de la actividad física y deportiva. El objetivo de este artículo fue diseñar un modelo de gestión de superación de posgrado, tanto presencial como híbrido, para el capital humano que atiende la Escuela Ramal del Instituto Nacional de Deporte, Educación Física y Recreación, en Cuba. Entre los métodos teóricos utilizados se incluyeron el análisis-síntesis, la modelación, la abstracción, el enfoque de sistema y la hermenéutica explicativa. En cuanto a los métodos empíricos, se llevaron a cabo la revisión documental, el criterio de especialistas y la entrevista-encuesta estructurada. Para el procesamiento de datos, se empleó la estadística descriptiva. Los resultados de la investigación mostraron una validación teórica positiva por parte de los especialistas y altos niveles de satisfacción entre los estudiantes. Este estudio ofreció una perspectiva innovadora para la superación de posgrado y aportó alternativas más accesibles tanto en modalidades presenciales como virtuales.

Palabras claves: escuela deportiva, gestión, posgrado, superación profesional



RESUMO

A Escola Filial do Instituto Nacional de Desporto, Educação Física e Recreação tem enfrentado dificuldades em oferecer programas de pós-graduação a profissionais de outras instituições e províncias cubanas, devido à atual situação económica. Isto tem levado a uma melhoria passiva, através de tecnologias de informação e comunicação que nem sempre garantem a aprendizagem ativa e interativa necessária ao desenvolvimento de competências profissionais no domínio da atividade física e desportiva. O objetivo deste artigo foi desenhar um modelo de gestão de melhoria de pós-graduação, presencial e híbrida, do capital humano atendido pela Escola Filial do Instituto Nacional de Esportes, Educação Física e Recreação, em Cuba. Os métodos teóricos utilizados incluíram análise-síntese, modelagem, abstração, abordagem sistêmica e hermenêutica explicativa. Quanto aos métodos empíricos, foram realizadas a revisão documental, o critério de especialistas e a entrevista-pesquisa estruturada. Para o tratamento dos dados foi utilizada estatística descritiva. Os resultados da pesquisa mostraram validação teórica positiva por especialistas e altos níveis de satisfação entre os estudantes. Este estudo ofereceu uma perspectiva inovadora para o aprimoramento da pós-graduação e forneceu alternativas mais acessíveis tanto na modalidade presencial quanto virtual.

Palavras-chave: escola de esportes, gestão, pós-graduação, aperfeiçoamento profissional

INTRODUCTION

The Branch School is a Cuban institution recognized by the Ministry of Higher Education (MES) to provide postgraduate improvement to human capital, governed by the National Institute of Sports, Physical Education and Recreation (INDER) and the related non-state sector.

Postgraduate studies are a fundamental part of the training of academics and professionals. According to Yazar (as cited in Berrio et al., 2022), these studies are what drive the social and economic development of a nation, and their contribution is vital to the advancement



of society. For their part, Bernaza et al. (2020) highlight that the importance of continuity in professional training at the highest level cannot be underestimated.

It is crucial to consider the various processes of science, technology and art that take place in postgraduate studies, since their products directly impact the well-being and development of society. Therefore, the relevance of postgraduate studies is marked and necessary for the advancement of society.

The above approach has a marked focus on the conception of interdisciplinarity and scientific culture, in which Valiente et al. (2022) claim that it promotes the development of learning skills, facilitates understanding and strengthens values such as flexibility and sensitivity towards others; fundamental aspects to integrate dissimilar contexts and access acquired knowledge, in which the use of face-to-face and distance educational models play a decisive role as channels of communication and interaction. For this reason, it is considered appropriate to address these models for a better understanding of this research.

In the case of the face-to-face modality, some authors such as Dasso and Chiyong (2020) consider it as a traditional education in which the student and the teacher are in the same space-time for most of the educational process. It is important to highlight that direct communication and interaction between students and teachers during face-to-face teaching activities are essential for the development of skills and competencies in the educational field of physical education, sport and recreation.

