

**THE ROLE OF THE UNIVERSITY TEACHING DEPARTMENT IN
ORGANIZING AND DEVELOPING STUDENT SCIENTIFIC GROUPS**

**EL DEPARTAMENTO DOCENTE UNIVERSITARIO Y SU PAPEL EN LA
ORGANIZACIÓN Y DESARROLLO DE LOS GRUPOS CIENTÍFICOS
ESTUDIANTILES**

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ABSTRACT

This research aims to design activities to favor the development of the department head's capacity in organizing, promoting and follow-up of student scientific groups as a way to form professionals in university teaching context. For this purpose, the information obtained was processed by using theoretical and empirical methods, as well as direct techniques, such as participant observation and interview, and non-direct techniques, such as survey to students, professors and heads of department at Holguin University, as well as the study of documents. The results of this research suggest that modeling activities and their fulfillment favors developing capacity of the head of the

university teaching department in promoting and follow-up the student scientific groups, since it becomes a way to form the professional in this context.

KEYWORDS: organization; management capacity; student scientific groups

RESUMEN

El presente artículo tiene como objetivo modelar actividades dirigidas a favorecer el desarrollo de la capacidad del Jefe de Departamento en la organización, fomento y seguimiento de los grupos científicos estudiantiles como una vía para la formación del profesional en el contexto del departamento docente universitario. En el proceso investigativo se emplearon métodos teóricos y empíricos para procesar la información obtenida; además, las técnicas directas como la observación participante y la entrevista, encuestas a alumnos, profesores y Jefes de Departamentos de la Universidad de Holguín (Uho), así como el estudio de documentos empleados como técnica no directa para obtener información. De este modo, se arribó a la conclusión que la modelación de las actividades y su cumplimiento favorece el desarrollo de la capacidad del jefe del Departamento Docente Universitario en el fomento y seguimiento de los Grupos Científicos Estudiantiles, al convertirse esta en una vía para la formación del profesional en el contexto del departamento.

PALABRAS CLAVE: organización; capacidad de dirección; grupos científicos estudiantiles

INTRODUCTION

Work with Student Scientific Groups (henceforth SSGs) stands as an essential component in university training, both, in Cuba and other countries, their integration with social needs and their focus on applied research make them a reference model.

Consolidation and expansion of these groups will contribute to strengthen the quality of university education and its impact on the sustainable development of communities (Hernández-García, 2021; Zaldívar & Rodríguez, 2022).

An SSG is an organization comprised of university students, generally under the coordination of teachers or tutors, whose main objective is to foster scientific activity, a research culture and the development of research skills among its members.

These groups function as practical training spaces where students involve in scientific projects, debates, academic events and outreach activities, contributing to professional training and the scientific advancement of the institution and society (Gonzalez-Argote, 2016).

It can be affirmed that SSGs is a fundamental pillar in the initial training of university professionals in Cuba, as they not only foster the development of research skills but also promote critical thinking, innovation and the capacity to solve complex problems in real-world contexts.

This approach aligns with the principles of Cuban Higher Education, which search to train well-rounded integral professionals with a solid scientific base and a commitment to social development. These groups can also motivate students to continue with scientific work (Sandoval et al., 2024).

From a methodological point of view, it is important to consider the scientific training of university students as a continuous process throughout the whole career program.

Therefore, it is necessary to consider the Professional Model and the annual objectives of each career, which determine the content and activities to be developed by the students who make up the Student Scientific Group linked to local development projects.

Legal and juridical basis supporting student scientific activity and student scientific work must be followed. Among the documents and resolutions, some are cited for their importance, such as the Constitution of the Republic (Cuba, 1981) in its Chapter II, Article 32, which lays the basis for promoting student scientific activity as part of state policy; the Guidelines of the Economic and Social Policy of the Party and the Revolution (De Cuba, 2011).

Which marks the need to strengthen research from academic training; and the Resolution in Cuba that formalizes student research as an integral part of the teaching process in Resolution 47/2022 of the Regulations for Methodological Work in Higher Education in Cuba, and the Governing Document of the National FEU Student Scientific Group, Cuba (2024), among others.

