

## To The "*Potential Development Zone*" of the University Center in "*Calixto García*" Municipality

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**Abstract:** The work had as object of study the process of integration of Higher Education in Cuban municipalities, due to the novelty of it and the lack of management tools to carry it out. A historical study was made of the process of universalization of Cuban Higher Education with its particularities in the Calixto García municipality of Holguín province, Cuba; all of it constitutes an instrument of invaluable value for the historical, logical and prospective studies related to this subject. The objective of the research was to demonstrate that the integration process of Higher Education in the municipality of Calixto García was successful from the implementation of a procedure for this purpose and the evaluation of the results in basic indicators of the substantive processes before, during and after the integration. Theoretical, empirical and statistical methods used during the research process. The procedure constitutes a theoretical-practical contribution to the process of conception and organization of the integration of Higher Education in the municipalities and at the same time, it is an important methodological and organizational instrument. Its application corroborated its effectiveness and relevance when a significant increase in quality detected in the main indicators of the substantive processes in the Calixto García Municipal University Center during the 2015-2016 academic year to 2016-2017

**Keywords:** integration, university management, municipal environments, procedure, project.

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### INTRODUCTION

Cuban higher education has maintained a constant update in all its substantive processes since its emergence, with emphasis on training, with the premise of achieving a better-prepared professional with the standards of competence that allows applying knowledge in different areas of knowledge for which it is prepared.

Because of this update in 2002, this teaching universalized in all the municipalities of the country with the creation of the Municipal University Branches (UMB), today named after the integration process of Municipal University Centers (MUC).

MUCs have a social responsibility to contribute to sustainable local development by performing the same substantive functions attributed to the central university, so that it is necessary to ensure that they have sufficient capacity to produce, disseminate, transfer, apply and socialize knowledge. In other words, to manage socially distributed knowledge. However, potentially speaking, in a municipality, there is not and it will not hardly exist an institution more powerful, culturally and scientifically than the Municipal University Center. (The social order of the UMC, 2012)

Without a doubt, the universalization of higher education, as he stated [1] (Jover, et al., 2006) "(...) offers unprecedented opportunities to put knowledge at the service of the solution of territorial problems, creating a new collective actor, potentially focused on innovation, capable of favoring the creation of competences for the assimilation-creation of technologies and knowledge of social significance, in connection always with the other actors in the territory (political, administrative, educational)".

The process of universalization of Cuban higher education has gone through two fundamental stages, namely: emergence and implementation of MUBs and improvement of their university management. The first stage, mass teaching period, characterized by free access of students to the university without the completion of entrance exams and, mainly, in humanistic careers not so

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demanded by social development, so at the beginning they devoted exclusively to professional training. (Methodology for the systemic management of scientific events, 2016). From the own transformations carried out by the Ministry of Higher Education (MHE), a new stage developed in the process of universalization of higher education that is fundamentally based on the creation of municipal university centers. [2](Peña, and others, 2013)

During the professional practice and through the study and interpretation of normative documents, specialized literature and the exchange of criteria among colleagues and managers at the MUB, there has noted that criteria, expectations and beliefs prevail in relation to the process of integration in the municipality, among which the following can be specified: i) . The need for guidelines to assume the process of integration of subsidiaries and form a University Center in the municipality, ii). Expectations of the integration process before the fulfillment of the mission of a MUB, and iii) Fluidity and effectiveness of the interpersonal relations of the group of workers.

The deficiencies in the field of the scientific considerations of the process of integration of universities and the possibility of initiating an integration process which satisfies the execution of the mission of a MUB tinged the position of the main objective of this research that is: To demonstrate that the process of integration of the High Education in the municipality Calixto García has been successful from the implementation of an elaborated procedure and the increase in the quality of the results in the fundamental indicators of the methodology used.

To understand the object of study in its development, its history and its logic, to discover the essential relationships and general characteristics of it, to determine generalizations and to confirm theoretical formulations, the main theoretical methods of investigation used historical-logical, analysis and synthesis, inductive-deductive and hypothetical-deductive.

### METHODOLOGY USED

For the confirmation of the theoretical-methodological base and its fissures, several statistical methods used, among which the cluster analysis and the correlation analysis highlighted to verify the level of correlation between the theoretical variables analyzed.

