



Culture of evaluation: A proposal from the role of university teaching

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Keywords: Culture of evaluation, Higher education, Substantive role of teaching.

ABSTRACT

his essay addresses a theoretical proposal for the establishment of a culture of evaluation in the context of higher education, specifically from the substantive function of teaching. The bibliographic method has been used, complemented by the analytical-synthetic method on the documentation found, revealing that this topic is still evolving. Three sections are developed, based on the conception of the substantive function of teaching, which focuses on guaranteeing the comprehensive training of future professionals, through the achievement of educational quality, an aspect in which all actors must be active participants. Secondly, the elements of the evaluation culture are presented, from a nonfragmented university perspective, as a social construction subject to different evaluations and circumstances; whose conception and practice have moved from an external evaluation to an internal one (as a self-evaluation). And thirdly, it describes how the culture of evaluation can be promoted from the teaching function, where all members of the educational community are active participants, with the power to intervene in all processes related to evaluation and its planning. It is concluded that the exercise of the praxis of didactic evaluation becomes a necessary strategy that can give way to the generation of a true evaluative culture since it directly involves the educational actors who receive the scope and benefits that institutional improvement brings to the quality of life of all its members.

1. INTRODUCTION

One of the great ideals of higher education is the achievement of educational quality, which is a response to the development of university processes, and once it becomes a cultural process, it can make the desired aspects of improvement take shape and achieve them. Thus, at the base of this ideal, the development of a culture of evaluation intrinsically underlies, which is emerging as a substantial element that allows the attainment of quality in the institution of higher education to be viable. However, in the practice observed, there is still a lot of work to be done to establish a culture of evaluation in university institutions.

According to Bolseguí & Fuguet (2006), the understanding of a single conception of the culture of evaluation is still under development in the context of higher education (p.92), it is not achieved from a globalizing vision coming from a single sector of action, which is generalized equally to the entire institution. A more complete definition should come from the role played by each of the substantive functions of the university. For this reason and given the complexity of this task, the main purpose of this essay is to analyze how the role of the praxis of evaluation, carried out by university professors, leads to the establishment of the basis for the establishment of a culture of evaluation at the institutional level.

For this purpose, the bibliographic method has been used, which for Escamilla González (1970), starts from a work plan on the concept to be investigated, of which he can make some changes along the way, and then begins its compilation (p.121), and which is based on the process of locating and accessing documentary sources linked to the field of higher education. Following this logic, the literature consultation has made use of the literature review technique, to direct in a refined way the search for new authors and information on the subject. Next, it has been complemented with the analytical-synthetic method, used to process, first, the elements of the object of study sought in the different sources; to then consolidate it into a homogeneous and coherent whole, which facilitates its understanding (Rodríguez & Pérez, 2017, p.186),

The essay develops three sections, which start from the conceptualization of the substantive function of university teaching; progress is made on the elements of the culture of evaluation; Finally, he discusses the proposal of a route for the establishment of a culture of evaluation from the teaching function.

2. DEVELOPMENT

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2.1. The Substantive Role of Teaching and the Search for Quality

It is necessary, albeit briefly, to start from the meaning of the substantive function of university teaching, to be able to connect with the conception of the culture of evaluation, for which it is worthwhile to first understand its dynamics and implications. A substantive or core function is a "set of related activities, emanating directly from the attributions conferred on the institution" (BIDISS, 2015). From this perspective, the substantive function of teaching in higher education has among its attributions: to be a comprehensive process, through which the comprehensive training, mobility, and pertinent performance of future professionals is guaranteed; and, among other aspects, it includes the admission system, the curriculum of the academic offer, professional and psycho-educational trends, and the development demands of the country and the region (UNI, 2019).

Although the function of teaching, due to its obvious characteristics, could be framed in the teaching-learning relationship, it is not reduced to this, which would generate, as Fabre (2005) points out, the promotion of a traditional mentality of "docentism". In other words, it is also open to other activities related to research, extension, and social linkage; However, among its specific functions are the planning, management, and evaluation of training processes, the latter being the key element that will make it possible to link the actions with the quality aspects that are intended, and that serves as the basis for the gestation of a culture of evaluation, from this substantive function.

However, any expression of quality does not take place outside of a specific institutional culture. A culture that acts as the social cement of the educational community, which makes it cohesive due to the shared set of beliefs, values, norms, symbols, language, and technologies (Gelles & Levine, 1996), giving identity and meaning to the lives of the actors participating in this institution. These elements serve as shapers of institutional conceptions and practices, which allow us to generate an understanding of what quality can mean in the educational institution.