The main characteristics of the student scientific work group are the following:

It is distinguished by being voluntarily formed by motivated university students interested in scientific research with a strong student relevance, with the participation of advisors or tutors; it can group students from different degrees or disciplines, fostering the exchange of knowledge and collaboration in multidisciplinary projects, where interdisciplinarity acquires an essential character; it has an internal structure (president, members, advisors) and a defined work system, with periodic meetings and planned activities.

They operate in coordination with the university, faculties and other scientific entities, which facilitates access to resources and integration into institutional projects, demonstrating how institutional linkage operates.

They emphasize research training by prioritizing training in research methodology, scientific ethics and skills for publishing and disseminating results; their activities are usually aligned with the needs of the environment, searching solutions to local or national problems through applied research, contributing significantly to local and social development.

SSGs are guarantors of participation in scientific events, publication of articles and the obtaining of academic awards and recognition. Among the main functions of SSGs, the following stand out: promoting and stimulating scientific projects, identifying and developing research lines in accordance with the priorities of the need or the community.

To guarantee the efficient direction of this university process, a University Teaching Department Head (UTDH) with high management capacity is required, which is declared as a general requirement according to the provisions of the Regulations for working with leaders and the reserve (Resolution 70/2000) and the Methodology on the leaders evaluation model (2014).

The University Teaching Department (UTD) is a basic academic unit constituted by a collective of workers, which has the responsibility to direct, in an integrated manner and under criteria of quality, relevance, efficiency and efficacy, the functions of teaching, research and extension inherent to the area of knowledge under discussion, in correspondence with needs, demands, and expectations of society (Ministerio de Educación Superior, 2014).

Among the general functions of the UTD, the following are paramount: guaranteeing the creation of SSGs linked to the research projects developed in the department and fostering their participation in scientific events. No less important is keeping teaching, extension, and scientific relations with homologous institutions and those of production or services, organisms and institutions that require them, as they are related to the UTD's activity. These functions include directing the adequate development of students' labor-research practice, elaborating and controlling the plan of scientific results in correspondence with the scientific policy of the faculty, the university and the projects in which department professors participate (Ministerio de Educación, 2014).

In correspondence with the above, UTDH must be an educator with scientific and pedagogical experience, prestige, authority, qualities and attitudes that allow them to perform the functions corresponding to that position with quality.

Their main attributes and obligations are highlight: guaranteeing the quality development of students' labor-research practice, scientific life of the department through the collective debate of the scientific research projects in which professors and students are committed, as well as motivating and demanding the participation of professors and students in national and international scientific events, scientific conferences, sociocultural projects and publication in recognized journals.

The formation and development of the UTDH's capacity aims to achieve greater efficiency in directing pedagogical activity and in integrating the knowledge, experiences and skills manifested in the dialectical interrelation between knowing, knowing how to do, knowing how to be, and knowing how to transform oneself.

This is why its importance for an efficient and responsible performance in the educational level where they work is underlined, without losing sight of the aforementioned analysis.

Management capacity is a complex concept and difficult to address, due to its own nature and the management process itself, which is shaded by the characteristics of pedagogical activity. These imprint a peculiar mark on the activity of the Department Head working at the university, distinguishing them from leader of other institutions (Rodríguez et al., 2017).

Thus, the management capacity of the Department Head is understood as: «the psychological configuration that makes the University Teaching Department Head suitable to apply a conscious, systematic and stable influence on teachers, in the management of university processes, and which finds its expression in the results of the activity of the department they lead» (Rodríguez, 2016).

