



Las tareas docentes integradoras en la especialidad agropecuaria. Un espacio interactivo y desarrollador ***The integrative teaching tasks in the agricultural specialty.*** ***An interactive and developmental space***

Olga Lidia Ferrer-Ramírez; Marlenes Vargas-Rodríguez; Pedro Garrido-Valiente

Universidad de Guantánamo, Cuba

Correo(s) electrónico(s)

lidia@cug.co.cu

marlenes@cug.co.cu

garrido@cug.co.cu

ORCID: <https://orcid.org/0000-0003-1505-9112>

ORCID: <https://orcid.org/0000-0002-9690-2038>

ORCID: <https://orcid.org/0000-0002-6650-9411>

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Resumen

Las insuficiencias que se revelan en las asignaturas técnicas para elaborar tareas docentes integradoras permitió considerar pertinente un sistema de acciones que garantiza la preparación de los profesores en este sentido, propiciando elevar el nivel de aprendizaje de los estudiantes, en el que se considera la práctica laboral como un espacio interactivo y desarrollador que garantiza un mejor desempeño, de ahí que se ilustre un modelo de tareas docentes integradoras con incidencia en el componente académico, laboral, investigativo y extensionista en el contexto de la Educación Técnica Profesional.

Palabras clave: Tareas docentes integradoras; Nodos cognitivos, Ejes integradores; Espacio interactivo

Abstract

The insufficiencies revealed in the technical subjects to elaborate integrative teaching tasks allowed considering pertinent a system of actions that guarantees the preparation of the teachers in this sense, propitiating to raise the learning level of the students, in which the labor practice is considered as an interactive and developing space that guarantees a better performance, hence a model of integrative teaching tasks is illustrated with incidence in the academic, labor, research and extensionist component in the context of the Professional Technical Education.

Keywords: Integrating teaching tasks; Cognitive nodes, integrating axes; Interactive space

Introduction

At present, there are several demands on the university in the pedagogical field, linked to the training of competent professionals to face the obsolete and current traditional teaching paradigm, which still maintains its legacy in most educational institutions at the international level.

In relation to this subject, valuable studies have been carried out in our country that show that the pedagogical and scientific-technical preparation and improvement of all teaching personnel is a task of the first order.

Hence, when referring to the elaboration of teaching tasks with an integrating character, it is necessary to talk and reflect on the practical value they provide, due to their applicability and influence in the life of man, since at every moment he faces situations where their use is necessary.

Therefore, in this work we propose as an objective to elaborate a system of actions according to the preparation of teachers, to elaborate integrative teaching tasks, considering it as an interactive and developing space in technical subjects of the agricultural specialty of the agro forestry faculty.

Development

Systematically directed educational activity guarantees in a more solid way the formation and development of the individual; hence the essence of the educational process must be to achieve a conception of the world on the solid basis of scientific knowledge and its transformation into positive moral conditions and motives of conduct.

The knowledge must be supported and assimilated in the practice of the social activity of the student, he/she must learn to act according to the interests of the group to which he/she belongs and at the same time set as goals those objectives that education proposes in accordance with social needs.

The educational process that takes place in the educational institution is characterized by a dynamic and complex set of systematic activities, through which the action of educators and learners is interrelated, aimed at both the formation of the group and that of each of its members individually (Baxter, E., 2002, p. 147).

In this complex of activities, contributions have been made by various researchers, such as Rico (1989), Fiallo (1996), Clairat (2000), Mañalich (2001), Sagó (2001), Abreu (2004), Addine (2006), Minguí (2006), Vargas (2009), and particularly in the agricultural specialties Lugo (2004), Delfino (2009), Castro (2009), among others, but there is a need to overcome the fragmented treatment of the content in order to meet the current needs of students in the agricultural career.

It is assumed that it is necessary to change this pedagogical conception and thus increase communication, interaction and project flexible and integrative curricula that challenge the demands of

the new model for higher education in order to achieve a more active role of the student in the learning process.

