



Harmonization of the Education Majors in Nicaragua: experience and projections

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ABSTRACT

To harmonize education curricula in Nicaragua is to integrate them through political, academic and cultural devices, but respecting the institutional particularities and characteristics of the regional societies to which the curricula respond. This process is developed through organization and installation of the different work teams, design or redesign of educational plans and programs, implementation of curriculum design or redesign and monitoring and evaluation. Therefore, the work of academic groups and harmonization commissions, with the support of institutional leaders and the appropriate accompaniment and advice, has made significant progress, at different rates, in their design.

1. INTRODUCTION

The process of curricular harmonization developed by the educational careers in Nicaraguan universities is based on the commitment of the authorities of each of these universities to society and to the international challenges they face today.

This work is part of an educational research project and has the following objectives: to propose some concepts that provide theoretical support to the design and harmonization processes of educational careers in Nicaragua, to describe in a synthetic way the development of the first and second phases of the curricular harmonization process, and to project the progress obtained in the results of the following harmonization phases.

The main conclusion obtained from this process is that the support of the institutional leaders involved in the harmonization process has allowed its effective continuity. Therefore, by 2020 these careers, whose curriculum is based on a model for developing competencies, will be able to begin their training work. However, it is necessary to continue with the accompaniment and advice to the groups of academics and the harmonization commissions.

2. DEVELOPMENT

2.1. Curriculum development and harmonization

To begin describing the processes of curriculum design and harmonization that Nicaraguan universities are currently going through, it is necessary to understand that these phases or moments are part of the curricular development that a higher education institution must work on continuously.

Quezada, Sedeño and Zamora (2001), consider curriculum development as a process in which society participates and makes decisions in the construction and implementation of one that must be pertinent, timely and flexible with the requirements of the social development. Therefore, curriculum development is a strategy that gives validity to the curriculum of these institutions because it preserves the coherence between curriculum design, educational practice, and society's needs (Capellán et al, 2016), which are the fundamental reasons for the elaboration, implementation and evaluation of the curriculum.

The three phases or moments (this vision of moments adheres better to the idea that they are part of a complex process), pointed out at the end of the previous paragraph, include a series of sub-moments that make curriculum development an emerging process from the dynamics and synergy produced by a curriculum design considered as an integrated system.

Harmonization is a term that has been coined in pedagogical terminology from internationalization processes (in Central America it derives from regionalization processes

through instances such as Central American Higher University Council [CSUCA]), which higher education institutions encourage and promote as a method for updating curricula, research and external extension practices. There are several experiences of harmonization (of instruments, approaches, procedures, goals, actors, etc.), (AECID, 2016). From these, the one required to achieve curricular integration among universities is harmonization among actors, which leads to others at different levels.

Curricular harmonization is a process in which a deep level of agreement is reached (Feldstein, 2000), in educational terms, between universities both at the national and international level; that is, to harmonize curricula, university authorities must decisively assume the common goal of having integrated curricula but respecting the institutional particularities and the characteristics of the regional societies to which the institutions' curricula respond.

2.2. Model for developing competencies

The curricular model that guides this process of redesign and curricular harmonization is the one developed by Sampaio, Leite and De Armas (2015). It is based on the principle of integrating social demands into curricular planning, insofar as the university, from its main functions, teaches, researches and expands its work towards the society that expects from it the impulse to achieve sustainable development.

This model for developing competencies has three characteristics: the systematization among its components, the *integration* of the processes generated by the interaction among its elements (the work of teachers and student learning related to that of institutional and union leaders), and the *recursive* nature of the stages as a direct effect of the complexity that a process of curricular innovation of this nature entails.

Adapted for the Nicaraguan context, it consists of the following stages: diagnosis, design of the professional profile, and elaboration of curricular axes. The diagnostic stage has the exclusive objective of knowing the tasks that the individual carries out during its professional practice, according to its academic formation. The key actors are career graduates and employers. The design stage of the professional profile has as its principle of action the logical sequencing and the synergy generated by the relationship between the essential tasks common to the profession (current and emerging), the fields of action, the areas of activity, the object of study of the profession and the generic and specific competencies for citizen and professional performance.

The stage of elaboration of curricular axes (derived from the professional profile), consists of the integration of knowledge and learning objectives¹ in the construction of the different curricular components, considering vertical intradisciplinary integration (basic

1. In the adaptation of the model, the average contribution of the integration objective has been chosen (objectives level), which is more logical and allows rewriting (redesigning) of the curriculum differently. (Roegiers, 2007)

and professionalizing axes), interdisciplinary and horizontal transdisciplinary (basic and professionalizing curricular components). The disciplinary and integrative axes favor the distribution of the contents in training periods related to the level of development of the specific competencies declared.