For the evaluation of the proposed procedure, the MUB of the municipality "Calixto García" selected in the province of Holguín taking into account that the management of the substantive processes in this subsidiary presents the same theoretical and methodological limitations. It has the support and recognition of local institutions; the minimum technical-organizational conditions necessary for its implementation, as well as competent managers, will and commitment of the management, and its actors have adequate experience in the integration of the university in the municipality.

For the collection of the data were used the scientific observation, semi-standardized interview, measurement and experiment methods. The interviews conducted with executives, professors and students of the MUB and executives of the scenarios where the MUB has incidents, among others.

The statistical analysis applied focused on descriptive statistics and trend analysis, and the method of moving averages in order to evaluate the indicators selected in the 2014-2017 period. This allowed knowing the evolution of these indicators before and after the procedure.

In addition, the correlation analysis (Kendall coefficient) used to verify the level of correlation between the indicators. For the use of these methods, SPSS 13.0 (2004) used.

### Developing

The MUF, institutions that began their development experimentally in 2001 by the provinces of Matanzas and Havana, in order to verify the feasibility of universalizing higher education in Cuba, allows carrying out the different substantive processes that developed in the intramural universities to the different municipalities of the country. It is not until 2002 that all parts of the country massed, and thus the hypothesis that formulated on the increasingly growing need to universalize higher education validated, (Methodology for the systemic management of scientific events, 2016).

When a periodization of the universalization of higher education in Cuba carried out, the evolution of the Cuban Technological Scientific Policy (CTP) in general, and of higher education itself in particular must necessarily take into account. Thus, it could argued that the process of universalization of tertiary education in the country has gone through four basic stages, say: first (1959-1975), Conceptualization, first transformations and expansion of access to higher education. Second (1976-2001), Preparation of the conditions for the creation of the Municipal University Subsidiaries.

Third (2002-2008), Creation<sup>1</sup> of the Municipal University Subsidiaries and full access<sup>2</sup> and fourth (2009-present), Creation of the Municipal University Centers<sup>3</sup>.

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The first three stages contextualized by (Management technology for science, technology and innovation at the Municipal University Branches. Experiences of its application in the MUB of Calixto García., 2010) and the last by (Infante, and others, 2013).

The creation of the Municipal University Centers is a process that is still under construction, characterized by the use of qualitatively superior participatory and collegial forms, the dialectical development nuanced by the interrelation between the actors in the search for solutions to real problems that become lifelong learning, through the integral and systemic management of science, technology and innovation.

From the decision to unify the current MUF of the different organizations in a single entity with its own legal personality, managed entirely by the Ministry of Higher Education. It is necessary to define the common elements of planning, organization, execution and control, which allow the exercise of an integrated executive management, while considering the professional link that supports the development of each of the specialties represented in the careers taught in this new type of institution.

The aforementioned means granting the authority that the MUC management should have for planning of projections and work objectives at that level.

To make decisions that ensure priority in the destination and use of human material and financial resources available, to select and indicate the relevant ways and procedures for the realization of the strategies and actions that may be required in a planned manner or in case of possible operational contingencies, as well as to collectively and individually evaluate the performance of the principals and the rest of the subordinate staff.

The existence of various professional profiles in teaching activities in the municipalities points to the need to guarantee the link between the training processes with the specific areas of the universities that are carried out here, which study, know and develop the different branches of education science. So, that in the operation of the higher education system as a whole, it is necessary to consider the scope and management mechanisms at the provincial and national levels.

Likewise, there should be an academic link that articulates the provincial universities of all training organizations with the direction of the municipal university center for the purposes of implementing the professional elements of their training processes.

Corresponding to the above considerations, the process of integration into the MUC "Calixto García" developed, through the application of a procedure consisting of three stages and six steps, based mainly on the methodology for the integrated management of substantive processes developed by (Peña, and others, 2013) and applied since that year.

Stage I: Integration alternative. Step I: Orientations and surveys. Step II: Monitoring and awareness. Step I: Orientations and surveys: the orientation and awareness developed from the beginning of 2015 until the month of March of the same year. From the indications that came from the University that the same were related to: 1) The survey of the templates of the active professors of the subsidiaries that were integrate. 2) Survey of the TFAs and tools that each subsidiary counted on the part of the different administrations. 3) Survey of the cadre of each subsidiary and the possible proposal of the principal, head of the department and secretary. 4) Development of exchange with the directors of the subsidiaries integrated to know how the integration process was going and the orientations received.

Step II: Monitoring and decision-making.

