

Interdisciplinarity in the preparation of heads of the Physical Culture Faculty

La interdisciplinariedad en la preparación de cuadros de la Facultad de Cultura Física

Flavia Bonnane-Martínez¹, Carlos Moreira-Carbonell², Bárbara Liz Cuña-Quintana³

¹M Sc. Auxiliar. Escuela Provincial del Partido de Guantánamo "Israel Reyes Zayas", Guantánamo Cuba. escuela@gu.cc.cu

²Dr C. Profesor Titular. Universidad de Guantánamo. Cuba. carlosm@cug.co.cu

³Dr C. Profesora Titular. Universidad de Guantánamo. Cuba. barbaralag@cug.co.cu

Date of reception: October 17, 2020.

Date of acceptance: November 26, 2020.

ABSTRACT

The present investigative work aims to analyze the potentialities and limitations offered by knowledge management for the preparation of Physical Education teachers in Upper Secondary Education. To carry out this research, methods of the theoretical and empirical level were used that allowed corroborating the problem under study. A new definition of knowledge management is offered according to the new context where it is applied.

Key words: Interdisciplinarity; Political-ideological improvement; Heads of physical culture

RESUMEN

El presente trabajo investigativo tiene como objetivo analizar las potencialidades y limitaciones que ofrece la gestión del conocimiento para la preparación de los profesores de Educación Física de la Enseñanza Media Superior. Para llevar a cabo esta investigación se emplearon métodos del nivel teórico y empírico que permitieron corroborar la problemática objeto de estudio. Se ofrece, una nueva definición de gestión del conocimiento acorde al nuevo contexto donde este se aplica.

Palabras clave: Interdisciplinariedad; Superación político-ideológica; Cuadros de cultura física

INTRODUCCTION

The vertiginous development of the Scientific and Technical Revolution in the different areas of knowledge has generated a dynamic and complex political, economic and socio-cultural reality worldwide. This particularity makes the need for greater collaboration and cooperation between sciences to respond to complex problems of reality more and more imperative. In this convulsive context the preparation of the heads of the Faculty of Physical Culture is inserted, expressed in the set of activities that are carried out systematically to perfect and deepen the knowledge, skills and the level of preparation based on the fulfillment of their functions.

This set of tasks and actions of the professor of the School of the Party are directed to the improvement of the process of political-ideological improvement of the heads of the Faculty of Physical Culture, and in the case of research, to their interdisciplinary preparation. In the field of education, research has been conducted on interdisciplinary procedures, however, there are still shortcomings that hinder the establishment of these relationships; this presupposes the need to improve the preparation of teachers and particularly those in charge of political-ideological improvement, for the training of future heads of the Faculty of Physical Culture with a way of thinking, feeling and acting renovating.

In correspondence with what has been raised, the objective is to reflect on the development of interdisciplinarity in the educational practice of the School of the Party as a necessity for the preparation of managers and reserves of Physical Culture. In this way, the need to integrate the contents and update the management methods is emphasized, in accordance with the objectives of preparing heads of the Faculty of Physical Culture, immersed in the updating of the Cuban economic and social model. This contributes to the development of management skills and the improvement of these cadres in the revolutionary transformation processes, so that they respond to the current training needs of the future professional.

DEVELOPMENT

The current era in which there is an intensive production of knowledge and an unusual development of science and technology, characterized by a growing process of integration. Its results impact the changes that take place in all spheres of society and in the life of the common citizen. Interdisciplinarity and integrative educational practices are based on the internationalization and complexity of social, economic, political and cultural life, one of whose main drivers is the development of science and technology.

Interdisciplinarity

The interdisciplinarity arises from the apparent dispersion of knowledge directed to the study of the various disciplines, and by the excessive advance of science, technology, the demands of social development and complexities of today's world, which demands the integrity of knowledge acquired in the diverse disciplines, cultural experience and knowledge of historical heritage to face development challenges.

In 1840, Marxism, with its approach to interconnection between all the phenomena of the universe, provided a different way of conceiving knowledge by expressing the necessary interrelation of all natural, social and human phenomena; the recognition of the unity of the world, but at the same time its complexity and the existence of deep contradictions. His principles of dialectics and his method serve as a guide to the rest of the sciences, when conceiving the world in its totality, in a systemic whole.