The aforementioned axes are complemented or integrated horizontally and perpendicularly with the transversal axes derived from the generic competencies, values, and transversal themes (innovation, entrepreneurship, environment, healthy university, risk management, multiculturalism, foreign language, gender, among others), declared by the institution. The construction of these subsystemic components should be a motive for reflection in the academic groups about the integrative curricular strategies, the moments, types, and instruments of evaluation necessary to achieve in an integrated way the significant and developing learning in the students. The four schemes represent the description of this stage:

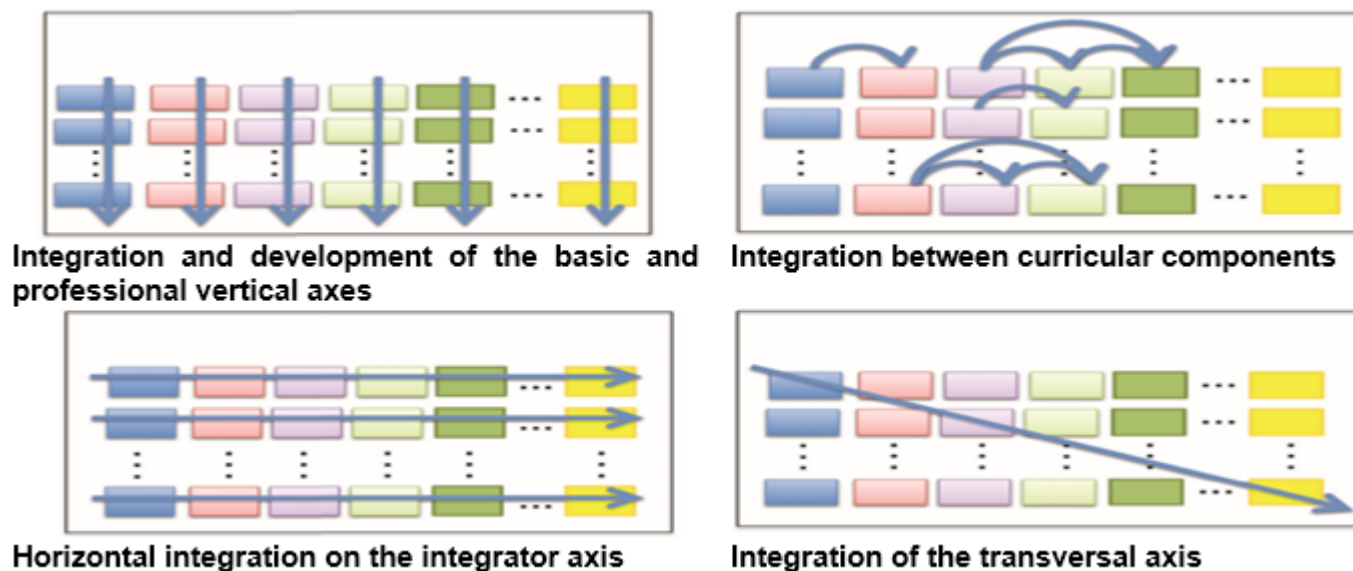


Image 1. Representation of the disciplinary axes, the integrating axis, and the transversal axes.

Source: Sampaio, Leite and De Armas (2015).

The following matrix (table No. 1) presents a clear vision of the systematization, integration, and organization of the contents logically in curricular components. It shows a sequence of time established under a learning strategy, whose essential characteristic is the integration of objectives, contents (basic and professional) that allow reaching the competencies at a certain level.

Table 1. Integrating matrix of contents and axes

	Vertical axis		
	Curriculum component: Competences, axis objectives, integrated content, integrative learning strategies, and evaluation		
Horizontal axis <ul style="list-style-type: none"> • Learning objectives for the semester and the year. • Curricular component names 	Basic axis	Professionalizing axis	Integrating axis

Source: constructed from Sampaio, Leite and De Armas (2015)

2.3. Methodology

This is educational research with methodological support is based on participatory action research with a qualitative approach. Therefore, it is an investigation in a context of curricular development that has as its fundamental principles those referred by Baxter (2003) and Cuevas (2010): to use a logical model based on an emergent character that is subject to changes during the process and in the contexts where it acts, to consider research as a spiral of knowledge where reflection and action take place, to make proposals for transformations that seek the perfection of educational practice, through the understanding of the process of change and to critically and systematically analyze the processes and results.

The main research subjects are the members of the National Teaching Commission, the Commissions of Curricular Harmonization, and the Academic Groups of the careers in the universities who develop the process.

