

---

***Tecnología de gestión integrada por competencias laborales como contribución al desarrollo local en Centros Universitarios Municipales***  
***Management technology integrated by work competences as a contribution to local development in Municipal University Centers***

**Delis Sevilla-Rodríguez****Reynaldo Velázquez-Zaldívar****Alberto Turro-Breff**

Universidad de Guantánamo, Cuba

Universidad de Holguín, Cuba

**Correo electrónico(s):**

delissr@cug.co.cu

rector@fh.uho.cu

aturrob@cug.co.cu

---

Recibido: 12 de junio de 2017

Aceptado: 20 de noviembre de 2017

---

**Resumen:** La investigación modela una tecnología flexible para la gestión integrada y sistémica con enfoque multiactores de las competencias laborales en los procesos sustantivos de los Centros Universitarios Municipales como contribución al desarrollo local, proporcionando una herramienta novedosa integrada por un modelo teórico diseñado con métodos y técnicas de diversos orígenes que permiten evaluar y mejorar con eficiencia y competitividad los niveles de desempeño; además consta de un procedimiento general y sus específicos que sustentan la implementación práctica.

**Palabras clave:** Gestión integrada por competencias laborales; Gestión universitaria; Procesos sustantivos; Planeación estratégica y desarrollo local

---

**Abstract:** The research models a flexible technology for integrated and systemic management with a multi-actor approach to work competences in the substantive processes of the Municipal University Centers as a contribution to local development, providing a novel tool integrated by a theoretical model designed with methods and techniques of diverse origins that allow evaluating and improving performance levels with efficiency and competitiveness; it also has a general procedure and its specifics that support the practical implementation.

**Keywords:** Management integrated by labor competences; University management; Substantive processes; Strategic planning and local development

---

## **Introduction**

In September 2015, the world leaders at the United Nations (UN) adopted 17 global objectives with the aim of eradicating poverty, protecting the planet and ensuring prosperity for all; these objectives include 169 goals and will mark the global development agenda for

the next 15 years. To achieve these goals, everyone has to do their part: governments, the private sector, civil society, among others.

Objective No. 4 includes ensuring an inclusive, equitable and quality education, as well as promoting lifelong learning opportunities for all. In correspondence with this, Cuban universities are oriented towards a process of improvement that allows them to gain efficiency and competitiveness, which forces them to carry out an adequate management as a way to guarantee the development of the university processes and their response in the three dimensions economic, social and environmental, hence its relevance and link to local development; where to treat the strategic agreement of actors and interests: individual (professor of excellence and competent graduate) - institutional (accredited university and relevant to local development) - territorial (territorial government with leadership and local development prosperous and sustainable) is extremely pressing.

The process of comprehensive university education is the primary objective of Higher Education in Cuba, where there is management of substantive processes being developed such as: undergraduate and postgraduate training, research, development and innovation (R + D + i) and university cultural and students' life as a transversal process that interacts in all the others.

The education of the university student acquires greater connotation in the important transformations in which the Cuban university is immersed, a process that includes training of knowledge, skills and values with capacities to transform the environment, seeking solutions to the professional problems the students face.

In 2009 CUMs (Municipal University Centers) were created as a fundamental institution of development with the aim of immediately and progressively integrate the university processes developed in the municipalities, for the improvement of professional training, research and cultural life at the university, with special emphasis on educational and political-ideological work. This implies the creation of a university structure that, through the exercise of the methodological direction, should coordinate the efforts and resources in the search for cooperative solutions propose recommendations and take actions to improve the academic processes; there is not a more important institution in the municipalities.

In Cuba, at the municipal level, the Integrated Human Capital Management has evolved as the Cuban economic model has been implemented, through the insertion of projects and research that require a synergic and harmonic integration of all the stakeholders they intervene in the different processes, determinants for the fulfillment of the Integral Development Plan of the Municipalities (PDIM), in which Higher Education plays a very important role and in its structure the Municipal University Centers (CUM) located there.

The incorporation of new approaches and management models is a reality defended to achieve higher levels of effectiveness and development in higher education. Organizational management with strategic, integrated, systemic, innovative and participatory perspective with the articulation of the different actors involved is a challenge for organizations, considering the current conditions of constant variations and profound social, economic and technological changes.

In order to assimilate these paradigms of organizational management, deep innovations in the way of thinking and acting of people are required, which can be achieved with the development and application of Human Capital Management (HCM) models based on labor competences that respond to demands for the valorization of knowledge under current conditions and promote at the territorial level strategies that lead to compliance with the Integral Development Plan until 2030 in each municipality; thus they would pay to the fulfillment of the Sustainable Development Goals adopted by the United Nations System.