The monitoring and application developed from the month of March until July 2015. In this period, the following actions were developed: 1) Approval by the provincial commission of integration of the functional structure of the MUC. 3) Definition by the

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1-The MUF constitute the basic scenario of the "idea – force" calling New University. (Núñez Jover, 2006a) states that it would be premature to attribute the character of the constituted paradigm of New University and, therefore, it is preferable to call it "idea-force" because, among other elements, there are many aspects to understand and project sufficiently, among them, knowledge management in the territorial context.

2- Authors such as (Morejón, 2006) propose a fourth stage in the evolution of the universalization of Cuban higher education and place it since 2005 when a process begins to achieve full access with the introduction of distance education assisted in the UMF.

3-This stage has gone through several processes, the first: the actual creation of the MUC with the purpose of integrating and attending in a methodological way to the existing MUF in the municipalities until 2015, and the second: the integration of the existing MUFs into a single institution, except Medicine. Higher stage of work that has allowed, among other things, to increase knowledge within the professors that allow them to serve the demands of the MUC in a harmonious way.

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provincial commission of integration the centers for each defined area, 4) Review of the legal status and constructive state of the facilities that each subsidiary

. 5) Definition and approval by the provincial commission of integration of the premises that would be part of the integrated MUC. 6) Inventory of the TFA and useful of each subsidiary that is integrated and its dispatch of the provincial integration commission.

7) Information of the employees by the principals of each subsidiary of the progress of the integration process and the main indications and decision It is adopted by the provincial integration commission related to structure, workforce, premises, etc.

and 8) Delivery of the characterization of the faculty staff of each subsidiary which is integrated.

Stage II: Integration process. Step III: Application and awareness. Step IV: Characterization of the staff. Step V: Mediators of the development of MUC Calixto García to fulfill its mission.

Step III: Application and awareness.

The application and awareness is the first step in the integration process itself, which began in September 2015 and the following activities carried out: a) Initial work meeting by the Board of Directors with all professors and non-professors of the integrated subsidiaries in which they were exposed. a-1) Proposal of structures (technical and management bodies, a-2) Distribution of functions of each professor and non-professor, a-3) Distribution of the teaching staff liability. a-4) Regular information system and its subordination. b) Final inventory of the TAF and useful of the integrated subsidiaries and their transfer to the warehouse and areas designated by the management. c) Budgets for the preparation of the educational strategy, methodological work plan, work objectives, university extension strategy and the strategy of overcoming the MUC. d) Planning of sensitization workshops and learning of the development of the substantive processes of each subsidiary that is integrated and the proposals of work guidelines integrating the knowledge of the processes of each subsidiary in which they developed the following activities: d-1) Development of workshops conceived in the Educational Strategy of the MUC, which include a methodological workshop on Patriotism value, a methodological workshop on education in the value of justice in UMC, d-2) Development of methodological activities that allow the use of potential of knowledge which are present in the integrated cloister, among them stand out: d-2-1) The relationship between the non-personal components of the teaching-educational process, d-2-2) Inter, multi and transdisciplinarity in the direction of the developer teaching-learning process in the training of future professionals, d-2-3) Organizational communication in the promotion of culture in the Municipality of Calixto García, d-2-4) The evaluation of learning in students of the Bachelor of Accounting Major at the University Center of Calixto García, d-2-5) The evaluation of the quality of the lessons at the University Center of Calixto García, d-2-6) Educational communication and its significance in the direction of learning of the students of the MUC Calixto García and d-2-7) The pedagogical communication and its influence on the education of teenagers.

Analysis of the main normative documents of higher education in Cuba was also carried out, including resolutions 210/2006, 120/2007, 128/2006, 132/2006, 44/2007 and 187/2011.

Step IV: Characterization of the cloister. This action developed progressively and maintained permanently, but at the time of integration, it was necessary to update the characterization delivered by the addresses of the subsidiaries integrated within the actions that were developed. i) Diagnosis of the potential of the staff of the faculty of the MUC integrated in terms of strengths and weaknesses. ii) Diagnosis of the possible manifestation of political - ideological subversion of the staff of the faculty. iii) Definition of the professional competences and skills of the integrated professors of the faculty. iv) Definition of the situation with the academic and teaching categories of the integrated professors of the faculty.