2.4. Curricular harmonization and innovation

The process of harmonization and curricular innovation of education careers is developed through the following stages: 1) organization and installation of the different work teams, 2) design or redesign of educational plans and programs, 3) implementation of the design or redesign of the curriculum and 4) monitoring and evaluation. At this point, in the process, the initial stage has been developed in its entirety and work is being done on the second stage. However, the fourth stage has also started in a transversal way in the process because it includes 4 fundamental aspects (Cuevas, 2010), related to the elaboration and application of monitoring (accompaniment) and evaluation instruments: of the design or redesign of the curriculum for the training of actor to make the curriculum reform, the workshops of design and redesign of

the curriculum, the collegiate meetings of progress presentation, the design or redesign and of the socialization, feedback, and publication of curricular documents or curricula.

Before starting the different stages, the National Commission for Harmonization planned the different work moments (with their respective objectives, actions, and schedule) to be developed: awareness-raising, training, curriculum redesign, harmonization, and evaluation. This schedule has been adjusted due to the pace of work of the commissions and the groups of academics in the universities, but it is still within the established time frame.

Concerning the first stage, the different work teams were organized and installed (National Commission for Harmonization, Executive Committee, Commissions for the Harmonization of Careers), different actors were sensitized (institutional and union leaders, groups of academics, and students), from the universities under their strategies. Despite the openness of the leaders, it is in the teaching sector where there have been discrepancies related to two types of resistance: to the new organization of the working commissions in each phase that breaks with the traditional structure and displaces the comfort zone of the faculty associated with a misperception of the process, whose main interpretation is synthesized in feeling a loss of privileges and a change in routines and ways of doing things (Herrán and Paredes, 2012).

The transition between the first and second stage was marked by the formation of the harmonization commissions and the teams of academics. For this purpose, the guiding documents for the process were prepared. The first is the Guiding Guide for the development of the curriculum to develop competencies at UNAN-Managua. UNAN-Managua, (2019), which consists of three chapters that divide the process into three phases or moments: a methodology for curriculum design by competencies, the Curriculum Regulations, and the curriculum macro and micro-planning. The second document, more detailed, is the Step by Step for the elaboration of the harmonized curriculum to develop competencies, UNAN-Managua, (2019) with this one the process of curricular design becomes more explicit and has the characteristic of being a kind of manual in permanent adaptation, due to the complexities that emanate from the different moments and contexts of work.

The training has been carried out through the strategy of workshops by phases. To date, three have been developed in which 165 people have participated. In the first one, the 45 members of the harmonization commissions participated, of which 26 are leaders (directors and career coordinators) and 19 are teachers with professional experience. It should be noted that the second workshop was held on the Caribbean Coast, where 30 professors from the URACCAN and BICU community universities participated, of which 2 are coordinators of the harmonization commissions for the English and Natural Sciences careers, respectively. In the third workshop,

three new actors have integrated: teachers from the regional headquarters of UNAN-Managua, a delegation of private universities, and working teachers from the Ministry of Education.

Table 2. Training workshops

N°	Workshop	Objective	Participants
1	Integration for curriculum design: construction of the professional profile. (Managua and Caribbean Coast)	To train the Harmonization Committees in theoretical and methodological aspects of the curriculum that will allow the harmonization of the curricula of the Education (...)	45
2			30
3	Elaboration of Learning Objectives and writing of basic, professional, integrating and transversal curricular axes (curricular components). (Managua)	Introduce the construction of the basic vertical axes, professional, integrative and transversal (...)	90

Source: Own construction.

The second stage, *redesign of educational plans and programs*, has been developed through the following moments: training, accompaniment, and advice (face-to-face and documentary review sessions in which suggestions for improvement are given), to academic groups and evaluation of the work done.

The training of the academic groups is carried out by the members of the harmonization commissions in their respective universities. However, the monitoring and advisory team has been willing to reinforce the replication of the workshops in those groups where it is requested (at the third moment, 9 academic groups have been reinforced at UNAN-Managua, among which the following stand out Hispanic Language and Literature, Innovation and Entrepreneurship, Educational Computing and Natural Sciences).

With the accompaniment and advice, it has been possible to observe and verify that the careers have advanced at different rates. The career that has had the best performance at the moment is that of Hispanic Language and Literature, which builds the vertical disciplinary axes. The verification is recorded in a brief report that has as its central axis a checklist with the following criteria:

Table 3. Progress in career accompaniment at time 3.

N°	Criteria	Career
3	Elaboration of curricular axes:	
	Writing level objectives	<ul style="list-style-type: none"> • Educational Computing • Innovation and Entrepreneurship • Natural Science
	Elaboration of basic and professional disciplinary axes	<ul style="list-style-type: none"> • Hispanic Language and Literature
	Elaboration of semester objectives	
	Curricular components	
	Elaboration of integrative axes	
	Elaboration of transversal axes	

Source: Own construction. Report of accompaniment to Harmonization Work Commissions (2019).