Interdisciplinarity constitutes an expression of the dialectical character of reality that presupposes the universal concatenation of objects, phenomena and processes of reality and the solution of the contradictions that are a source of development. It works under these assumptions and manifests itself in a comprehensive vision of the links between science and the social phenomena that relate them: for the study of Social Sciences, knowledge and the influence of Natural Sciences are needed when conceiving the need to establish a deep analysis on the ideology and the direction of the society as a unified whole. Such a requirement is seen in the universal concatenation of phenomena and processes.

The above, in the complexity of the contemporary world, the accelerated development of science, technology and the fragmentation of knowledge, requires an immediate response. This path of scientific knowledge leads to expressing that no science alone could fully interpret an object or phenomenon, nor explain it with the necessary objectivity, hence the obvious need to use instruments from various disciplines, which requires interdisciplinarity not only as theory, but also as a practice to understand reality in all its unity and diversity.

Etymologically, the term interdisciplinarity has been approached as interdisciplinary, inter matter, inter science, also called by some authors, especially Spanish, as interdisciplinarity.

"It was used for the first time in 1937, by the sociologist Louis Wirtz, in the US In the 1960s, international organizations began to make a significant contribution to the interdisciplinary movement, gaining more and more strength from the 1970s onwards. that had evidence in meetings held by UNESCO and the Organization for Economic Cooperation and Development, for the search for interdisciplinary projects and for the training of teachers by and for interdisciplinarity" (Martínez, 2004, p.42).

In essence, it leads to the search for a pedagogical response and work methodologies aimed at preparing man for life, providing him with theoretical and practical knowledge to respond to the various phenomena, processes and manifestations of the changing realities of life.

In the 19th century, the development of science shows points of contact that mark its growth, and, which is acquiring regular character in the 20th century with the integrative movement of science, related both to social development and to the role that it assumes in the framework of the Scientific-Technical Revolution, to respond to the complex problems of practice, accentuating the interdependence and interrelation between both tendencies. Thinkers such as Félix Varela and Luz y Caballero, sought the renewal of the scholastic methods of learning in periods of division of knowledge and a conception of specialization of objects of study in the development of methods and forms of teaching.

Another significant contribution to the integration of knowledge in teaching is Martí's pedagogical ideology. José Martí, in a more advanced nineteenth century, reflects the contradiction between special knowledge and totalizing knowledge of reality when he analyzes: "The Universe is the Universe. And the universe, the univarious, is the various in the one. Nature "full of surprises" is all one. " (Martí, 1975, p.164)

On his side, Enrique José Varona also at the end of the 19th century, in the face of the defects of teaching at the university and the rote teaching methods used, expressed "Each student must draw his own picture of the entire content of science; he should, as far as possible, become familiar with all the facts that science studies, and learn how to build the scaffolding of principles that elevate it from the particular to the general laws that encompass each subject of study. " (1992, p.90). At the same time he insisted that fragmentary and rote teaching hinders instruction.

Penetrating the psychological content of interdisciplinarity is extremely important for the development of the individual's personality. This aspect has been approached by leading psychologists, who, despite their differences in approaches, their foundations have been supported by the principles of the material unity of the world in the interpretation of the phenomena, objects or things of objective reality. It coincides with (Airasca, 2012, p.44) who argues that some scholars of psychological science, since the beginning of the 20th century, have expressed that human perceptions are presented as a unit, as a whole and that all perceptual activity is conditioned by Previous experiences. With this, the knowledge of the past and the full understanding of the present are made possible by approaching it from an interdisciplinary perspective, which includes the mutual conditioning of phenomena and the interconnection of philosophical, sociological and psychological facts.

In the historical-cultural approach of Vigotsky (1987) it is oriented towards the integral development of the personality, centered on its particularities to learn; its psychological characteristics and the need for help for the construction and reconstruction of knowledge. It is based on it as one of his principles that in order

to perfect the personality of the students it is necessary to consider the unity of diverse phenomena interacting with it in a concrete historical-cultural reality. The validity of this integrative approach has become evident through the pedagogical experience and the need to integrate knowledge, linked to practice, that provides a way of acting, in the face of educational practice, as a reflection of an integrated knowledge.