The insufficiency in the integrated and systemic management with multi-actor approach of the labor competences in the substantive processes of the Municipal University Centers, limit their contribution to the local development, that problematic situation motivated this research.

In order to solve this problem, the present research has as a general objective to develop a technology for integrated and systemic management with a multi-actor approach to labor competences in substantive processes as a contribution to local development in Municipal University Centers.

## **Development**

## **The management of university substantive processes connected to the competence of the human capital**

Educational management as a discipline is relatively young, according to Botero Chica (2009), "its evolution dates from the seventies in the United Kingdom and in the eighties in Latin America" (p.11). For Trista Perez (2007), "its emergence was conditioned by the increasingly close link between the products of higher education and the economic and social development of each country, which has implied the need to work with a high level of guidance to specific goals both in teaching and in research; the increase in the dynamics of change in the social environment, which has required greater agility in decision-making; the incessant increase in costs and the decrease in the inflow of resources in Higher Education Institutions (HEIs), which has led to a marked interest in the rationality of processes, in the use of resources and the need for greater academic directionality for the fulfillment of goals and the coordination of team work" (p.10).

All these factors caused to appear in recent years the concept of University Management, according to Aguilera (2006) "... as a systematizing and integrating conception of the whole University to its environment" (p.11).

Pérez (2014) defines the University Management as:

(...) the process of planning, organization, implementation, control and improvement of university processes in an integrated manner, to increase their quality, in the pursuit of excellence and satisfaction of the demands of society (effectiveness), through greater effectiveness in decision making and rationality in the use of resources (efficiency) (p.15).

For the authors, university management is also a set of activities coordinated and planned with their environment, through the integration or synergy of the processes that take place in it, with a competent Human Capital (CH) that contributes to the economic, social and environmental development up to the territorial and municipal level.

In Higher Education, University Management is carried out through processes, which are classified as follows:

- Strategic or transversal

- Key or substantial
- Support

The key or substantive processes, in some contexts called missionaries, respond to the fulfillment of the social mission of Higher Education, declared in the document "Higher education in the twenty-first century: vision and action" presented by Unesco in 1998, which establishes that the starting point to redefine higher education in today's world is to define as its fundamental mission the contact with the needs of society in order to contribute to creating a sustainable human development and a culture of peace.

This is the basis for the relevance of the substantive functions of Higher Education (Díaz-Canel, 2012). It agrees with Velázquez (2005; 2006) who calls substantive processes to the fundamental processes directly related to the essential functions of Higher Education, and Cuesta Sáez (2009) in which the substantive processes of Higher Education are productive processes or services responsible for providing "consumer goods", in a good part intangible, such as: knowledge, professional qualification, to which discoveries and inventions, patents and general culture are added. Within the framework of strategic planning, authors such as Alonso-Becerra *et al* (2013), classify them as key processes because they are directly related to the results to be achieved.

The authors are of the opinion that all these processes should be managed as an integrated system, interrelated, the deficiency or success of one affects the others so the CH has to possess the competences corresponding to the activity or functions that correspond to each process; and the gaps that exist must solve them based on a training, career, education, improvement or other plan required; therefore, it is suggested that HEIs have identified the key or distinctive competences of the organization, of processes, and positions in order to evaluate the performance of their human capital and have a vision of the potential available to take on and carry out actions as a contribution to the sustainable development of society in general, an aspect not implemented in higher education.

In Cuba, the Ministry of Higher Education (MES) has begun the process of improvement and continuous enhancement in a planned and organized way, in all the universities of the country, which becomes an exceptional factor to introduce and develop Human Capital

Management (GCH) and Competence Management (CG) with qualitatively superior approaches (Guzmán and Marin, 2011).

The Human Capital Management System based on competences facilitates the execution of the functions of talent management, this process begins with the identification of these competences and ends with the evaluation of the candidate, providing a theoretical framework for selection, remuneration, training, evaluation and promotion.

According to the bibliographies consulted in HEIs there are several definitions and references to professional competences, proficiency profile of university professors, but the labor competences that are really required in the organization, in each university process, are not required, in correspondence with the approved social object, the mission and the functions; as well, those corresponding to each main teaching category according to the level of complexity. Without this process, it is not possible to assess the performance of the CH and the gaps that exist in order to achieve a successful performance and better the impacts and contribution of higher education on sustainable development.