Regarding distance education, Ibáñez (2020) states that this modality has advanced towards combining face-to-face and virtual participation, thus giving students greater control over their time, place and learning pace. Although initially it did not require an internet connection or computing resources, information and communications technologies (ICT) have now been integrated to facilitate the exchange of knowledge in a more immediate manner.

At present, there is a large flow of transmission and collaboration of educational materials in digital formats, such as conferences, workshops and videos, through messaging



platforms and programs such as Microsoft Word, PDF and PowerPoint, which, converted into learning platforms, have enriched and complemented distance education for specialists and students.

In this context, it is also necessary to guarantee face-to-face education as an educational and enriching experience in the field of physical education, sport and recreation, where working face to face with student-athletes is essential in their daily activity.

In reference to these studies, it is relevant to mention that the INDER Branch School is an entity that constantly adapts to provide up-to-date training in methodological and scientific foundations, which uses digital technologies as a complement and enrichment of the postgraduate educational process.

The economic situation in Cuba has generated limitations in the provision of improvement activities for the human capital of other institutions and provinces of the country. Although the exchange of knowledge and teaching materials has been an alternative way, its passive nature reduces the possibilities of exchange and debate necessary for the professional development of INDER's human capital that works directly with students and teachers.

This is why, the aim of this research was to design a postgraduate improvement management model of a face-to-face and hybrid nature for the human capital that attend the INDER Branch School. The postgraduate improvement management model outside the university is a fundamental tool to facilitate access to higher education for those professionals who, for various reasons, cannot attend face-to-face classes and have difficulties in accessing distance learning.

MATERIALS AND METHODS

For the qualitative -descriptive study, a non-probabilistic sample consisting of 17 subjects from martial arts and combat sports was used, who received improvement, through the model designed at two times with a difference of six months.

Characteristics of the sample of the subjects studied:



- **Cadre reserve:** 1 subject.
- **Executive Directors:** 2 subjects.
- **Martial arts and combat sports trainers:** 14 subjects.

Academic level

- **Intermediate technician in Physical Education:** 3 subjects.
- **Bachelor of Physical Education:** 14 subjects.

For the literature study, the essential foundations and contributions of the research were identified through documentary review and analytical-synthetic methods. For the initial diagnosis of the existing situation, documentary review and the structured interview-survey technique were used. As for the design of the model, scientific modeling, called management of extramural postgraduate improvement (GSPE in Spanish), was used as the main method.

Diagnostic Protocol. The aim of the diagnosis was to investigate how the knowledge and study materials generated at the INDER Branch School are shared with the human capital of this institution that works in other provinces of the country.

The objective of the documentary review was to verify the official organizational forms guided by the directors to share the knowledge and study materials generated at the Branch School with the human capital of INDER that works in other provinces of the country.

The purpose of the review was the methodological documents and regulations that guide the forms and paths for postgraduate professional improvement at the INDER Branch School.

The following documents were reviewed:

- Professional improvement procedure manual of the Teaching Sub-directorate of the INDER Branch School.



Review indicators: ways and means aimed at sharing and transmitting the knowledge and study materials generated by the INDER Branch School.

Structured Interview-Survey Technique. **Sample characteristics:**

- **Number of subjects:** six teachers and two directors of the INDER Branch School in Havana.
- **Professional experience:** 100% were teachers with the teaching category of principal teacher at the INDER Branch School, in physical education, sports and recreation activities.
- **Selection criteria:** At the time of this process, the subjects constituted 100% of the specialists who direct the work of coordination and teaching of postgraduate improvement in the Teaching Sub-directorate of the INDER Branch School.

Characteristics of the interview-survey. The objective was to investigate the collective opinion on the methods and formats used by the specialists of the INDER Branch School, to share the knowledge produced by them with the human capital of the institution that works in other provinces of the country.

- **Type of interview-survey:** group opinion.
- **Question type:** open.

Question: Could you mention the ways you use to make the knowledge produced by the institution available to specialists from other institutions of interest?