In the case of higher education institutions (HEIs), the issue of quality culture is closely linked to the achievement of quality education and is therefore directly linked to the role of teaching. Giving a precise definition of what this type of educational quality means is not easy, but it agrees with Pérez Esclarín (2006, cited by Hernández, Meléndez, Chumaceiro & Aguilar, 2017), who points out that education will only be of quality if it contributes to "all people, without exclusion, being able to have the goods and services they deserve. According to this, a quality education reaches and is provided to all people [in the educational community]" (p.8).

From this perspective, the culture of university quality should not be seen exclusively from the point of view of the achievement of the results that can be obtained after a "measurement" of its services (quantitative vision); but, rather, by the ability to allow access, to all its members without exception, to the variety of pedagogical, material and service benefits that the HEI can provide them (qualitative vision). In such a way that "quality, as it is a culture, must be assumed in all organizational and institutional processes and by all participants in the

functions" (Hernández, Meléndez, Chumaceiro & Aguilar, 2017, p.9). One of the main functions, as mentioned, is that of evaluation and planning.

Given the above, the role of the teaching function implies that all members of the educational community must also be active participants, with the power to intervene in the evaluation processes, appropriating both the forms of action concerning pedagogical training, and the coherent and responsible use of material resources and services. That allows this evaluation activity to be carried out permanently. These aspects can be achieved to the extent that both teachers and students assume and recreate the institutional culture, voluntarily; without the need to comply with obligations that come from outside the institution or from regulated commitments within it, since these practices are the ones that generate the bases for the establishment of a culture of evaluation in the institution.

2.2. Elements of the culture of evaluation

It is not possible to speak of a culture of evaluation in higher education institutions without referring to the role played by teachers, as agents who have the function of promoting educational quality, from the systematic exercise of planning and didactic evaluation. The McKinsey report (2007) already concluded that the ceiling of the quality of the systems depended on the quality of their teachers, an idea that Hernández, Meléndez, Chumaceiro & Aguilar (2017) completed when they concluded that the culture of quality will depend on whether teachers can access, under equal conditions, a full teaching exercise that leads them to commit to the institutional philosophy (p.9).

On the other hand, Valenzuela, Ramírez & Alfaro (2011, pp.45-48), propose the idea that the culture of evaluation refers to the set of values, agreements, identity (history and traditions), ways of thinking and feeling, behaviors, that an educational community assigns to the action of evaluation, which is expressed in the following three components:

- How the different educational actors understand evaluation and, in particular, the use of institutional indicators. [It focuses on the idea of what it means to evaluate.]
- The competencies that certain key people within each institution have to carry out evaluation processes, as well as the training they must receive so that the evaluation is carried out properly. [Focuses on practices on how to evaluate.]

• And the underlying values that determine how evaluation results are used, how to handle potential ethical conflicts, and the value given to the evaluation itself. [Use of evaluation results].

However, for Bolseguí & Fuguet (2006), the concept of evaluation culture is complex and is understood as "a non-fragmented university vision, and because it is a social construction it

is subject to different evaluations and circumstances" (p.90). But it does not pretend to become an "indisputable, objective and impartial" evaluation, rather, it is aimed at "a change of attitude and appreciation towards evaluation" (p.92). It is worthwhile, then, to observe some of the theoretical attempts of various authors, who have described, from their experience, the aspects related to the culture of evaluation, which allow the identification of the elements that make it up, its conceptualization and the practical emphasis with which it has been developed. The following table shows, in a condensed form, the main ideas of the authors:

Table 1

Fountain	Conceptual synthesis of the Evaluation Culture	Practical Emphasis
Marvel, 1997	It is the basis of institutional evaluation that is complemented by external evaluation, the ultimate goal of which is to believe in the results to learn from them, and to reinforce or reform the course of action.	External evaluation
Villarroel, 2005	It is linked to the external evaluation, generally of a mandatory and eventual nature, based on the self-evaluation report, where compliance with the university management and the institutional project is verified. Accreditation is the evaluation process that certifies a university institution that meets high quality or excellence, of a voluntary and temporary nature, once the self-evaluation and external evaluation have been concluded.	External evaluation
RIACES, 2007 (Ibero-American Network for the Accreditation of the Quality of Higher Education)	It is related to the study of an institution or program, which concludes with the issuance of a judgment or diagnosis, after the analysis of its components, functions, processes, and results, for possible changes or improvements.	External evaluation