### **The Municipal University Center and local development in Cuba**

In the 2007-2012 period a Ministry of Higher Education (MES) network and program of research, development and innovation (R + D + i) was created in the University Management of Knowledge and Innovation for Development (GUCID in Spanish), with local emphasis and the participation of all universities, and results that represent an important achievement (Núñez, 2014).

The national network of University Management of Knowledge and Innovation for Development (GUCID), stimulated the implementation of a system of indicators to measure the results and the impact of university management of knowledge and innovation in local socioeconomic development and performance in the management of the process in an integrating environment of the CUM - Headquarters - Local Government - entities of the production of goods and services (EPBS).

In this research the indicators corresponding to the dimensions: strategic planning for local development, capacity building for local development; articulation of actors and management impact were analyzed.

Group I: significant local development indicators for university management of knowledge and innovation; with 7 dimensions: economic-financial, food security, living conditions of the population, local management for innovation, environmental situation, demographic condition, social integration.

Group II: indicators of the performance of the process of university management of knowledge and innovation with an emphasis on local development; with 5 dimensions: determining local problems and strategic planning for local development, capacity building for local development, knowledge and innovation for local development: effectiveness of the intervention, articulation of actors and impact of management.

The role of the CUM and knowledge management contribute to the development of the capacities of the actors who direct and organize processes in entities and communities, so that the working methods must be modified so that the application of knowledge becomes a gradual and positive habit. It is the CUM that has the necessary potentialities for the articulation of the local actors and the mediator of the scientific knowledge that is required. Knowledge management taxes the mobilization of capacities for decision making in the implementation of actions and in the control of the results that generate impacts in the economic and social order.

In some Cuban municipalities, DL initiatives have been implemented for several years, which have been enriched by the initial experiences. All have had impacts, but with the recognition that they have been "starting point" for the analysis of DL in Cuba and the challenges that this issue imposes on the localities and the country. The experiences show that in the sustainability of the initiatives, strategic direction is fundamental as a starting point, the creation of structures that complement it and the determination of those responsible for monitoring and controlling the management of innovation projects generated, all interrelated with the organizations of the municipality and the "knowledge institutions", which promote learning and develop innovative capacities in the municipality (Boffill, 2010).

At the local level, knowledge management is defined as a complex process of generation, provision, administration and circulation of the information, data, knowledge and values necessary to guarantee decision making, with the aim of promoting the elevation of the

quality of life of the population on the basis of equitable sustainable development and characterized by increasing citizen participation.

One of the significant transformations that took place in Cuba is the universalization of Higher Education, with which all young Cubans are guaranteed equal opportunities and possibilities for university studies from their own municipalities; which guarantee an accelerated process of incorporation of young people of family of less cultural development to university life, expanding their opportunities for the fullest integration into society.

A clear position of the Cuban educational policy regarding the universalization of Higher Education was outlined by Vecino (2003), at that time Minister of Higher Education, in the conception that the university in the municipalities is not fragmentation or atomization of the Higher Education, but its multiplication and enrichment. It aims to form an important part of the future professionals of the municipalities in their own territories, under the methodological guidance of the mother university.

Thinking about how it can contribute effectively to the radical transformation of them requires understanding their current state and identifying the nexus science - technology - environment to guide the individual activity toward the achievement of common objectives. To this end, the alliance Science, Technology and Society (CTS) is a good option.

This conception puts special emphasis on the university as an actor of local development and with this, to overcome as soon as possible the existing disagreement between the offer of training of universities and training centers and the needs of innovation in the different local productive systems.

If in today's society development is focused on knowledge, the university must develop and articulate with other local actors to enhance the production and transfer of knowledge for the solution of concrete problems in the local context. This possibility was limited according to (Núñez and others, 2006) because the knowledge institutions in Cuba were located in the provincial capitals and in the case of the largest universities with a relatively strong presence in national research programs; this decreased the possibility of capturing the uniqueness and diversity of local needs.

That is what changes radically with the university of the territory. Therefore, it is conceived that the locality is the space in which it is installed and with which it must build its interactions.

### **Technology for the integrated management of labor competencies in the CUM as a contribution to local development**

The Technology is a theoretical model that requires a general procedure for its application and the specific ones with the corresponding stages that allow the implementation of strategic actions that contribute to the local development of the municipality such as: the Strategic Planning of the CUM; a catalog of labor competencies implicit in the Labor Competences identified and validated: key or distinctive features of the organization, processes and positions; the evaluation model of the performance of the Substantive Processes: Undergraduate, Postgraduate, Research, Development and Innovation (R & D + i) and University cultural life. One of the positions with main educational categories established for the organization of the work of the university professors: Instructor Professor, Assistant Professor and Auxiliary Professor; as well as that of the CUM. The model also contributes to the evaluation as a process of the indicators established for the university management of knowledge, innovation and development, identified by GUCID and appropriate to each municipality or province with emphasis on local development; its control and continuous improvement.