When addressing the dimensions of interdisciplinarity, valuable criteria and classifications were provided, according to the different authors, among which are: Biosot (1972), cited by (Salazar, 1999, p.49), who differentiate three major types of interdisciplinarity: Linear interdisciplinarity, when a law of one discipline is applied to another: structural interdisciplinarity, interrelation between two or more disciplines that are sources of new laws such as Biochemistry, and restricted interdisciplinarity based on a specific object.

Piaget (1978), cited by (Salazar, 1999, p.50) distinguishes: Multidisciplinarity: lower level of integration. To solve a problem, information and help are sought in various disciplines; Interdisciplinarity: second level of association between disciplines leads to real interactions, that is, a true reciprocity of exchange; and Transdisciplinarity: higher stage of integration. Construction of a total system that did not have solid boundaries between disciplines. For this researcher, the purpose of interdisciplinary research is to seek a recomposition or reorganization of the fields of knowledge, through constructive exchanges or recombinations.

Jantsch (1981, pp.333-343) distinguishes: Multidisplinary: lower level of coordination without leaving links established; Pluridisciplinarity: juxtaposition of disciplines more or less close within the same knowledge sector, a form of cooperation that improves relationships between disciplines, information exchange relationships; disciplinarity: approach based on strength postures, one discipline will dominate over others; interdisciplinarity: an interaction is established between two or more disciplines, which will result in intercommunication and reciprocal enrichment and consequently a methodological transformation of research, mutual and reciprocal exchanges; transdisciplinarity: higher level of interdependence, where the boundaries between disciplines disappear and a total system of concept

is built that assumes the priority of a transcendence, of a modality of relationship between disciplines. Its purpose is to build a usable model between the different disciplines.

In each one of them, different degrees of development of interdisciplinarity are observed, ranging from the simplest forms of existence of various disciplines to the most complex interrelations, with a gradualness in the complexity itself in which it is assumed as a work strategy.

The interdisciplinary dimension

According to Moreira Carbonell, the term interdisciplinarity was introduced in Cuba before the 90s and was incorporated through the pedagogical bibliography of the former USSR (Moreira, 2011, p.42). Since its emergence in the previous century, in the epistemological field, the answer has been given by researchers who have defined it from different positions (philosophical, epistemological, pedagogical, etc.).

In Cuba since 1984, a group of ICCP authors conceptualize it as an inter-subject or interdisciplinary relationship that "... establishes the formation of knowledge systems, habits and skills that serve as the basis for all significant social qualities, in other words, These knowledge, habits and abilities of the different subjects are integrated into systems that must necessarily be coordinated, in such a way that they allow the student to form a generalized system of knowledge integrated into his conception of the world. " (Soca, 2004, p.53). In this, interdisciplinarity is conceived according to the content, its use in the formation of habits and the use of teaching methods, without moving away from the didactic.

Añorga in the Glossary of Terms of Advanced Education defines interdiscipline as "... the confirmation of a new theoretical object between two or more previous sciences, which lead to a new particular discipline or when the application is achieved, to the same practical object of theoretical elements of different subjects. " (1995, p.21). This definition expresses a strong theoretical character linked to the objects of the particular sciences, however, the directions or lines of action in this concept are not operationalized. It constitutes a basic principle to project actions

for the integration of knowledge and the formation of a multifaceted thought of the trainee, which allows him to understand reality in its multiple interrelations.

The term has been used by different Cuban authors such as: Fiallo (1996), Añorga (1995), among others. More recent research includes: Valcárcel (1998), Caballero (2000), Perera (2000), Salazar (1999), Fiallo (2001), Addine (2002), Alvares (2004), Güemez (2005) and Rodríguez (2008) among others.

There are many definitions on interdisciplinarity and various points of view, whether interdependence, reciprocity, cooperation, bond, exchange, relationship, interrelation, nexus, among others; seen as a process, principle, philosophy, conception or method; what is common among them lies in the relationship of mutual enrichment between different elements of knowledge, contained in various disciplines, for the solution to human problems. It is a form of scientific organization of work made up of several interrelated disciplines as a synthesis of knowledge.