Therefore, the organization of the UTD in promoting and monitoring student scientific groups demands the development of a group of aspects that are the content of the UTDH's management capacity, allowing for their evaluation in this activity. Among them, the following are highlighted:

- ✓ Deep knowledge of the work to be developed with the SSGs in relation to the students' labor-research practice.
- ✓ Skill to guide, advise, execute, control and evaluate the implementation of the Comprehensive Pedagogical Diagnosis of the students in the different specialties in professional training, as well as the educational needs of their pedagogical collective, professional development and growth.
- ✓ Skill to develop with originality and creativity the success of work with the FEU student organization.
- ✓ Skill to guide, advise and control the establishment of the development of links with socializing agencies, the community, among others, as well as with society in general.
- ✓ Capacity to integrate the coordination relationships that must be established between the UTD and the other institutions in the territory.
- ✓ Aptitudes and habits of mobilization to easily form SSGs and showing the strategy of their activity through programs and projects.

Consequently, student scientific activity is a fundamental pillar in the comprehensive training of future university professionals. However, its right organization and monitoring depend mainly on the efficient management of the UTD.

Indeed, collaborative work among teachers, tutors and students, aimed at enhancing active participation in SSGs, is essential to assurance their curricular integration and their impact on local and institutional development.

Nevertheless, the lack of systematic organization and the absence of clear leadership from the UTD can limit their potential and originality. With the aforementioned, the accomplishment of a continuous monitoring system, with the development of work meetings and formative evaluations, should be highlighted.

The review of documents related to the direction of the UTDH's professional development for directing and advising student scientific work and its fulfillment, in the development of different activities, the carry out interviews and the application of surveys to students and professors, as well as observation, allowed to identify the following deficiencies in the organization, promotion and monitoring of this activity:

- ✓ Deficiencies in the preparation of UTDHs in developing their capacity to direct and supervise Student Scientific Work (SSW) and work with the University Student Federation (FEU).
- ✓ Recognition of SSG contribution to initial training in the UTD, which combines the curricular and extracurricular; however, greater coordination within the UTD is needed for its performance.
- ✓ Insufficient professors and students' knowledge about the different ways used for student scientific work, especially, the SSW and its impact on the initial training of the young university student.
- ✓ Lacking integration among the basic processes of Higher Education: teaching, research and extension, in the educational strategies of the groups, which would allow enhancing the work of the SSGs and its impact on the development of initial training in the UTD context.
- ✓ Insufficient motivation of students to join and attend the activities called by the SSG and their tutors, originating from different causes, such as: scarce coordination among the factors responsible for the development of the activities and their poor release.

- ✓ Weak work by the FEU in terms of promoting the importance of student scientific activity through the work of the SSGs and participation in activities aimed at achieving their consolidation and their impact on their future professional performance.

Specified deficiencies evidence that there are limitations in the development of the UTDH's capacity in directing the SSW of the UTD for the fulfillment of its objectives and its impact on the initial training of the future professional.

Other deficiencies affecting student scientific activity are declared, referring to its concretization, especially regarding the products of said activity such as Course Papers, Diploma Theses, Presentations and Professional Exercises. Among those pointed out are the following: their organization, monitoring and evaluation, which allow identifying the key points given from the Organization, promotion and its monitoring.

In relation to *organization*, the following can be cited: lack of a clear structure, many works lack well-defined introduction, development and conclusions; regarding the declaration of objectives, in many cases they are imprecise and not always clearly formulated or associated with the research problem; and finally, the disorganization of the presentation of results: data and analysis are often presented in a scattered manner or without a logical thread.

Regarding to *monitoring*, the following can be cited: scarce control of the research process, closely linked to the lack of schedules or records of periodic progress; due to a weak teaching guidance and insufficient supervision by tutors or advisors; furthermore, little intermediate feedback and failure to apply partial reviews, likewise, errors are not corrected in time.

On the other hand, in relation to *evaluation*, poorly defined criteria are pointed out; rubrics or clear parameters for grading are not always used, with evaluation focused only on the final product. The research process and the acquired learning are neglected, and feedback is limited; students receive little information on how to improve their work.

The presented proposal aims to model activities directed at fostering the development of the UTDH's capacity in the organization, promotion and monitoring of SSGs, as a way for professional training in the context of the UTD. Thus, a group of activities were determined which, through the UTDH's development of their capacity in directing this university process and the content of the SSW, contribute notably to the initial training of the future professional.