The general procedure integrates several currents or approaches as the systemic and integrated in which the synergy, cohesion and interrelation is established where the parts (phases and stages) are closely related to each other as a set, the holistic integration of all the processes carried out in Higher Education appropriate to Municipal University Centers: strategic or cross-relating processes, substantive processes, support processes, processes of the Integrated Human Capital System (SICH), the Quality Management System (QMS), all managed by labor competences for each of the people who perform it, in which the endogenous and exogenous factors that interact in the organization influence.

Precisely based on the analysis and determination of competence models; the strategic nature is manifested by taking as a starting point the analysis of the strategic elements of the CUM (Mission, Vision, Strategic Planning, Integral Development Plans of the

Municipalities, demands of qualified force, values among others that are expressed in the procedure), designing, or revising and updating them (as appropriate) to achieve the integration of these with labor competences and the compatibility of the new management system with the university strategy. In addition, the multi-actor approach emphasizes the exchange of knowledge, thoughts, initiatives, ideas, motivations of the different internal and external actors in which reciprocal relations of university-society collaboration are established.

With this objective, the technically based tools are facilitated in the corresponding stages with a systemic, integral and multi-actor conception.

The general procedure is made of the following stages:

I. Initial Preparation.

II. Strategic Planning of the CUM.

III. Identification and validation of labor competences in each CUM.

IV. Training to develop the process.

V. Execution, evaluation and continuous improvement.

The general procedure meets several requirements, such as:

1. Integrality: encompasses the organization as a whole, integrates all processes and their interaction with the environment or society.
2. Flexibility and ability to contextualize: adaptable to both internal and external changes or situations that occur in the environment; as well as the context that develops.
3. Transcendence ability: in any university institution the integral relevance and academic excellence significantly influence.
4. Participation: allows the participation of all internal and external actors in the fulfillment of the objectives and strategic actions planned as a contribution to local development due to the link between the strategic planning of the municipality and the CUM.
5. Logical consistency: due to its structure and participation of all actors, they gradually overcome the contradictions in the co-innovative process.

6. Continuous improvement: implies the systematic evaluation of performance, control of the processes and competences of the CUM workers (included in the catalog of competences), of the proposed strategic actions and objectives, which make possible to determine the existing gaps and pay to the permanent introduction of improvements.

## **Conclusions**

The research incorporates a novel technology with scientifically argued bases that contributes to obtaining a superior performance by competences in the CUM and includes a theoretical model from which a general procedure is established with the specific procedures that allow to develop the process of implementation of the model through the phases and stages.

The analysis of the different tendencies, the procedures, current legislations and approaches served as the basis for developing the appropriate technology, which is why it constitutes a theoretical and practical contribution to improve the integrated management of labor competencies in the CUM.

The general procedure and the specific procedures for the technology managed integrally by labor competences allow the decision makers of the CUM to achieve the articulation of actors as means for continuously improve the contribution of the CUM to local development and integrate the evaluation of performance with management by competences and strategic elements.

As a result, as well, it has improved the results referred to human capital, external customers and the organization as a goal, based on a cultural change given by the evaluation of performance and the permanent development of functional competences for the success of the whole system, by increasing the levels of professional development and self-realization, and where external clients will perceive the competence of the staff and the organization.

There has been an increase in the quality of the products and / or services, meeting needs and expectations, achieving the loyalty of clients to the CUM and the organization towards a cultural change of functional learning, increasing their capacity to respond to the new demands of the environment, ensuring the support of competitive and comparative advantages, as well as the increase of organizational efficiency in the productive chain.

It has been implemented a work with a catalog of competences, a document that implies the labor competences identified and validated (key or distinctive of the organization, of the substantive processes and of the positions held by the main teacher categories: Full Professor, Auxiliary and Assistant), as well as an evaluation model for each of them, which is done annually but with partial evaluation cuts.

Improving the capacity for building and strategic coordination of actors and interests has also been achieved at all levels: individual (competent teacher of excellence and graduate) - institutional (accredited university and relevant to local development) - territorial (territorial government with leadership and local development prosperous and sustainable) answering the strategic four objectives foreseen by the UN, to the system of indicators determined by GUCID and the satisfaction of the demands of the municipality.