Conceptions and practices of the culture of evaluation

Fountain	Conceptual synthesis of the Evaluation Culture	Practical Emphasis
Cruz, 2009	It must be a participatory reflection of the university actors, with a permanent character, of the institutional reality oriented to the construction of quality, not as a sporadic action, but as an internal guarantee of quality assurance and of assuming responsibly the social commitment to the environment.	As a self- assessment
Castellanos, 2011	It refers to the set of theoretical-practical, technical-methodological, and structural- functional foundations of evaluation, created, applied, and transmitted by university actors to know, understand, explain, and interpret the quality of education achieved for decision- making aimed at improving educational services.	As a self- assessment
Evaluation, Supervision and Accreditation System - SESA, 2012	It is a continuous and permanent process that allows for the gradual improvement of the quality of the object of study, with the leading participation of university actors, with a diachronic and systemic vision.	As a self- assessment

Note: Chart extracted and adapted from Perozo, González & Jiménez (2012, p.27)

As shown in Table 1, the conceptual evolution of the evaluative culture has moved from a position that sees it as an external evaluation, to one that contemplates it more as a selfevaluation. This is because, as Perozo, González & Jiménez (2012, p.32) point out, the culture of evaluation is currently immersed within the institutional organizational culture, and is aimed at constituting "a process of critical and inter-subjective reflection on the particular situation of a university institution, which allows the various actors that constitute it to know and interpret its reality in order to improve it" (Duriez, 2009, p.89).

When institutional evaluation, as commented by Duriez (2009), focuses on the overall quality of the educational institution, on the formal and material fulfillment of quality criteria of university functions, resorting to institutional planning to foresee the future of the organization (p.73), it refers to evaluation when it is still in an initial or external stage and, therefore, follows a process from a quantitative perspective. Therefore, to speak of a true culture of evaluation, it is necessary that institutional evaluation moves from the merely technical level to the human level, seen from the actions of people (qualitative vision); One of these actions is the evaluation

exercise carried out by teachers, through the evaluation of and for learning in the training process.

From this perspective, no university function can be more important than that related to teaching, since it is the one that gives primary meaning to institutional existence, and with it to the rest of the university's functions; hence its relevance and the attention it requires. From this, it is outlined that the praxis of evaluation planning, as an action executed and promoted by teachers, should be the necessary strategy that gives way to the generation of an evaluation culture, since it directly involves the pedagogical actors of the educational community.

As a complementary element, there is what Culp & Dungy (2012) call the culture of evidence, which, for them, is related to the commitment to the use of concrete data "to show how the programs they offer, the processes they implement, and the services they provide are effective and contribute significantly to an institution's ability to achieve its stated objectives and fulfill its mission." (p.5). Likewise, and as could be foreseen, the establishment of a culture of evaluation is not without challenges, which will always coexist, often sustained by the unofficial practices of the so-called "hidden" curriculum, which is also installed culturally, and becomes a negative competitor within the educational institution. Among some of the main challenges to overcome in this aspect, referred to by the University of Maryland (UMES, n.d.), are:

- Resistance to change on the part of the educational community.
- Consideration of evaluation only as a process of accountability and not as a central component of the formative process of teaching and learning.
- Good teaching is not rewarded as well as scholarship and research.
- The growing demand from students, their parents, agencies, and employers for learning to take place.

By all of the above, the key factor to consider whether evaluation has become a practice of the institutional culture, that is, to identify whether the evaluation culture has been established, is when it is verified that it no longer depends on external factors that drive it to be carried out (Duriez, 2009, p.318). In other words, it is not enough for the people and entities of the educational institution to comply with the filling out of evaluation forms, or with the delivery of periodic evidence for accountability. It is not until the people of the institution assume an internal, autonomous, permanent, and dialectical practice of looking at themselves (self-evaluation), without the need to "have to do it" due to external demands, that the institution of higher education can be said to have established a culture of evaluation.

2.3. Route for the establishment of a culture of evaluation from the teaching function

As a starting point, it is necessary to examine some of the key characteristics of the culture of assessment, which are most directly linked to the role of teaching. That is the set of actions that can be carried out in the higher education institution, through which desirable actions can be better identified, and which represent the experience of a culture of evaluation in practice. According to the literature consulted, some of these characteristics are summarized in the following table.