Batista and Addine consider interdisciplinarity as

"... a principle that enables the significant process of enrichment of the curriculum and the learning of the participants, which is achieved as a result of recognizing and developing the interrelationships between the different disciplines with common objects, through all the components of the didactic system that converge towards exchanges that favor mutual enrichment from encounters that generate the reconstruction of scientific knowledge, the interaction of which makes new integrative qualities appear. " (2003, p.103).

In this consideration, the

"... Need to form an integral and humanistic personality. This presupposes, from the epistemological point of view, assuming common principles between the different disciplines. Among these principles are: the development of dialectical relations, philosophical partisanship, historicism, the sociological, the psychological, the axiological and the unity of theory and practice in a comprehensive style of thought and action, and especially in an encounter with culture and knowledge. " (Moreira, 2012, p.44).

It is about training a Physical Culture cadre, which, through the appropriate use of the theoretical-practical tools provided by the disciplines, knows how to lead in a

correct way from the exercise of political leadership and the transformations that are demanded of it.

The authors of this article consider that the interdisciplinarity manifested in a comprehensive vision of the links between the different disciplines should be worked from the previous assumptions, therefore, the definition provided by Fiallo in his work entitled *Interdisciplinarity in school* will be assumed : a challenge for the quality of education, where it states that: "... interdisciplinarity is a process and a philosophy of work, a way of thinking and proceeding to know the complexity of objective reality and solve any of the complex problems that this poses. " (2001, p.68).

From this conception, interdisciplinary relationships will be established due to their methodological value for the integrality of the process, both cognitive, methodological, procedural, practical and attitudinal in the process of appropriation of the integral culture and direction in the process of political-ideological improvement for the preparation of managers of Physical Culture. This constitutes a complex problem that requires the ability to integrate knowledge from various disciplines, skills, values, and interdisciplinary ways of acting in various social contexts.

The authors share the criteria expressed in Rodríguez's thesis by stating that

"... Many of the works that address the issue of interdisciplinary relationships, focus their practical solutions only on the content or on one of its components (be it knowledge, skills or values); on the other hand, they lack an interdisciplinary integrating axis around which both coordination and subordination relationships between disciplines and between the subjects who teach them can be established. " (2008, p.40)

Consequently, none of these works addresses the Political Direction in the political and ideological improvement for the exercise of the direction from its conception of transversal macro-axis.

From the perspective of the previous systematization, the Political Direction is a common object that allows to recognize and develop the relationships between the

different disciplines that converge in the political-ideological improvement, through its didactic components, and through the components of the teaching program.

In this research, it is necessary to achieve interdisciplinarity, through: transversal axes, director programs, interdisciplinary articulation nodes and guidelines, therefore, it is considered that the transversality of the Political Direction allows in turn to see it as an axis that includes all the themes and as an interdisciplinary node. The foregoing presupposes that, in the process of political-ideological improvement, every transversal axis must be treated interdisciplinary, based on the determination of its own nodes by disciplines and by course.

The criterion is also shared that "... not every interdisciplinary node acquires the status of a transversal axis." (Rodríguez, 2008, p.40). The Political Direction is, because it constitutes a relevant and valuable cultural and political content, necessary for life and action, which contributes to the future managers of the Faculty of Physical Culture to assume critical and appropriate positions in the face of professional and educational problems. the practical activity of management in general, so that all disciplines have to contribute to its dominance as an omnipresent element, which must manifest itself in all activities that systematically and consistently have to do with the political-ideological improvement of managers of the Physical Culture, crossing the borders of the academic spaces and the School; but it must also work beyond the fragmentary, the instrumental or occasional, and be approached interdisciplinary.

The Political Direction as an interdisciplinary node

According to Bermúdez and Lorenzo in the book *Formative learning and personal growth*, the teaching-learning process is defined as

"... Process of interaction between the teacher and the students by means of which the teacher directs learning through appropriate activity and communication, facilitating the appropriation of the historical-social experience and the growth of the students in the group, in a period of personal and collective construction" (2004, p.68).