Below is a selection of the proposed activities to be developed by the UTDH. In these, the aspects raised previously about the development of their capacity must be fulfilled to achieve an efficient organization, promotion and monitoring of the SSW and the fulfillment of scientific activity, as a way to achieve the initial training of the professional in the UTD context.

The proposed activities are the following:

Related to the organization of the SSG

1. Elaborate the diagnosis and its characterization in coordination with the professors coordinating the academic year in the groups. This requires planning, organization and execution based on the diagnosis of the problems and educational needs of their faculty, as well as their professional development and growth in relation to scientific activity and especially that related to SSGs.

This includes treating the performance and results of students in activities directed at their training; achieving the establishment of exchange and work links with the professors responsible for the groups and the design of guidance actions according to the diagnosis, which will favor a deep knowledge of their own motivations, needs and those of their students in general, with whom they interact in fulfilling assigned tasks.

The authors agree and assume, due to their importance for the moment of organization, the actions proposed by Martínez & Pérez (2021) in relation to:

- ✓ Determining, in project meetings and department discipline collectives with the participation of the FEU, the themes of the SSGs, based on the university's problem bank and labor identity aligned with the municipal development strategy, the university's (Faculty's) research lines and the tasks of the projects.
- ✓ Determining, in the meetings of the department's discipline collectives, in correspondence with the determined themes, the professors and/or professionals from production and services who will serve as tutors.
- ✓ Determining, in the pedagogical collective meetings (of year, career, brigade) the students with the conditions to integrate the SSGs.
- ✓ Proposing, by tutors, the selected students in a meeting convened for this purpose, the themes to form student scientific groups.
- ✓ Conforming the student scientific groups, determining the president, members and advisors.
- ✓ Defining the tutors for each of the students.
- ✓ Elaborating the SSG work plan.
- ✓ Methodological activities in each academic year, which offer forms of teaching work that enhance the activities proposed for the development of scientific research activity and work with the SSG, in relation to initial training. It will be required that all these activities paid attention to diversity.

- ✓ The presentation of conferences by specialists on the topic «Student scientific activity and its concretion in the Work of Student Scientific Groups».
- ✓ The promotion of calls for scientific events, contests and workshops with topics related to student scientific activity and SSGs.
- ✓ The realization of periodic Tutoring, with the existence of a tutoring record (physical or digital format) to note agreements and solve doubts.

In correspondence with the above, the UTDH must show in the development of these activities their capacity and skill to guide, advise and control as an crucial requirement the ability to integrate with quality the coordination relationships, that must be established between the UTD, the community, and other institutions in the territory and society in general.

To accomplish the proposed activities, the development of the UTDH's management capacity is required in aspects such as: persistence in achieving skills for creating favorable conditions that foster the satisfaction of motivations and needs of students, professors and their own; likewise, the skill to easily effect effective communication with the collectives and collaborators in the UTD context and their capacity to accurately evaluate the general results of the individual performance of themselves and their collaborators, namely those involved in the scientific activity of the SSGs.

Although actions are implemented in the UTD aimed at fostering the development of the UTDH's capacity in the effective direction of student scientific activity with emphasis on the work of SSGs, as one way for the initial training of the professional, these are still insufficient for its achievement.

In this sense, scientific research activity and its promotion require enhancing the preparation of the UTDH and the cohesion of all factors that make up the faculty, and in turn, the collectives of each academic year, in close relation

with student scientific work through the formation and work of student scientific groups.

CONCLUSIONS

The use of modeling in activities aimed at fostering the capacities of the Department Head regarding to organization, promotion and development of student scientific groups as a way for professional training in the context of the university teaching department. It allowed to establish guidelines to improve the teaching processes developed in Cuban higher education institutions, with emphasizes in the role played by the University Teaching Department Head in the training of university students, especially in the development of their scientific and innovative vocation. The use of theoretical and empirical methods during the research process determined the problems from the organizational and methodological point of view present in the object of study, and which ways should be used for their solution. This resulted in an improvements proposal of activities to be developed, fostering the skills of the University Teaching Department Head in promoting and developing Student Scientific Groups, as this becomes a way for professional training of them.

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