Step V: Mediators of the development of the MUC "Calixto García" to fulfill its mission: 1)% of total promotion, 2)% of clean promotion, 3)% of teachers with main teaching category, 3) Number of postgraduate courses taught, 4) Number of postgraduate participants, 5) Number of teachers linked to the postgraduate, 6) Postgraduate efficiency index, 7) Number of MUC graduates enrolled in postgraduates, 8) Number of elderly people university chair (EPUC) classrooms, 9) Number of older adults enrolled in CUAM, 10) Number of community projects, 11) Number of scenarios attended, 12) Number of events developed, 13) Index of events per teacher, 14) Number of projects approved, 15) Index of projects per equivalent teacher, 16) Percentage of professors linked to projects, 17) Index of publications by human potential for science. These indicators taken from the Methodology for the integrated management of university processes through the application of project-integrated management [4](The integrated management of substantive processes in Cuban municipal universities. 2016)

Stage III: Assessment of the partial results of the integration process

Step VI Evaluation of the process and the results in selected indicators. Because of the integration process, undoubtedly, a work team has been obtained with higher qualities than the ones each group was before the process. This new entity, after overcoming the logical barriers of the integrative process, has become a competent group, which has been able to draw on the

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individual knowledge of its members and has added a different dynamic to the work by preserving the institutional culture of the old entity. This could translate into new particular goals for each of the members and for the team as a whole. It is a perception of the authors who are also part of the team. These exposed elements materialized in practice by reviewing, for example, the behavior of a group of indicators in three moments that can throw arguments to validate the hypothesis that the MUC of Calixto García has undergone a successful integration process from applying tools Management valid for this purpose. Comparisons of the results of the MUC work can establish on selected indicators before integration, say 2014-2015 academic year, the first integration course, ie 2015-2016 academic year and the recently concluded 2016-2017 academic year.

It would be interesting to comment on some elements that could add light to the argument that stated forward. There are common and traditional actions that characterize education at all levels of education, such as, for example, teaching, self-teaching, methodological, educational work, the formation of values, among others. In addition, as results of these could be located, the grades obtained in the quality of the lessons taught, student learning, behavior shown by teachers and students, not only in school institutions, but also in all areas of action, say family, community, work centers and the whole society as a whole. However, there are others, which characterize and distinguish the tertiary level of teaching others and therefore a teacher of the general level to which he works at the highest educational level, the university. We are talking, then, about actions that should characterize this professional at this level. They are those that attest to their level of professional competence given in their scientific production and that materialize their participation in research projects, scientific events and therefore, they travel through higher teaching and scientific categories, publish scientific articles in certified journals and access prizes and awards that guarantee the relevance of their scientific production.

As it is logical, this capacity achieved by the teacher, in the research process and his interaction with the scientific community by making available his main contributions in his field of action. It makes him grows as a professional and raises his level in an integral way and as a consequence to raise the quality of his teaching method, his knowledge and skills in various fields of the pedagogical field. In addition, the use of tools to transmit, with greater efficiency and effectiveness, to his students the best ways to learn and access the knowledge of the subject matter and his training in an integral way for the exercise of the profession.

An important issue, which should not be lost, related to the climate or organizational environment. The MUC, as a new entity resulting from the integration of three different groups plus other teachers incorporated from other entities, must create a new organizational climate. We are not talking about formal issues of work systems, regulations, among others. We are talking about organizational culture, which does not obey administrative hierarchies or similar ones. It is one formed as a matter of agreements and ways of conducting in the academic field, of recognizing the importance and importance of the institution in its particular setting. It is like a code assumed by the university community, led by a hard core that makes it prevail and that positively influences the new professionals that are incorporated, without distinction of experiences or backgrounds and emulate them in terms of the aspects we have mentioned that distinguish it in terms of its performance in this new professional scenario. In this way, the resulting team is nourished by the integration of those who were, who already have a high institutional commitment and results that could aspire to match or overcome by those who are incorporated and creates a silent interaction in their essence but explicit in their behavior. In other words, those who join and feel the commitment of not being left with debts, by being part of a collective who has already forged an identity and prestige, not only at the local level but beyond the borders of the territory. This makes, after pre start; they join to the work in those aspects that distinguish them as university professors throughout the word. Those who were already strive to make those feel the need to emulate them. This, of course, well conducted from an administration that also participates in that nucleus we spoke before, results a new work team and a new organizational culture. It marked the innovative environment, good humor, combativeness, irreverence to formally established things, in search of good things, the sharpness of criticism well argued, not only in the academic and scientific environment but also in the social, cultural, economic one, etc.