As part of the scientific modeling, the following methods were included:

- Abstraction, for the analysis of the brainstorming that initially led to the creation of concepts and definitions of a set of methodological procedures that allowed standardization for the concrete application in the practice of GSPE.
- Systemic approach, to determine the set of parts that make up the GSPE, fundamentally in the internal organization and hierarchical relationships of its structure.



- Explanatory hermeneutics, as a means of understanding and clarifying GSPE procedures.

A theoretical validation was applied with the specialist criterion method on the GSPE model, a mandatory requirement for its implementation at the INDER Branch School. 100% (8) of the teachers and coordinators of the Teaching Sub-directorate participated, who, due to their recognized teaching category for postgraduate higher education as main professors, were in charge and trained to issue suggestions and solutions to a problem or research topic. The presented model was evaluated, based on the format of main programs of the INDER Branch School, which contemplated the following aspects:

- Justification (well-founded): whether the model meets the needs for improvement and has the necessary resources for its successful development.
- Student: academic and professional participation requirements to be accepted.
- Program structure (model): its relevance is assessed based on:
 - 1) **Objective of the model:** whether it is clear and consistent with the justification.
 - 2) **Contents:** whether the student has the knowledge, skills and values to be taught.
 - 3) **Teaching methods:** whether they are appropriate for the planned activity.
 - 4) **Organizational forms of activities (conferences, workshops, others):** if they are declared correctly.
 - 5) **Scenarios, materials and means:** if the necessary ones are available.
 - 6) **Evaluation system:** if it has a systematic and final character.
 - 7) **Bibliography:** if it has updated materials from the last 5 and 10 years.

Type of registration: by positive or negative evaluation, depending on what is required in each aspect of the program.

To check the impact of satisfaction caused by the GSPE in students, the structured survey was applied validated by the INDER Branch School, to investigate the opinions of the subjects who received training at two times during the application of the GSPE. Characteristics of the structured survey applied to GSPE:



Survey Name: Satisfaction survey, according to depth levels

Type of survey: structured, qualitative with evaluative research purposes.

Types of questions: with a mixed degree of freedom of response with closed and open questions with a predominance of closed questions with unlimited selection.

Objective of the survey: to investigate the opinions of subjects who received training at two points in the application of the GSPE.

Content to be investigated: dimension of postgraduate improvement activities was surveyed in terms of:

- Exposition quality.
- The exchange of knowledge between students.
- Knowledge exchange in classes between student and teacher.
- Promoting team activities for learning.
- Checking learning.

Indicators: criteria, attitudes, motivations, values, feelings and opinions of satisfaction that the student expressed with the categories selected for their responses to each question.

Evaluation scale:

- Very positive opinion categories (responses): a 5-point evaluation (Very good).
- Positive opinion categories: a 4-point evaluation (Good).
- Poor opinion categories: a 3-point rating (Fair).
- Negative opinion categories: a 2-point evaluation (Needs improvement).
- Incongruent responses are cancelled out: if the respondent marks similar positive and negative criteria in a question.

Statistical procedure: descriptive statistics using the Microsoft Office Excel 2016 Program, with the application of:



- Formula for averaging the value for all opinion (response) categories marked in a question for its evaluation and the same operation for the evaluation of the general survey.
- Percentage range formula, whose distributions were organized into statistical graphs of the results.

RESULTS AND DISCUSSION

Diagnostic results

During the documentary review, the Manual of Procedures for Professional Improvement of the Teaching Sub-directorate of the INDER Branch School was analyzed, where it was investigated how the knowledge and study materials generated in this institution are shared with the human capital that works in other provinces of the country. Although the document does not specify these guidelines, it is presumed that through the distance education modality declared therein, various means were used to send educational resources to students from different provinces.

The interview-survey applied to investigate the collective opinion on the methods and formats used by the specialists of the INDER Branch School showed the use of the WhatsApp and email messaging platform and of educational capsules and audiovisual materials.