- Technical and Professional Education in the context of Guantanamo increasingly requires that teachers master a set of knowledge and skills that allow them to contribute significantly to the training of professionals, who will be responsible for directing the teaching-learning process in the Agricultural Polytechnic Institutes, so we have proposed to develop a system of actions based on the preparation of teachers, for the development of integrative teaching tasks considering it as an interactive and developmental space in the technical subjects, such as:
- Determination of the potentialities that teachers have to be able to implement the integrative teaching tasks.
- Evaluation of the teachers' level of mastery of the content of the program of the technical subjects, in terms of: professional problem to be solved, objective, content, knowledge of the general and specific skills of the subject, methods, procedures, form of control and evaluation.
- Diagnosis of the potentialities of the contents of the technical subjects that students receive in the year of study, which make it possible to elaborate integrating teaching tasks.
- Diagnosis of the students' potentialities to assume the teaching-learning process based on the integrative teaching tasks.
- Design of the methodological treatment of the program units based on the integrative teaching tasks.
- Determination of the cognitive nodes that will be the object of the integration process.
- Elaboration of the integrative teaching tasks to be applied.
- Development of classes with an integrative approach, based on a developmental intentionality.
- The authors assume that the following activities should be considered in the implementation stage of the integrative teaching tasks:
 - Previous Orientation.
 - Performance of the task.
 - Control

Guidance: the teacher must explain the importance and usefulness of the integrative teaching tasks, analyze the limitations and strengths that the student has to solve them. From that moment on, he/she becomes a consultant and ensures that students participate in this activity.

The teacher must provide sufficient bibliographies for students to use in the research process. He must emphasize cognitive independence as a quality of the personality, which presupposes the mastery of knowledge, habits and skills and the relationships of individuals towards the process of the activity, its results and its conditions. It will make clear what is going to be done, how it is going to be done (what resources are available), and why and for what purpose the integrative teaching tasks will be performed.

Orientation is assumed as an essential moment, called to guarantee the student's understanding of what he/she is going to do before the realization of the integrative teaching tasks. As part of this moment, the following analysis must be made:

- Determination of familiarity with the task (what is new, what do I know).
- Conditions of the task, data and information available.
- Procedures to solve it and when to use them.

In the accomplishment of the integrative teaching tasks, the work of the students should prevail, under the teacher's direction that facilitates the cognitive independence. Motivating students to solve them will promote the process of assimilation of knowledge that intrinsically leads to the formation of an unlimited desire to know and master new and deeper knowledge.

The teacher must stimulate that the control is directed to the process and not only to the results. The teacher must consider knowledge, procedures and values, and at the same time encourage that the activity itself constitutes a way of learning knowledge and appropriating procedures for thinking.

It should also stimulate the meta-cognitive, reflective, critical and self-evaluative processes of the students' performance, referring to the effectiveness of the integration levels through the use of integrative tasks. Finally, the evaluation will be carried out individually, after the sharing of the answers to the tasks and according to the quality of the same.

On the other hand, in the control activity students should combine different modalities such as: self-evaluation in which they will express the level of preparation reached to solve the tasks; in the co-evaluation they will issue evaluative criteria on the level of preparation and participation of their classmates in the answers to the tasks, and in the cooperative learning they should specify if the help of their classmates and tutors was necessary during the process of solving the tasks.

The following is a system of actions to be carried out by teachers and students in the performance of integrative teaching tasks in the technical subjects of the agricultural and livestock specialty.

- Planning of the tasks to be carried out.
- Accuracy of the system of knowledge and skills necessary for the solution of the tasks.

- Elaboration by the students of proposed answers to the tasks posed.
- Reflection and analysis of the possible answers to the tasks.
- Presentation of conclusions by the teacher.
- A model of an integrative teaching task in a technical subject of the Agricultural and Livestock specialty is illustrated:

Task No. 1

Objective: To assess the importance of Cuba's agricultural soils, based on their physical, chemical and biological properties, to enable agricultural development, protection and conservation of the environment in the Guantanamo territory.