Table 2

Characteristics of a culture of evaluation from the teaching function

Related	Characteristics of the evaluation culture	
Bolseguí & Fuguet (2006)	• It promotes permanent spaces for reflection and theoretical deepe- ning in this area.	
	• It conceives evaluation as a continuous, permanent, contextuali- zed, flexible, formative, and participatory process.	
	• It generates its evaluation mechanisms and systems within the institution.	
	• It initiates internal evaluation processes, from which an active participation of the university community is generated.	
	• It fosters the need for negotiation and stakeholder participation.	
	• It promotes self-evaluation as a daily exercise of the activity of the professor, the chair, the department, and the entire institution.	
	• It develops evaluation processes in the context of promoting va- lues, both for social coexistence and for human development.	
Suskie (2018)	• It is carefully aligned with learning outcomes/objectives; and what you want students to learn.	
	 It is focused on thinking and performance skills. 	
	• It is developed based on research and best practices in teaching and assessment methodologies.	
	• It is used to improve teaching and learning, as well as to assess and assign grades to individual students.	
	• It is used to tell one's own story: what makes the institution or program distinctive, and how successful we are in meeting the needs of students and society.	

Education SCIENTIFIC ARTICLES

Related	Characteristics of the evaluation culture	
Norton (2009)	It provides feedback to support learning, by:	
	• It facilitates the development of self-assessment (reflection) in	
	learning.	
	• Promotes dialogue between peers and tutors around learning	
	• It helps clarify what good performance is (objectives, criteria, expected standards).	
	• It provides opportunities to bridge the gap between current and desired performance.	
	• It provides high-quality information to students about their lear- ning.	
	• Encourages positive motivational beliefs and self-esteem.	
	• It provides information to teachers that can be used to help shape	
	teaching.	

Note: Summary of our creation.

When talking about the culture of evaluation from the function of teaching, after having gone through the rapid approach of the characteristics that are linked to its meaning, we now recognize the route of its establishment and the specific components that define it. Now, this route is not a procedure that is carried out when a mathematical formula is applied. Rather, it must be seen as the logical path followed by the development of the culture of evaluation, from the function of teaching, in which the evaluation practice of teachers, the contribution of students, and the influence of the context intervene, following the course of the following four stages: 1. Identification of the elements that make up a culture of evaluation. 2. Identification of evaluation planning categories and performances. 3. The development of the practice of planning with a focus on evaluation. 4. Progressive establishment of teaching with a culture of evaluation.

Stage 1: Identifying the elements that make up an evaluation culture:

Education SCIENTIFIC ARTICLES Table 2 has extracted 15 aspects of the culture of evaluation, which have been organized into four categories, which help to have an overview of the actions that make up the culture of evaluation, and which are directly linked to the planning action of teachers. These elements serve as a starting point to determine which aspects should be emphasized by the evaluation activity of teachers, to build and consolidate an effective evaluation praxis, which leads toward the goal of achieving the establishment of a culture of evaluation.

The following categories and performances lead to a shift from a planning focused on execution (traditional) to a planning with an emphasis on evaluation. The categories are carried out at the beginning, development, and closing moments of the didactic planning; Therefore, this different planning must consider the inclusion of each of the evaluation planning performances, which will equip the teacher to carry out a permanent evaluation praxis:

Category 1: Alignment of educational outcomes and objectives

- 1. Establish coherence between the results (the assessment) and the learning objectives (or competencies).
- 2. Focus assessment on thinking skills (comprehension) and practical performances.
- 3. Develop evaluation processes for the promotion of values and social coexistence (transversal axes).

Category 2: Full participation of actors

- 4. Initiate internal evaluation processes, from which active participation of the university community is generated.
- 5. Promote the need for negotiation and active participation of actors.
- 6. Valuing each person's own story.
- 7. Identify what the institution or program does to meet the needs of students and society.

Category 3: Role of self-assessment

- 8. Conceive the personal evaluation of teachers and students as a permanent, contextualized, flexible, formative, and participatory process.
- 9. Generate our evaluation mechanisms and systems.
- 10. Promote self-assessment as a daily exercise of the activity of the professor, the chair, the department, and the entire institution.

Category 4: Role of Feedback

- 11. Encourage positive motivational beliefs and self-esteem.
- 12. Promote dialogue between peers and tutors around learning.
- 13. Provide information to teachers that can be used to help better shape teaching and learning.