The results of the diagnosis showed the passive nature of the exchange of knowledge with the human capital of INDER working in other provinces of the country; however, in this study it was considered important to encourage the exchange of ideas and discussion in forums to enrich and promote meaningful learning of this knowledge. Therefore, it was necessary to promote active rather than passive generalization in the postgraduate improvement process. This involved facilitating communication, exchange, questioning and debate.

The above criterion is in line with the studies by García and Ruíz (as cited in García, 2018) who highlight the importance of adapting pedagogical strategies to the needs and



characteristics of students, both in face-to-face and distance learning modalities. According to these authors, the diversity of learning styles and the promotion (here the exchange and dissemination of knowledge is taken for granted) of an inclusive and participatory environment are fundamental to foster autonomy and critical thinking in students in their comprehensive development.

Results of scientific modeling for the design of postgraduate improvement management outside the university

Precision of the result expected from the GSPE. A teaching-technological way was specified consisting of:

- Active author (teacher who created content and contributed knowledge and actively collaborated in the improvement process).
- Coordinating professor (teacher who was in charge of assuming the knowledge contributed by the active author and teaching it in person)
- WhatsApp messaging platform with the use of cell phones (connects all participants to develop face-to-face and hybrid, synchronous online postgraduate improvement activities)
- Student (human capital from other institutions and provinces that received the improvement, in the field of physical education, sports, martial arts and recreation.

Operative definition of the result expected, which in turn describes the essential features that distinguish the GSPE:

- A virtual communication and learning platform was implemented to facilitate the participation of teachers and students in extramural postgraduate training.
- The teachers, authors and coordinators were trained in the use of the selected ICTs to support the training of students in person and at a distance, in which the extramural activities were adapted to the needs and availability of all participants.
- Improvements were provided that promoted interaction, collaboration and cooperation between students and teachers, through discussion forums and peer



evaluation, both in person and remotely, synchronously online, to develop an educational process with a developmental and interdisciplinary approach.

- Feedback and impact evaluation mechanisms were established for the expected result with the GSPE.

Definition of the expected result. Figure 1 presents the conceptual map of the model structure, taking into account the hierarchical order for its preparation, application and evaluation (Manso & Sánchez, 2023).

