

Producción Agrícola. Su tratamiento en las relaciones interdisciplinarias en la Carrera de Agronomía ***Agricultural Production. Its treatment in the interdisciplinary relations in the Agronomy Career***

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Resumen

El presente trabajo tiene como objetivo socializar aspectos claves de la Disciplina Principal Integradora en la carrera de Agronomía y su significado en las relaciones interdisciplinarias de las asignaturas. Se utilizaron los antecedentes expresados en la carrera. En su estructura sistémica se determinó cada uno de los subsistemas formulados en los programas de las asignaturas y sus relaciones, con el fin de establecer la pertinencia de estas relaciones para lograr el mejoramiento del desempeño del profesor en su vínculo con la mejor formación del futuro profesional.

Palabras clave: Relaciones interdisciplinarias; Integración armónica; Componentes organizacionales; Disciplina principal integradora

Abstract

The present work aims to socialize key aspects of the Main Integrative Discipline in the Agronomy career and its meaning in the interdisciplinary relations of the subjects. The background expressed in the career was used. In its systemic structure, each of the subsystems formulated in the programs of the subjects and their relations were determined, with the purpose of establishing the pertinence of these relations to achieve the improvement of the teacher's performance in his link with the best formation of the future professional.

Keywords: Interdisciplinary relations; Harmonic integration; Organizational components; Main integrating discipline

Introduction

In the contemporary world, as a result of historical development and productive forces, the inescapable process of globalization is taking place. One of its distinguishing features is the rapid development of science and technology and their unavoidable, direct and almost immediate impact on human life and all spheres of society.

For this reason, many researchers in the most diverse branches of knowledge consider interdisciplinary relations to be one of the most relevant ways of providing the necessary answers.

In the field of education, research has been carried out on the interdisciplinary approach, but there are still shortcomings that hinder the establishment of these relationships; this presupposes the need to improve the educational system, and particularly higher education, as a means of training future professionals in a way of thinking, feeling and acting in a new way.

All of the above reveals the need to perfect the methodological work in the departments as well as in the discipline and year groups, so that interdisciplinary relationships are established in the assimilation of the contents and in the search for solutions to the professional problems that the student faces in his or her training.

In this sense, the harmonious integration of the organizational components of the study plan: academic, labor, research and extension, as a substantive process of Higher Education, become the driving force in preparing students for their subsequent methodological activity as teachers.

Faced with new social needs, the Agricultural Engineering career is characterized by an agro-ecological and environmental approach and by the preparation of its graduates to attend to and promote initiatives that provide solutions to the new contradictions.

The Main Discipline of Agricultural Production acquires a special meaning since it has to do with the performance of engineers in different subjects, with the work of pedagogical groups and fundamentally of the disciplines. In its conception and execution, it prepares the student with the intention of being able to perform efficiently in practice.

In order to contribute to solve the previous problem, the meaning in the treatment of interdisciplinary relations in the Agronomy Career is proposed. The work presented is part of a task of the project

Iván Giraudy, Mireya Fernández: Producción Agrícola. Su tratamiento en las relaciones interdisciplinarias en la strengthening the process of teacher accreditation. Academic and scientific formation of human capital for endogenous development from the popular councils of rural and mountain areas in Guantánamo. work aims to socialize key aspects of the Main Integrative Discipline in the Agronomy career and its meaning in the interdisciplinary relations of the subjects.

Development

The Cuban university, among all the disciplines that conform the career, has identified one in particular that, for its importance, becomes the backbone of the formation process, according to Horrúitiner's, (2006), criterion; the Main Integrating Discipline. In the case of the Agricultural Engineering career, this discipline is called Agricultural Production, which responds to the logic of the profession, is supported by the contributions of all the disciplines of the career and assumes them in its integration.

This includes 12 subjects distributed in the different years of the career with 4068 hours in total, in it the relationship of theory with practice is made concrete, consolidating the theoretical and practical knowledge and the development of abilities. It integrates from its conception the academic, labor and research components and the extension as a substantive process of Higher Education.

The academic component provides the theoretical and methodological elements that allow the development of skills and the formation of habits for the organization and execution of teaching and non-teaching activities, which must be focused on the professional problems faced by the student in his or her work and social context. The labor component creates the basis for the creative solution of the tasks of the exercise of the profession from the guiding base for action. In other cases, the solution of certain tasks in practice constitutes for the disciplines the starting point for the development of theory. The research component provides the focus for the solution of the professional tasks performed by the student.