Method: Independent work

Location in the program Soils and Agro chemistry: Subjects No 1, 2 and 3.

Technical subjects included: (Integrated Farm Management, Irrigation and Topography).

Cuba is located in the tropical zone, where climatic factors act intensely on the soils, which causes them to have great differences with those of other areas of the world, therefore their characteristics and properties are different.

- Relate the main physical, chemical and biological properties of Cuban agricultural soils.
- Refer to the types of structures that can be found in the different horizons that make up a soil profile and which one is considered optimal in the topsoil to establish agricultural crops.
- What conditions must the soil present in terms of moisture content in order to establish agricultural crops?
- Soil color provides us with important information from an agricultural point of view. Explain the importance for the agronomist to know the color of soils.
- The municipalities of Maisí and Yateras are characterized by red, brown and black soils, which ones would you choose to obtain good agricultural yields? Why?
- Relate the soils that predominate in the agricultural enterprise and the crops in order of priority that are established in these soils that determine the productive potential of your municipality of residence.
- Make an assessment of the irrigation techniques that can be used in the predominant soils in your municipality of residence, taking into consideration the topography of the land.

- Elaborate a technical vocabulary with no less than 10 words for the treatment of these contents.
- Value the importance of the study of these contents for the agricultural development of the country and for you as future teachers.
- Make an evaluation of the correspondence of these contents with those of the technical subjects that you teach in the polytechnic where you carry out your work practice, specifying the position that it occupies in the units of the program.
- Propose possible teaching methods to be used when dealing with these contents.

Methodological guidelines

In order to comply with the integrative teaching tasks, an integrative seminar is recommended at the end of the study of these program units, for which the teacher should distribute the tasks by teams, making the team leaders responsible for assigning the tasks depending on the individual possibilities of each student and taking into account the results of the learning diagnosis.

Finally, the students must deliver a report with the answers to each task, and during the discussion they must demonstrate preparation in these contents.

In addition, the teacher should guide the basic bibliography: CD of the Career, Soils and Agro chemistry of Juan Pastor Morales, Compendium Agronomy second year, II part of a collective of authors, Technical Instructions of crops. Leaflets on integrated soil management, video materials, among others.

Results obtained with the system of actions

The proposed system of actions made possible a better preparation of teachers in the elaboration of integrative teaching tasks, which could be seen in the class controls and in the different activities developed in the methodological work bodies of the department, such as methodological workshops with the following topics: theoretical foundations on integrative teaching tasks; the model of the professional of the agricultural career and the teaching process plan and the workshop on: determination of the cognitive nodes objects of integration in technical subjects, in which the professional problem was selected as essential, so that some elements of the definition provided by Addine (2006), in the VI National Seminar for Educators are assumed in this work when addressing "the integrative task as a problem situation structured from the integrative axis formed by problems and interdisciplinary tasks" (p. 4)

It has points of coincidence with the definition of integrative teaching tasks assumed by the authors of this paper.

Likewise, it was achieved that students mastered the professional problem solving tasks oriented in the topics addressed, and thus a greater mastery in the integration of contents of several subjects they receive in the year, as well as a better development of professional skills to be achieved in the year, so the criterion of Vargas (2017) is assumed, when he states that:

The integrative teaching task is that activity structured by an integrating node, which guides through systematization, the establishment of precedent relations, concomitant or perspectives between the contents acquired in the same or in different contexts of learning strategies and integrative thinking styles, which allow them to learn to know, learn to do, learn to live together and learn to be. (p.32)

Conclusions

In Technical and Professional Education in the Agricultural and Livestock specialty, it is necessary to put into practice the system of actions to solve problems that arise in the pedagogical task.

Teachers are adequately prepared for the elaboration of teaching tasks with an integrating and system conception in the contents of the technical subjects of the Agricultural and Livestock specialty.

The integrative teaching tasks make possible a better deepening of technical and methodological knowledge as well as the development of professional skills in students.

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