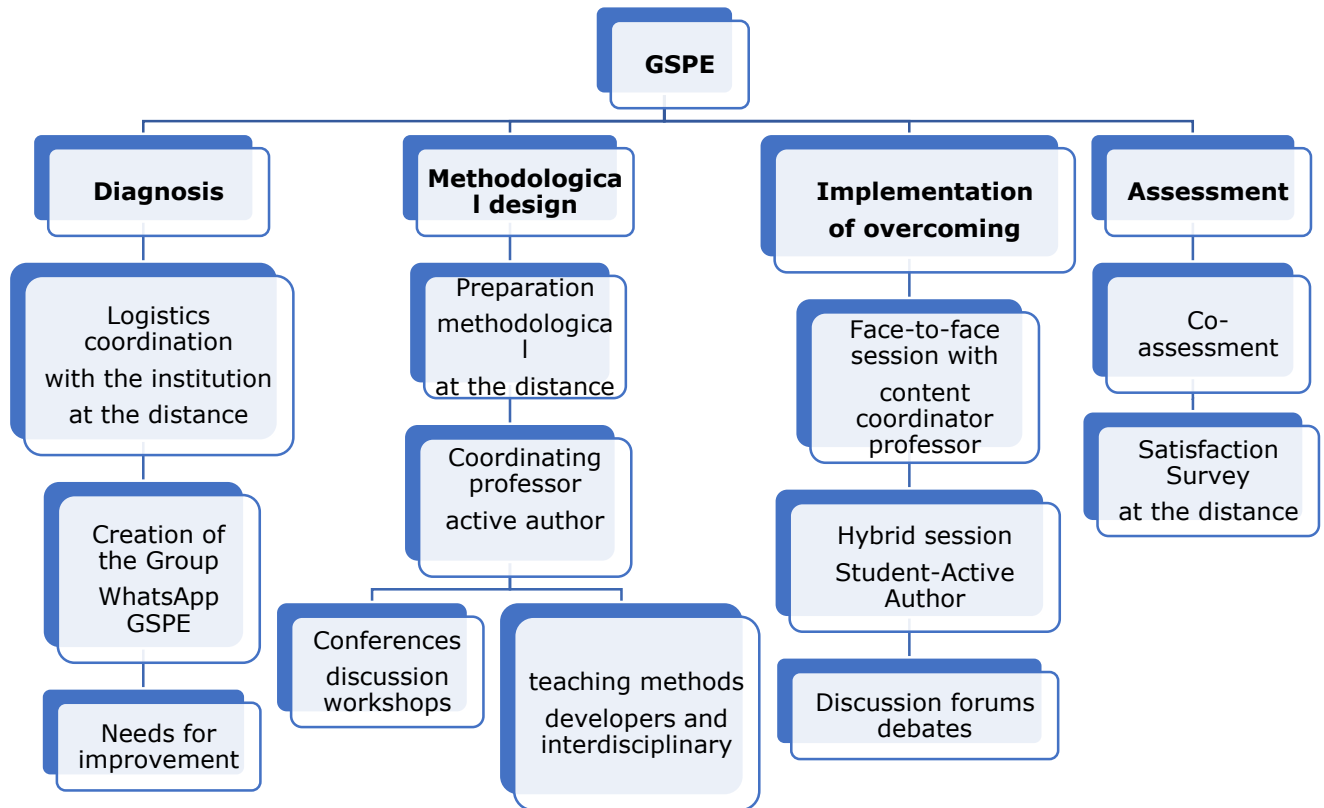


Figure 1. Conceptual map of the GSPE Model

Results of the evaluation of the specialist's criteria on the management model for the improvement of postgraduate studies outside the university



In the graph in Figure 2, it can be seen that during the scientific-methodological advisory session with the specialists of the Teaching Sub-directorate of the INDER Branch School, the presentation of the GSPE for its implementation as a postgraduate improvement management was approved by 100% of the specialists in all the aspects evaluated.

In the observations, 75% considered it very necessary, objective and innovative, while 87.5% positively highlighted that the model is designed for students (managers and teachers) who cannot receive the improvement activities of the INDER Branch School in person.

75% praised the use of hybrid organizational forms during improvements sessions using WhatsApp as a learning platform. Likewise, 50% rated the application of peer assessment and discussion forums as very positive, while another 50% positively evaluated the adaptation of the presentation format for main activity programs to that of the model that is an activity classified as complementary, which constituted a novel methodological experience. This success was due to the fact that complementary activities usually only presented the final report format of the improvement activity.

Finally, regarding the synchronous hybrid session, 100% addressed the concern about limited access to cell phones for some students. It was clarified that the main use of the mobile phone as a platform for communication and didactic interaction was limited to only two devices: that of the coordinating teacher and that of the active author of the topic.