University extension contributes to the fulfillment of the social mission of the university through cultural promotion, fostering the dialectic relationship of the institution with society and thus favoring the achievement of qualitatively higher levels in the cultural development of students and society.

The Agricultural Production courses become natural spaces in the field for the execution of integrative evaluations in which the disciplines of the specific basic and basic cycle have an impact. The projection and development of integrative evaluations is carried out under the coordination of the career group and they are taken into account in the integral evaluation of the students.

The contents of this discipline are worked from the theoretical, methodological, practical and investigative, from the first year, which allows penetrating in the essence of the object of the profession, the object of work, that is to say, the educational process and the process of teaching learning.

Its fundamental content is practical, investigative and labor, it integrates most of the labor activity that students do, as well as the student scientific works (extracurricular works, courses and diploma). This way it has been conceived in most of the careers, which does not mean that the problem of its design is totally solved. On the contrary, given its novelty and pedagogical complexity, it is an aspect in which Cuban Higher Education works intensively for its improvement.

It is outstanding the works of specialists who consider the Main Integrating Discipline as an aspect achieved as an expression of interdisciplinary, for example, Horruitiner, (2006), sustains that it is the most significant of Plan D and E in the theory and practice of interdisciplinary and it demonstrates its superiority for its condition as a result of disciplinary interrelations.

For that reason, a definition is assumed that gathers the necessary and sufficient features of this discipline, according to Fernandez (2015), as "Discipline that in its conception integrates the academic, labor, research and extensionist components; sustained in an integral theoretical-methodological perspective to facilitate the treatment of interdisciplinary relations". (p. 16).

The theoretical perspective of the discipline is based on the following aspects: the link between theory and practice, the work-study principle, the active character of the personality, practical activity as a source of motivational stimulation, the unity of activity and communication in work practice, and the character of the system for directing the teaching-learning process.

In this sense, it is necessary to emphasize the importance of the knowledge of the essences of each one of the aspects mentioned above, so that they contribute to the treatment of interdisciplinary relations in the methodological work of the career group.

Theoretical-practical link

The new understanding of theory and practice in the philosophy of Marxism is elaborated in the very process of clarifying its dialectical interrelationship. The indissoluble union of theory and practice is shown by considering theory as an inherent property or attribute, as a tendency to the practical activity of men, and practice as an indispensable condition and moment of theory, as a mode of its effective

Iván Giraudy, Mireya Fernández: Producción Agrícola. Su tratamiento en las relaciones interdisciplinarias en la realization. It is not a question of a relationship of exteriority between both, but of their mutual presupposition in the context of human activity.

In dialectical materialist philosophy, the unity of theory and practice is not only a posteriori, as theory for practice: but also as theory in and from practice: and even more, as theory of practice, that is, as theory of material activity.

The starting premise of the theory-practice link is contained in the following thesis by Marx and Engels (1985): "Where speculation ends, in real life, real and positive science also begins the exposition of practical action, of the practical process of the development of men. It is there that the sentences about consciousness end and real knowledge takes its place" (p.26).

In the previous citation, we can see the need to understand the indissoluble unity that exists between theory and practice, as one presupposes the other, they complement and exclude each other, that relationship materializes in the educational process.

Work-study principle

This principle has Marxist-Leninist and Martian theoretical roots, it is a fundamental guiding idea of Cuban Higher Education, objectively like the previous one, it becomes the thread of the whole educational system, from the first levels to the postgraduate education.

The application of this principle in the country is the product of the accumulation of experiences achieved through the revolutionary process, in which both the theoretical foundations and their practical applications are outlined and precise, and reach their maximum expression.

This guiding idea expresses the link between two of the dimensions of the training process, the educational and the instructional, this one refers to the need for both to be linked in turn with the labor, putting the student in direct contact with his profession, either through a stable labor link throughout the career, or from a training model focused on work.

The essence of this principle in the university careers, consists of assuring from the curriculum the domain of the ways of professional performance, to assure its future performance in the society, having as a base the pedagogical value of the productive work as educational instrument of the new generations.

To achieve this, it is required that the student develops, as part of his or her training, work tasks proper to his or her future profession and that this occurs, if possible, from the very beginning of the career. Without the presence of labor in the curricula, the formation is not linked to the reality of the

Iván Giraudy, Mireya Fernández: Producción Agrícola. Su tratamiento en las relaciones interdisciplinarias en la profesión and the graduate is not able, at the beginning of his or her working life, to solve the problems that arise there.

The active character of the personality

The scientific conception of personality is based on the Marxist definition of the essence of man as a set of social relations.