- 14. Help clarify what good performance is and bridge the gap between current and desired performance.
- 15. Use it to improve the assignment of grades to individual students.

Stage 2: Identifying the functions of the evaluative planning categories:

Every didactic plan has its language. Therefore, each of the evaluation categories plays a role that needs to be known, and that allows us to understand the scope of the category and the reason for the evaluation performances. It is required, therefore, that these functions be explained, in such a way as to guide the teacher on the role they play within the planning, to ensure the evaluative praxis. The functions for each of the categories of the culture of evaluation, which are carried out through the practical action of teachers, are described below:

a) Category: Alignment of educational outcomes and objectives:

It has an "Organizing" function in the evaluation process. It seeks to plan in a balanced way the contents, skills, attitudes, and transversal axes, to be able to evaluate, in a coherent way, the results declared in the objectives or competencies.

(b) Category: Full participation of actors

It has an "Involving" function in the evaluation process. Involvement is greater than simple commitment since the former is done voluntarily (intrinsic motivation); The second, on the other hand, comes from external agreements between people. The full participation of students is planned, also adopting forms of peer co-evaluation, for feedback and reorientation of learning. And it helps to link the aims of the subject with the needs of the students.

(c) Category: Role of self-assessment

It has a "diagnostic" function in the evaluation process. Self-regulation of students and teachers is planned. Self-assessment systems are proposed, to deepen the type of understanding that students are developing.

d) Category: Role of Feedback

It has a "clarifying" function of the learning process. Moments of feedback on learning are planned, from the perspective of formative and formative assessment, emphasizing the emotional and human role of assessment, to review the process and improve learning.

Stage 3: The development of planning with a focus on evaluation

At this stage, planning with an evaluative approach must have as its fundamental axis the declaration of actions of lasting understanding, which consists of what needs to be evaluated. These comprehension actions, which derive from objectives or competencies, depart evaluative planning from the traditional conception and practice of planning; Without this kind of action, the evaluation is worthless. According to the logic of the process, provided by experience, five types or categories have been identified that subsume any type of actions of lasting understanding, and they are the following: Explanation, Participation, Elaboration, Demonstration, and Compliance. In other words, any student's performance leads to one of these types, which allows them to be identified at the time of carrying out any evaluation activity.

Stage 4: The progressive establishment of teaching with a culture of evaluation:

Finally, it must be understood that evaluation planning does not contribute to establishing a culture of evaluation if it does not become a daily practice. According to Freire (1972, p.83), it is only with the awareness of the planning actions themselves, correctly applied, and of the educational purposes for which they are carried out, that concrete changes can occur in the conceptions and practices aimed at establishing a culture of evaluation. For this reason, it must be carried out as a recurrent and reflexive practice, individually and collectively, as well as between teachers, teachers, students, and between students. Praxis is not the mere practice of evaluating, but of reflecting on evaluation, before, during, and after its implementation. Here the elements of the three previous stages are combined. Thus, knowing what the performance of evaluation planning is, the functions they play in planning, and the realization of the permanent evaluation praxis, the process of establishing the evaluation culture can be rooted in the institutional culture.

3. CONCLUSION

The establishment of a culture of evaluation at the level of higher education is still under development, and research is still scarce. The definition of this form of culture does not depend on a univocal conception that comes exclusively from the sector of institutional management and planning, but its understanding must be approached from the different sectors that exercise substantive functions in the university, since each of them carries out evaluation practices from its particularities, depending on the type of purposes pursued by each institutional sector. The main substantive functions correspond to those of Research, Extension-Outreach, and Teaching, the latter being the function addressed in this essay.

The function of teaching, due to its dynamics, has didactic evaluation as a central element of its processes, which becomes a fundamental step for the gestation of a culture of

evaluation. However, the development of the culture of evaluation can only be achieved with praxis (reflection on the action carried out), where the participation of all actors is full and voluntary; where the self-assessment exercise is carried out on an ongoing basis; and where students go from being passive subjects of evaluation, to becoming active evaluation agents.