Presumably, if we talk about a successful integrative process, the results that could be shown in quantitative terms reflect this, because the qualitative is implicit and would be support and foundation of the other. Because when talking about a work team created on the basis of leadership, enthusiasm, the preservation of the best institutional values, the recognition of the organization's role in the local context and the setting of challenging goals, we would be talking about very positive results. Which make not only the former feel proud members of the team, but to the new ones that are incorporated and ultimately to the University Center of the municipality Calixto García.

In the tables and figures shown below, you can see the significant jump in several indicators that selected from those prepared by Peña and Batista, 2013. They are also part of a management methodology for Cuban municipal universities prepared from

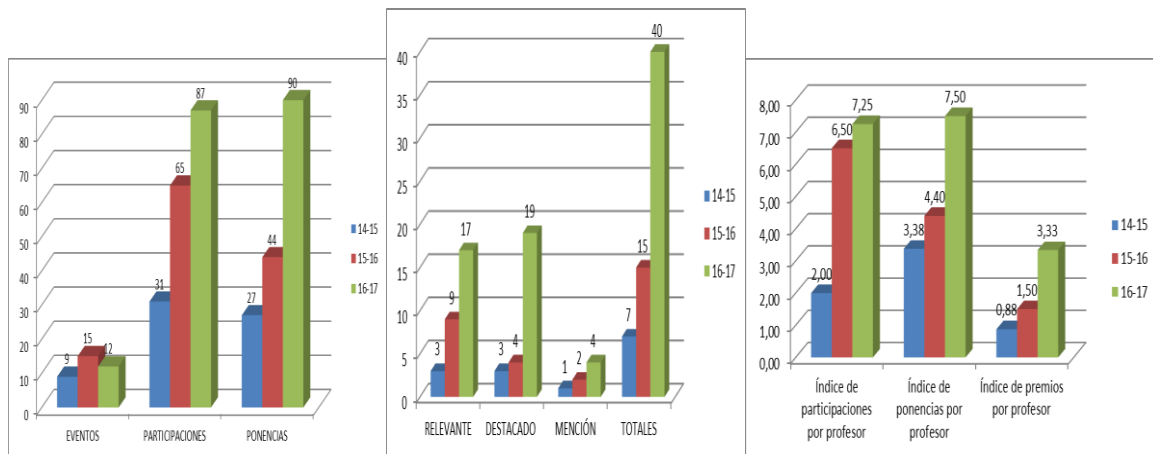
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the work in this institution and that in essence used in the process of management of substantive processes since the 2012-2013 school year.

It begins with the results, precisely, in the indicators that we mentioned before and that are part of what distinguishes the professional from the tertiary level. That is, scientific production given in participation in events, awards obtained, publications made in indexed journals in bases of data of recognized prestige, other publications made on CD-R of national and international events and participation in research projects (Peña, et al., 20017).

Referred to the first two elements: participation in events and awards obtained. The data collected in four indicators, that is: i) total events in which they participated, ii) total participations, iii) total presentations presented and iv) Awards achieved. The latter by categories (relevant, outstanding and mention) show that in the present 2016-2017 school year (second of integration) the results are markedly higher and if we compare them with the 2015-2016 course (first integration). In spite of participating in three less events, there were twenty-two more participations (65-87). There were also forty-six more presentations (44-90) and twenty-five more prizes awarded (15-40) as shown in Figure 1. These results taken to the indices that established in the methodology for the integrated management of substantive processes in Cuban municipal universities and that somehow serve to measure performance or Organizational also show the remarkable rise in the results to which we are referring. In other words, the index of events and the index of awards per teacher as shown in Figure 1. We specify that in the case of participation in events in this last year, all teachers in the pedagogical group presented work unlike the previous ones in which several did not do it, in addition teachers are more massively incorporated to partial dedication. We are talking that as per capita each teacher presented three papers and reached one point five awards.

In any case, the indexes selected in the methodology, which also take as a basis those established by the High Education Ministry, are against an equivalent teacher that is a value formed by a formula that encloses the teaching category of the cloister and for this case it is twelve (12). It means that if ninety papers presented, the rate of papers per teacher is 7.50 and forty awards reached, the rate of awards per teacher is 3.33. Another important element to consider is the amount of municipal, regional and provincial events reduced. The participation in national events increased from one to three. Although the number of international events in this course kept in three, the first time they participated in the history of the institution in an international event abroad with a presentation also contributed a publication in an indexed magazine in the web of science (WoS), which constitutes a high result.