In the theory based on the Cultural Historical Approach, its creator (Vigotski, 1987; followed by disciples Leontiev, 1974; Galperin, 1982; and Dadivov, 1988); having as a theoretical-methodological basis the materialistic dialectic, places the human being in his social environment and analyzes the origin and development of personality in the cultural historical context. This approach conceives the unity of diverse phenomena, in whose interior the personality exists, in a space-time in which men interact as a historical-cultural formation, created by the own activity of production and transformation of their reality.

This theory has a set of principles and concepts that constitute true contributions to be taken into account in the formative process of personality: the active character of psychic processes, the social character of human activity, the unity of activity and communication, the personal sense, the relationship between reason and activity, the conception of the teaching that it develops, as well as the conscious, objective and scientific character of the teaching process..

The practical activity as a source of motivational stimulation

The basic and historically primary form of man's activity is work, with the development of this, the practical and theoretical forms are separated from each other. The practical activity is characterized by being directly directed towards the transformation of a given situation.

The activity has been approached in the field of Philosophy, Psychology, Pedagogy and Didactics. Talísina (1988), recognizes it "as a process of solution to vital tasks driven by the objective towards which it is oriented" (p. 58).

This definition of activity makes it possible to see it related to the solution of the professional problems of the career, seen as problems of performance, aimed at the development of an interdisciplinary mode of action.

The unit of activity and communication in work practice

Man communicates in order to relate and with it he reaffirms himself as a man, ceasing to be an object of the process, as he considers the activity, and becomes a subject of his own personal realization. It is clear that activity and communication make sense in the interaction of the subject with objects. The subject perceives reality through activity, and internalizes it in a particular way, therefore the evaluation he makes of reality is personal and depends on his subjectivity, which does not deny the possibility of an objective evaluation of the formative process.

Activity and communication are important categories, since from a philosophical perspective they reveal not only the system of knowledge, but also its dialectical interrelationship with the other components in labor practice.

The system character of the direction of the pedagogical process

For the analysis of this aspect, it is taken into account that a system, according to Rosental and Iudin (1981), is a "set of interrelated elements that constitute a certain integral formation" (p. 426).

Meanwhile, Álvarez, (1990), states that the pedagogical process is a "set of interrelated components, from the static and dynamic point of view, whose functioning is directed towards the achievement of certain objectives" (1990. p. 20).

To conceive the direction of this process as a system presupposes seeing it with a concrete historical purpose, taking into account the necessary concatenation among its components and between the system that it conforms to the environment.

The pedagogical process takes into account the social objectives, the conditions in which the process takes place, and the relationships established with the ultimate goal of developing society. Its character as a system can be seen in the dialectic interrelationship between education, instruction, teaching and learning, aimed at the development of the student's personality in order to prepare him/her for life.

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The discipline is characterized by its investigative character, problematic character of theory and practice, systemic character, flexible and differentiated character, self-controlled and self-regulated character, integrated character, interdisciplinary character, and experiential character.

The research character promotes the search for knowledge, the development of scientific thought and scientific research skills, which is the basis for finding solutions to professional problems.

The problematic character of theory and practice is achieved by confronting students with the contradictions that arise between the theory they master and their practice in school, so that they feel the need to seek new knowledge and scientific solutions to problems

The systemic character reflects the link between the organizational, academic, labor, research, self-preparation and university extension components, as an integral system, each component in itself has this systemic character.

The flexible and differentiated character reflects the need to work the particular within the general, it is necessary to promote a differentiation of the tasks that allow a significant and creative learning.

The self-controlled and self-regulated character is made concrete in the progress that students make in the process and in the concrete conditions in which their teaching practice is developed, considering their own pace of learning and development, the habit of reflecting on their own practice, becoming aware of their resources to learn and to act in practice.

The integrative character is revealed from their own practice when they analyze the problems and try to give them scientific solutions based on the experience of the creative activity and that the student demonstrates the knowledge, the know-how, the ability to live together and the ability to be, in their way of acting. This requires the contents of all subjects and processes that contribute to the creative solution of professional problems, which contributes to the development of qualitatively higher levels of their cultural heritage.

The interdisciplinary character favors that the educational influences of the subjects in each academic year have the same orientation and purpose. The discipline is conceived to favor the appropriation of the scientific knowledge that leads to the development of the pedagogical scientific thought, the development of the professional skills that for their general character include the pedagogical work in the different stages of formation, as well as the development of ethical, professional and cultural values.

This should be a priority in the career collective, which should be consciously and systematically considered in the methodological work that guides the diagnosis and didactic structuring of the nodes, disciplines, subjects, themes and tasks by academic years, according to the development of the personality qualities that distinguish the education professional.