The implementation of the model has allowed also to specify through the participatory assessment how the university community meets the CUM and the variables that most affect the organization, making possible to draw up the corresponding strategies.

Perfecting the three-way interrelation between the CUM - Government - Society has allowed a systemic relation of the Strategic Planning of the Municipality with that of the CUM, as well as an increased management of applied science as part of the organizational culture.

### **Bibliographic references**

Ada, G. (2007). *Desarrollo Local en Cuba, Retos y perspectivas*. La Habana: Pueblo y Educación.

Aguilera García, L. (2006). *La universidad del siglo XXI. Una epistemología de la educación superior ante la sociedad del conocimiento*. México: Editorial Unesco.

Alarcón, R. (2015, 13 de octubre). *La Educación Superior en el Sistema Nacional de Ciencia, Tecnología e Innovación*, Conferencia. La Habana.

Recuperado de <http://www.redciencia.cu/documentos/conferencia.pdf>

Alonso Becerra, A.; Michelena Fernández, E., y Alfonso Robaina, D. (2013). Dirección por procesos en la Universidad. *Ingeniería Industrial*, 34(1), 87-95.

- Albuquerque Llorents, F. (1996). *Dos facetas del desarrollo económico y local: fomento productivo y políticas frente a la pobreza*. Santiago de Chile: ILPES.
- Bofill Vega, S. (2010). *Modelo general para contribuir al desarrollo local, basado en el conocimiento y la innovación*. Caso Yaguajay. Tesis de doctorado, Universidad Central de Las Villas, Cuba.
- Botero Chica, C. A. (2009). Cinco tendencias de la gestión educativa. *Revista Iberoamericana de Educación*, 1-11.
- Buck Consultants. (1998). *Competency-Based Performance Management*. Washington. D.C. Recuperado de <http://www.cinterfor.org.uy>
- Cuesta, A. (2010). *Tecnología de Gestión de Recursos Humanos*. 4ta. ed., Partes 1 y 2. La Habana: Félix Varela.
- Cuesta Sáez de Tejada, J. D. y Hernández Pina, F. (2009, noviembre). Especificidad empresarial de la universidad española: gestión de los procesos de gobierno, académicos y de apoyo universitarios. *Revista Iberoamericana de Educación*, (50).
- Díaz-Canel Bermúdez, M. (2010). *Palabras sobre —desarrollo local*. Reunión de Trabajo del Programa de Gestión Universitaria del Conocimiento y la Innovación en el Seminario acerca del pilotaje de desarrollo local con municipios seleccionados. Yaguajay, Cuba.
- Guzmán Ibarra, I. y Marín Uribe, R. (2011). La competencia y las competencias docentes: reflexiones sobre el concepto y la evaluación. *REIFOP*, 14 (1), 151 – 163. Recuperado de <http://www.aufop.com>
- Leonard, M. (1998). *La Gestión por competencia laboral en la empresa y la formación profesional consultor*. Madrid: OEI.
- Núñez, J. (2014). *Universidad, conocimiento, innovación y Desarrollo Local*. La Habana: Félix Varela.
- Ortiz Pérez, A. (2014). *Tecnología para la gestión integrada de los procesos en universidades. Aplicación en la universidad de Holguín*. Tesis de doctorado. Universidad de Holguín, Cuba.

- Rodríguez, J. A. (2013). *Implementación de un Sistema Organizacional de la Universidad de Guantánamo para el Desarrollo Local en el Municipio El Salvador en Gestión del Conocimiento y Desarrollo Local*. Universidad de la Habana: Félix Varela.
- Rodríguez, J. A. (2014). *Arquitectura Organizacional para el acompañamiento universitario a los Planes Integrales de Desarrollo Municipales. Municipio San Antonio del Sur*. Taller Nacional de GUCIT, Universidad de las Ciencias Informáticas, La Habana.
- Tristá Pérez, B. (2007). *Contribuciones teórico-metodológicas y aplicaciones prácticas para el desarrollo de la Gestión Universitaria como campo de estudios*. Tesis de doctorado, Universidad de La Habana.
- Velázquez Méndez, A. y Maldonado Talamantes, A. (2005). Arquitectura de procesos para las instituciones públicas de educación superior. *Revista Teoría y Praxis*, (1), 109-124.
- Velázquez Méndez, A. y Maldonado Talamantes, A. (2006). La especificación de procesos en las instituciones públicas de educación superior. *Revista Teoría y Praxis*, (2), 157-169.