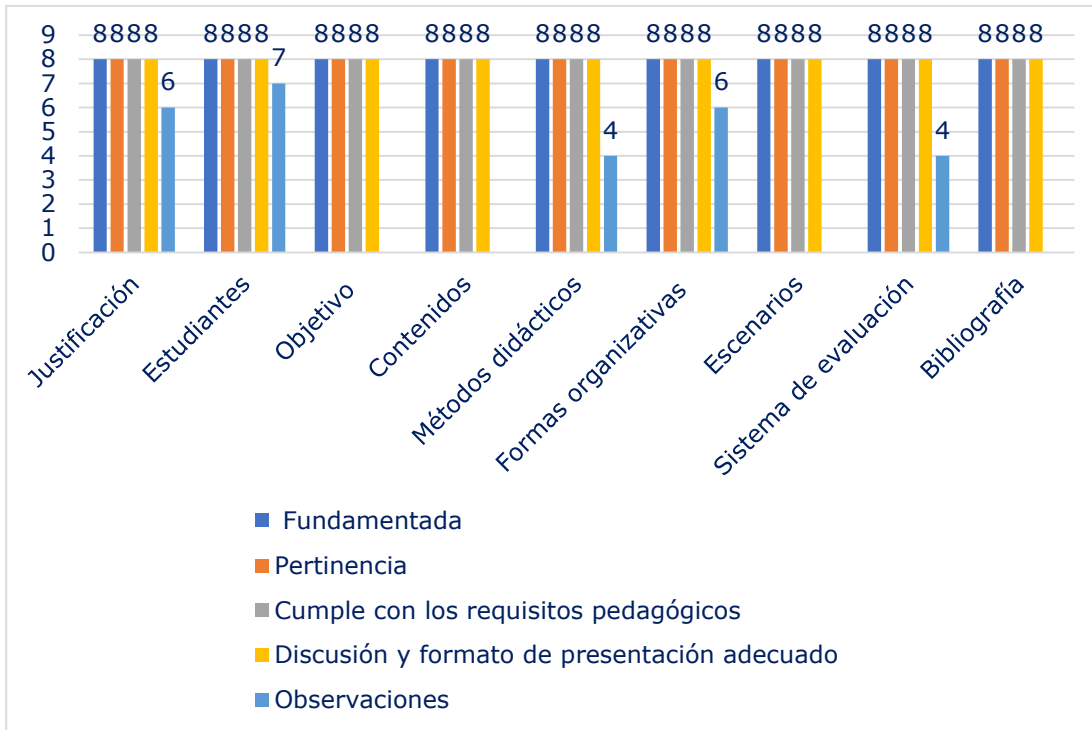


Figure 2. Graph of the behavior of the evaluations of the specialist criterion

The design and presentation of The GSPE were highly praised by specialists, who highlighted their necessity, objectivity and novelty. This demonstrated their value as a scientific model by offering, according to De Armas et al. (As cited in Tamayo et al., 2017), a clear and precise understanding of its functioning based on a unique theoretical construction that allows to discover and delve into new relationships and qualities of the object studied.

Results of the survey to check the impact of the postgraduate development management model on satisfaction

Below is the summary result of the two surveys, in which five questions were selected that reflected the level of general satisfaction that students appreciated in the teaching-educational dimension, evaluated at two moments (1 and 2) of Good and Very good, respectively.



Figure 3 shows the graph of the level of satisfaction of respondents on the first three questions: the expository quality of teaching activities, exchanges between students and exchanges between students and teachers. The quality of the teaching activities was highly satisfactory in 100% of the positive categories; the comments included: "We suggest continuing and expanding the project with new topics. Your presentations, the quality of the PowerPoint presentations and the clarifications of doubts have helped us a lot."

In the case of knowledge exchange between students, 17% of respondents considered that it was too much, 82% that it was adequate, while the other positive categories were marked by 100% of the subjects. There were no comments in the observations on this question, however, its result reflected the benefits of promoting exchanges of opinions and debates to clarify and enrich knowledge.

In the exchange of knowledge in classes between student-teacher -authors, 100% of the respondents expressed their maximum satisfaction, in the observations the comments stood out: "(...) it is a novelty in our province to be able to exchange with my classmates, with the professor (coordinating teacher) and with you teacher at the same time (active author of the material studied" (moment 1). "It has been a unique experience to be able to receive and discuss knowledge and converse in unison with the authors and coordinator of the GSPE, it was very motivating and productive, I hope it will be repeated (moment 2)."



Figure 3. Graph of the level of satisfaction of respondents regarding the quality of the



presentations, the exchange between students and between students and teachers

One of the most significant results of the survey was the students' gratitude for being able to communicate and debate online synchronously with Cuban sports personalities. It should be added that the use of WhatsApp by the GSPE as a communication and learning platform was decisive in the success of this effort.

The positive impact of the intensive use of cell phones with WhatsApp in the learning process of students has been the subject of research in which Weepiu and Collazo (2020) have stated that this application enjoys great preference and has become a very useful tool for access to information between teachers and students in a simple, fast and affordable way.

Figure 4 shows the graph of the level of satisfaction of respondents on the two remaining questions: promotion of activities for learning and verification of learning, with 100% satisfaction.