García and Addine et al. in the book *Teaching theory and practice*, they defend the criterion that "the teaching-learning process is complex, multifactorial, with multiple

interactions, where the conditions are definitely those that favor or hinder the process itself and the result" (2004, p .56).

When evaluating such arguments in the Party School, it can be considered as a process of interaction and intercommunication of several subjects, since they occur in a group in which the teacher occupies a place of great importance as a pedagogue who organizes and leads it, but in which positive results are not achieved without the prominence, attitude and motivation of the trainee; Therefore, it is necessary to influence the formation of capacities and communication skills of the reserves of political managers, for greater efficiency in the process of interaction with the teacher and the quality in the development of the teaching-learning process. This would be a strategically important action for the qualitative change of educational teaching work.

In correspondence with what has been stated, it is assumed that "The teaching-learning process must be contextualized, developer, personological and active, in a way that enables the internalization and appropriation of cultural knowledge, expressed in ways of thinking, acting and learning. " (Moreira, 2012, p.46). In this way, the formation of a solid culture based on the sciences of education, related to other sciences and with the Political Direction is guaranteed to form an integral general culture in the political-ideological improvement of the heads of the Faculty of Physical Culture.

In this task, Political Direction constitutes a fundamental factor for the achievement of such purposes, because through the knowledge and practice of its contents, in the study of the different disciplines of the Party School, the student will be able to access the contents taught or oriented by the professor, hence the Political Direction occupies a prominent place in the preparation of the students and should be conceived as an articulating node in the practice of the PEA, whose work philosophy is oriented to the achievement of a common purpose in all disciplines that they converge in the political-ideological improvement of the Physical Culture managers for the exercise of leadership.

The foregoing shows that interdisciplinarity does not deny disciplines, but is dialectically related to them. Interdisciplinary approaches arise and develop based

on disciplines. Interdisciplinarity will be richer the more the disciplines become enriched and these, in turn, are enriched through interdisciplinary contact between them.

In this sense, Lück's criterion is also convincing, who considers that interdisciplinarity

"... Is a process that integrates educators in a joint work, of interaction between the disciplines of the curriculum with each other and with reality, to overcome the fragmentation of teaching, aiming at the comprehensive training of students, so that they can critically exercise citizenship, through a global vision of the world and be able to face the complex, broad and global problems of today's reality. " (1994, p. 64).

To implement interdisciplinarity, it is required, first of all, according to the criteria of (Perera, 2000, p.39), with which the authors agree:

- of a conviction and a willingness to make changes,
- that people master their discipline and have a knowledge of the basic fundamentals of those with which they must relate in the process,
- dominate the context in which they act,
- work collectively to promote exchange with a view to determining common areas and coordinate actions, with a common language, in a climate of cooperation and flexibility,
- A continuous evaluation of the process is necessary for its improvement and updating. The analysis of the bibliographic references consulted and the experience in the application of interdisciplinarity in the educational practice of the Party Schools allow highlighting the main advantages exhibited by the process of political-ideological improvement for the preparation of the heads of Physical Culture based in interdisciplinarity:
 - Interdisciplinary work contributes to the formation of a true pedagogical group, to its consolidation at work, whether in the field of department, multi and interdisciplinary team, group of teachers or school institution.
 - Allows students to locate problems and extend the links that unite apparently unrelated phenomena, acquiring more general visions of reality.

- Facilitates the transfer of knowledge and acquired methods to other more traditional disciplinary frameworks.
- The trainees can apply the knowledge, methods and procedures learned to detect, analyze and solve new and present problems in the exercise of political leadership.
- It increases the motivation of the trainees because it is possible for them to tackle different topics that are of interest to them.
- It is an economic approach from the point of view of the relationship between the number of acquisitions and the amount of learning and enhances the efficiency of this relationship.
- Contributes to the formation of habits in search of new knowledge, independence and creativity.
- The use of methods that imply the development of the interdisciplinary places the students in an active position before the acquisition of knowledge, contributing to create collective work habits.
- Contributes to the formation of ideology and values (critical, reflective, responsible, supportive, patriotic citizens)
- Contributes to a change in attitude and in the relationships between teachers and between them and the students.
- Develops a teacher with interdisciplinary thinking so that he can transmit this way of thinking and proceed to all his students.