Finally, with the elements provided by the conception of the culture of evaluation, closely linked to the didactic planning of the teaching staff, a logical route is outlined for the progressive establishment of the culture of evaluation from the function of teaching. This route involves four phases that lead to the identification of the elements of the evaluation culture, the functions of evaluation planning, the development of this planning, and the progressive establishment of teaching with an evaluative culture. However, the role of teaching can only ensure the expected results to the extent that it supports the daily practices, at all levels, of (a) planning the alignment of educational outcomes and objectives. (b) The development of educational actors for full participation. (c) Self-assessment as a daily practice; and, (d) Effective feedback to people and the educational process. The importance of this process lies in the scope and benefits it brings to institutional improvement, which has its effects on the quality of life of all its members.

WORK CITED

- Bolseguí, M. & Fuguet, A. (2006). Evaluation Culture: A Conceptual Approach. Research & Postgraduate, 21(1) 77-98
- Culp, M. & Dungy, G. (2012). Building a Culture of Evidence in Student Affairs: A Guide for Leaders and Practitioners (1st edition). Washington: NASPA.
- Duriez, M. (2009). University organizational culture and its influence on institutional evaluation practice: the case of the National University of Engineering (UNI) of Nicaragua. 1994-2006. (Doctoral thesis). University of Costa Rica.
- Escamilla González, G. (July-Dec, 1970). Bibliography and bibliographic method. Bulletin of the Institute of Bibliographic Research. <u>http://publicaciones.iib.</u>

unam.mx/index.php/boletin/article/ view/103/97

- Fabre, G. (2005). The substantive functions of the university and their articulation in a teaching department. V International Virtual Congress on Education. 7-27
 February 2005. Agrarian University of Havana, Cuba. <u>http://sedici.unlp.edu.</u> <u>ar/bitstream/handle/10915/24694/</u> <u>Documento_completo.pdf?sequence=1</u>
- Freire, P. (1972). Pedagogy of the Oppressed. Buenos Aires: Siglo XXI editores.
- Gelles, R. & Levine, A. (1996), Introduction to Sociology: With Applications to Spanish-Speaking Countries (5th. Editing). Mexico: McGraw-Hill.

- Hernández, J., Meléndez, Y., Chumaceiro,
 A. & Aguilar, A. (2017). Educational quality and culture. Inclusion trends in the 21st century. In: Hernández,
 J. (Coord). Barboza, J. & Muñoz, I. (Comp.). Quality of life, social inclusion, and human well-being. <u>https://www. academia.edu/33200120/01 Calidad y</u> <u>cultura educativa Hern%C3%A1ndez</u> <u>Mel%C3%A9ndes Chumaceiro Aguilar</u> <u>pdf</u>
- McKinsey and Company (2007). How the world's best-performing education systems achieved their goals. (Report). https://www.mckinsey.com/~/media/ mckinsey/industries/public%20and%20 social%20sector/our%20insights/ how%20the%20worlds%20best%20 performing%20school%20systems%20 come%20out%20on%20top/como hicieron los sistemas educativos.pdf
- Norton, L. (2009). Assessing student learning.
 In: Fry, H., Ketteridge, S., & Marshall, S. (Editors). A Handbook for Teaching and Learning in Higher Education (pp.132-149) (3rd Ed.). New York & London: Routledge.
- Perozo, L., Gonzalez, M. & Jimenez, C. (Jul-Dec, 2012). Evaluative culture in university institutions. Fundamental value for the quality of education. Journal of Education in Values. 2(18). 22-35. <u>http://servicio.bc.uc.edu.ve/</u> <u>multidisciplinarias/educacion-en-valores/v2n18/art03.pdf</u>

- Rodríguez, A. & Pérez, A. O. (Jan-Jun 2017). Scientific methods of inquiry and construction of knowledge. EAN Journal, (82) 179-200. <u>doi.</u> org/10.21158/01208160.n82.2017.1647
- Suskie, L. (2018). Assessing Student Learning: A Common Sense Guide (3rd edition). San Francisco: Jossey-Bass
- National University of Engineering UNI (2019). Institutional Educational Model. National University of Engineering. Managua, Nicaragua.
- University of Maryland Eastern Shore UMES (s.f.). Creating a culture of assessment: implementation of the student learning outcomes assessment process. <u>https:// www.umes.edu/uploadedFiles/</u> <u>DEPARTMENTS/Academic_Affairs/</u> <u>Content/CREATING%20A%20</u> <u>CULTURE%200F%20ASSESSMENT-Fin.</u> <u>pdf</u>
- Valenzuela, J., Ramírez, M. & Alfaro, J. (2011). Culture of evaluation in educational institutions. Educational Profiles. 33(131) 42-63.