In addition to the characteristics previously expressed, this discipline has an eminently experiential character that conditions all the instruments that are derived from it, making practice the starting point, application and verification of knowledge, as well as its systematization.

The discipline, in its conception and execution, prepares the teacher in training with the intention of being able to perform efficiently in practice, it also guides them to raise their pedagogical and scientific research preparation, hence its importance and the need for knowledge by teachers for their actions with students.

In the first year, the Agricultural Engineering career group assumes the responsibility of working on this discipline from the potential offered by the disciplines and its own curriculum: from the discipline from integrating tasks, diagnosis of professional problems, from the elaboration and application of instruments and the preparation and development of morning classes, as well as the demonstration of activities designed by the school, among other actions that in their conception contribute to the integration of the different components.

The career staff. Its role in the treatment of interdisciplinary relationships

The research takes into account the career collective as an integral part of the base link because it is in charge of carrying out the methodological work inherent to university substantive processes. Its fundamental function is to give methodological advice to the head of department - career, with the purpose of contributing to the fulfillment with quality of the model of the professional, coordinating the methodological work of the disciplines and the years.

Some functions of the career group:

- To contribute to the fulfillment of the general objectives of the career, proposing to the dean or to the head of department - career, according to the case, the necessary actions to achieve the continuous improvement of the quality of the educational teaching process of the career.
- Elaborate and fulfill the methodological work plan of the career, and evaluate its results.
- To propose adaptations to the study plan of the career taking into account the characteristics of the territory and the university, and the scientific-technical development of the faculty.
- To propose the objectives of each year of the degree course and to advise on their adequate fulfillment.
- To offer recommendations about the balance of the curricular and extracurricular tasks that the students fulfill as part of their integral formation.
- To advise on the design and implementation of the main integrative discipline, as well as the selection of a network of teaching units and labor entities appropriate for the development of the modes of action of the future graduate.
- To propose the design of the curricular strategies of the career and to advise its adequate implementation in the disciplines and the years.
- To participate in the organization and execution of the completion of studies exercises.
- To participate in the process of continuous improvement of the quality of the formation process of the career.

The pedagogical conduction of this group is in charge of the career coordinator. This group is made up of the teachers who lead the groups of disciplines and years that make up the career at the headquarters, the coordinators of the university branches career and student representation.

The coordinator of the career group is a highly qualified scientific and pedagogical teacher, appointed by the dean to assume the responsibility of pedagogical advice to the career group of teachers, so that it contributes to the quality of the professional model.

Among the main functions of the coordinator of the career group are

- To organize the methodological work of the career collective for the correct implementation of the study plan, with emphasis on the Main Integrative Discipline, the work practices and the curricular strategies.
- To advise on the selection of teaching units and basic work entities necessary for the development of the modes of action of the professional in training.

- Promote extension activities and actions as an integral part of the labor and research component, so that they contribute to the professional, social, and humanistic development of students.

In this sense, it is significant to emphasize that the own functions of the career group favor the treatment of interdisciplinary relations, using the Main Discipline of Agricultural Production as a way to achieve these goals, because of its integrative and interdisciplinary character.

In the document issued by the MES, (2011), the previous aspects are specified and it is emphasized in others that should be of the knowledge of the members of the career group to direct the action with the same one.

The analysis carried out on the main characteristics of the development from the selected criteria, corroborates that there are certain behaviors that show their historical evolution according to the social demands of each moment, which are specified below.

From the beginning, the career was characterized by a high degree of possession of technical subjects, so the interdisciplinary becomes a necessity of the profile of the professional in the specialty of Agronomy.

- The methodological work from its beginning is defined in normative ministerial documents, which regulate its execution.
- From the Plan of Study C, the methodological work began to gain in a more planned way in the treatment of the interdisciplinary relations with system approach.
- With Study Plan D, the Main Integrated Discipline of Agricultural Production emerges, a positive aspect in the theory and practice of Interdisciplinarity.
- The use of the aspects that conform the theoretical perspective of the Main Integrative Discipline is insufficient, as a way for the treatment of the interdisciplinary relations in the methodological work of the career group.

Conclusions

The treatment of interdisciplinary relations is a priority, from the theoretical point of view, although in practice this is not enough. The reflections regarding the methodological work from an interdisciplinary point of view, allow affirming that its development in the career collective requires an improvement that contributes to the treatment of interdisciplinary relations, as one of the ways to fulfill the social responsibility of Higher Education in Cuba.

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