**Figure 1. Comparative results in participation in events, presentations and awards obtained in the last three courses by MUC Calixto García**

**Table 1. Participation in events and awards obtained at different levels**

As it is evident, the quality of participation in events increased significantly as shown in table 1.

LEVELS	TOTALS		Awards											
	15/16	16/17	Participations		Papers		Relevant		Highlights		Mentions		TOTALS	
Courses	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17
Municipal	5	2	22	32	13	33	5	13	2	12	1	3	8	28
Provincial	5	4	5	12	2	12	0	1	1	4	0	0	1	5
Territorial	1	0	10	0	2	0	0	0	0	0	1	0	1	0

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National	1	3	16	38	16	41	4	3	1	3	0	1	5	7
international	3	3	3	5	3	4	0	0	0	0	0	0	0	0
TOTALS	15	12	65	87	44	90	9	17	4	19	2	4	15	40

With regard to scientific publications we make a division to evaluate, on one hand, those made in high-impact journals that indexed in recognized databases and on the other hand, those published on CD-R of national and international events, but they did not publish in high impact magazines. On the latter, we make a dimension. The HEM does not collect them within the statistics to evaluate the universities, however, for the case we analyzed it would be wrong not to contemplate them because they do characterize the progress in the scientific work of an institution and serve as the basis for making the leap to recognized publications for the HEM.

Referred to the first case, in the 2014-2015 academic year, there were not any publication in recognized journals, in the 2015-2016 academic year only one was published and in the 2016-2017 academic year five were published and one of them in the Web of Science group I, two in group III and two in group IV. These data show the quantitative and, above all, qualitative leap in reference to high relevance scientific production.

In the second case, the results, in this last course, exceed the previous courses and predict a significant increase in high impact publications for the 2017-2018 academic year. If we appreciate all the publications in this last academic year, the scientific articles almost tripled (59 vs 20).

**Table 2. Scientific publications made by MUC Calixto García in the last three courses**

COURSES	PUBLISHING							CD-R national and international Events-Conferences	
	JOURNALS OF HIGHER IMPACT							TOTAL	Index of publishing per professor
	GROUP I	GROUP II	GROUP III	GROUP IV	TOTAL	Equivalent of professor	Index of publishing per professor		
14-15	0	0	0	0	0	8	0,00	13	1,63
15-16	0	0	0	1	1	10	0,10	19	1,90
16-17	1	0	2	2	5	12	0,42	53	4,42

It should be indicated, in addition, a large number of awards and recognition obtained by the group that support the work in the period analyzed, they are: i) Rector's prize to the MUC with better integral results. ii) Rector's prize to the best MUC in the scientific and innovative activity. iii) Rector's award to the best teaching department of the MUC. iv) Rector's award to the best project team in his contribution to local development entitled "Strategy to contribute to the local development of Calixto García municipality through the integrated management of university processes". v) Rector's prize for the best project team in the production of food entitled "Intercalation of cassava legumes in alkaline soils of the municipality Calixto García ". vi) Recognition of the rector to the administrator. vii) Recognition of the rector Professor attending university extension. viii) Recognition, as a leading cadre, to the principal of the CUM. ix) Jose Tey Medal given to a professor for his recognized trajectory. x) Recognition of the Provincial Assembly of Popular Power as an illustrious personality of the Holguín province to the principal of the MUC. xi) Recognition of the Municipal Assembly of Popular Power as an illustrious personality of the municipality Calixto García to a teacher of recognized trajectory.

### CONCLUSIONS

1. - As a result of the study carried out and the evidence shown, it can be ensured that the process of integration of Higher Education in the municipality Calixto García of Holguín province, Cuba, has been successfully endorsed by the high results achieved in the main indicators which are establish in the methodology to assess institutional performance in its three substantive processes

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2.-The procedure created and applied to carry out the process of integration of Higher Education in the municipality Calixto García of Holguin province, Cuba is relevant and proved its validity by allowing a successful integrative process determined by the creation of a new harmonious and creative professional climate

3.-The procedure provided as the main practical contribution is applicable to other scenarios with similar conditions

4.- It also provides a theoretical assessment of the process of integration in non-quantitative aspects which are essentially due to subjective issues that favor or not the creation of a positive professional "climate" for the successful performance of the institution.

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