CONCLUSSIONS

Interdisciplinarity is currently an objective need for the development of human activity. Appears to respond to the problems of social development, organization and optimization of teaching. It means a change of attitude of the heads of the Faculty of Physical Culture in the political-ideological improvement of the School of the Party. This is not only a theoretical question, but is above all a practice linked to the way of thinking and acting.

BIBLIOGRAPHIC REFERENCES

Añorga J. et al. (1995). Glosario de términos de Educación Avanzada. La Habana: Universidad de Ciencias Pedagógicas "Enrique José Varona".

- Airasca, D. (2012). La cultura Escolar ¿Una aproximación a la cultura sedentaria? 1ª ed. Buenos Aires: Teseo; Universidad Abierta Iberoamericana.
- Addine, F. (2002). Didáctica y optimización del proceso de enseñanza aprendizaje. La Habana: Editorial Pueblo y Educación.
- Batista, G. y Addine, F. (2003). Compendio de Pedagogía. La Habana: Editorial Pueblo y Educación.
- Bermúdez, R. y Lorenzo, M. (2004). Aprendizaje formativo y crecimiento personal. La Habana, Cuba: Editorial Pueblo y Educación.
- Lück, H. (1994). Pedagogía interdisciplinar. Fundamentos teóricos y metodológicos. Segunda edición. Petrópolis, Editorial Vazes.
- Martínez, B. (2004). La formación de saberes interdisciplinarios en los estudiantes de la carrera Licenciatura en Educación Preescolar. [Tesis en opción al grado científico de Doctor en Ciencias Pedagógicas]. Las Tunas: Centro de Estudio para la Educación Superior “Manuel F. Gran”, Universidad de Oriente.
- Fiallo, J. (2001). La interdisciplinariedad en el currículo: ¿utopía o realidad educativa? Universidad Estatal de Piauí. Piauí.
- Jantsch, E. (1981). Interdisciplinariedad: sueño y realidad. Perspectivas. Vol. X, No. 3, Unesco.
- Martí, J. (1975). Obras Completas, t. 11, La Habana: Ciencias Sociales.
- Moreira, C. (2011). Estrategia didáctica para el desarrollo de la competencia cognitiva, comunicativa y sociocultural en la formación inicial del licenciado en Educación: Instructor de Arte. Tesis doctoral. La Habana: UCP “Enrique José Varona”
- Moreira, C. (2012). Metodología para la enseñanza-aprendizaje de la lengua materna como nodo interdisciplinar, en Revista Edusol, ISSN: 1729-8091. Vol.15, No.52, jul.-sep., 2015, pp.1-15. Universidad de Guantánamo, Cuba.
- Perera, F. (2000). La formación interdisciplinaria de los profesores de ciencias: un ejemplo en el proceso de enseñanza-aprendizaje de la Física. (Tesis doctoral). La Habana.
- Rodríguez, M. (2008). La enseñanza de la lengua materna como nodo interdisciplinar en la formación inicial de profesores generales integrales para la secundaria

básica. (Tesis en opción al Grado Científico de Doctor en Ciencias Pedagógicas). La Habana, Cuba: Instituto Superior Pedagógico "Enrique José Varona".

Salazar, D. (1999). Interdisciplinariedad como estrategia didáctica para la formación científica investigativa. Trabajo presentado en el Grupo de Didáctica de la Facultad de Ciencias de la Educación. Soporte electrónico. ISPEJV. La Habana.

Soca, M. (2004). La interdisciplinariedad, visión contemporánea de los problemas profesionales. Apuntes para su análisis. Revista Varona. No. 36-37, ene-dic.

Varona, E. (1992). Trabajos sobre educación y enseñanza (compilación de Elías Entralgo. Comisión Nacional cubana de la UNESCO). La Habana: Editorial Pueblo y Educación.

Vigotsky, L. (1987). Historia del desarrollo de las funciones psíquicas superiores. La Habana: Editorial Científico Técnica.