In question four, in which 76% appreciated the exchange of knowledge and 100% appreciated building knowledge, opinions such as: "Comparing my exercises with those of another trainer was the best thing, because that way, I was able to learn new ones" (moment 1), "We suggest continuing and expanding the project with new topics, since in the provinces it is more difficult to achieve dynamic improvements of this type" (moment 2).

As for question five on checking learning, where co-assessment was reflected in 100% of all those involved (students, teachers, authors), there were no comments in the observations; however, active participation with comments and suggestions during the evaluations was noted among the students, in an atmosphere of cooperation and respect.



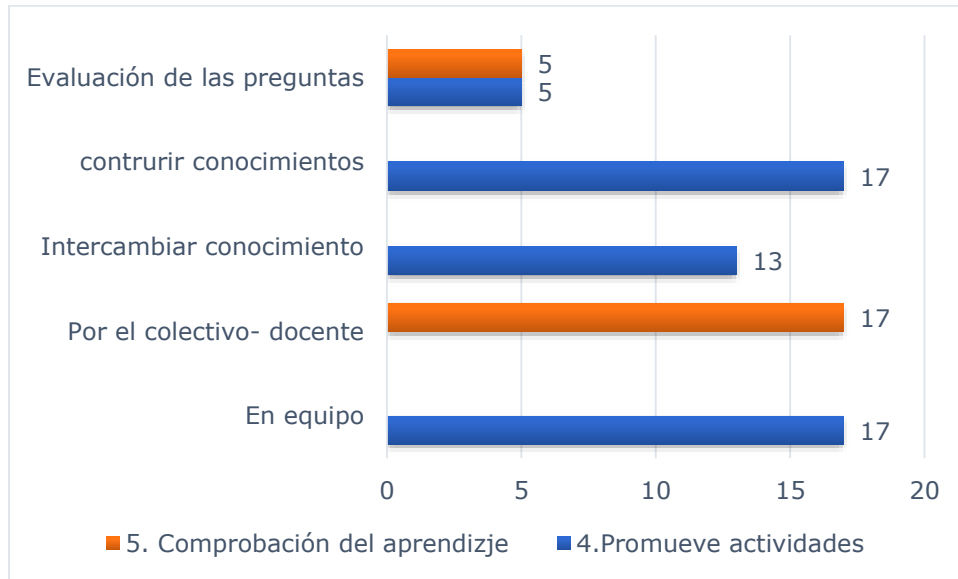


Figure 4. Graph of the level of satisfaction of respondents regarding the promotion of team activities for learning and the verification of the same

The survey results showed a high level of satisfaction among the subjects who positively valued the expository quality of the activities, the exchange and debate in both directions, as well as the co-evaluation between students and teachers, which highlighted the collective nature of this form of learning verification.

These aspects reflect the conceptions of developmental learning that promote student control of their own cognitive and motivational processes (activation-regulation), the active, creative and motivating appropriation of knowledge, based on their previous experiences and knowledge (significance); as well as the interest in debate, discussion forums, questioning and divergent thinking and their socialization with commitment and social responsibility, according to Castellanos, Caballero and Wahyudi (as cited in Rojas, et al., 2022).



CONCLUSIONS

The results of the research on the postgraduate improvement management model showed a very positive evaluation both by the specialists and by the students, reflected in their evaluations and surveys with high levels of validation and satisfaction, respectively.

This management approach to postgraduate improvement, based on face-to-face and hybrid forms of teaching-learning, offers new opportunities for specialists from other institutions and provinces.

Although the use of alternative teaching services using mobile devices and WhatsApp as a learning platform was useful, there are still limitations in access to cell phones and the allocation of monetary resources for the application of the GSPE model. This study offers an innovative perspective for postgraduate improvement, breaks barriers and offers more accessible alternatives.

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Conflict of interest statement:

The author declares that there are no conflicts of interest.

Author's contribution:

The author is responsible for writing the work and analyzing the documents.



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