The groups of academics mentioned have been accompanied and for the next few days the request of 3 more groups has been received in the UNAN-Managua (Physical Education, Art and Culture, Social Sciences), all the groups of UNAN-León and the group of URACCAN (this last one is attended via Skype).

The revision of the documents, which the collectives produce in each moment of the design, is carried out by the team of accompaniment and advising together: a) with the tool comments of Word are written in the margin and b) with the help of the revision guide the comments are filtered and sent to the commissions so that under their consideration they make the corresponding improvements. Below is evidence of revisions and progress:

URACCAN	UNAN-León	UNAN-Managua	Harmonized Competencies
<p>Develops proficiency in the four basic English language skills.</p> <p>Produces oral and written texts in English, both in the professional linguistic and literary fields.</p> <p>Proofreads and corrects oral and written texts using their knowledge of the textual, linguistic, and compositional typologies of the English language.</p> <p>Researches and delves into the history, art, and literature of the Caribbean and the great writers of the Caribbean and spread them with his students.</p> <p>He applies his knowledge to the understanding of vowel changes, lexical evolution, and orthographic features of the English language.</p> <p>Uses the knowledge to design, evaluate, and implement proposals for teaching English as a second language.</p> <p>Uses the knowledge to analyze real situations involving the languages of the region and English.</p> <p>Uses knowledge in real translation and interpretation situations.</p> <p>Develops didactic strategies for the strengthening of the foreign language as a lifelong learning tool.</p>	<p>1. Communicates effectively with colleagues and people outside his/her their educational environment with good use of oral and written language strategies, as well as the appropriate use of grammatical and phonetic rules of English.</p> <p>2. Uses the English language to teach their classes at a level appropriate to their context to motivate the use of the language by his or her learners.</p> <p>3. He is an active and creative agent in response to the educational needs of their environment, positively influencing the development of the English language learning through the application of didactic-methodological concepts and curricular design standardized by national and regional educational policies.</p> <p>4. Proposes actions to improve their educational context to guarantee the quality of learning of their students that allows them to optimize their personal, academic, and social condition in a pertinent manner.</p> <p>5. Systematically investigates the problems of their educational context to propose actions that guarantee the solving of such problems.</p> <p>6. Communicates constantly with administrative and academic agents to establish the necessary synergies with the purpose of</p>	<p>Master the English language skills fully to implement a scientific and quality teaching in its educational functions.</p> <p>Studies complex problems that may emerge from the teaching-learning process in a rigorous and systematic way to propose effective solutions based on research.</p> <p>Behaves in a professional manner demonstrating ethical, social, and humanistic values, understanding the role and responsibility of the English teacher.</p> <p>Identifies and responds to their professional training needs in a way that allows him/her to be competitive in an ever-changing constantly evolving world of work</p> <p>Designs materials for didactic use materials that allow the acquisition of linguistic skills.</p>	<p>1. Responds actively and creatively to the educational needs of their environment, through the application of didactic, methodological and curricular design concepts standardized by national and regional educational policies.</p> <p>2. Masters the four macro skills of the English language adequately to ensure quality teaching and generate meaningful learning while addressing inclusiveness and relevance at the primary, secondary, technical, and teacher training levels.</p> <p>3. Applies the pedagogical and didactic knowledge in the technical support, promotion of values and design of educational materials for the development of the curriculum in primary, secondary and higher education and specialized language centers.</p> <p>4. Demonstrates mastery of research techniques that-guarantee the solution of socio-educational problems.</p>

Image 2. Evidence of the harmonization work of the English career. Source: commission work

Nº	Review Criteria	Yes	No	Observation for improvement
	a. Specific competencies:			1. The competency: <ul style="list-style-type: none"> • Uses the L2 teaching method to facilitate the learning of Spanish as a foreign language through a communicative approach. It does not correspond to the field of action: "Teaching in language and literature for secondary education", because it belongs to another field of action. 2. Competence: <ul style="list-style-type: none"> • Psychologically mediates the conflicts of the educational community to guarantee the culture of peace, interculturality, and integral education through training, workshops, and counseling that contributes to the promotion of values, human rights, and harmonious coexistence.
	They relate to each field of action and the specificity of its field of study.	X		
	It presents a verb in the present indicative mode in the third person singular that indicates the action to be performed.	X		
	It contains the object, which is the knowledge that must be possessed to perform the action expressed by the verb.	X		
	It has written the condition of suitability or quality with which the action will be performed.	X		
	The purpose for which the action will be performed is expressed (optional).	X		
	The transfer of knowledge is evidenced through the dimension of know-how.	X		
	It is evidenced that the competence is measurable, therefore the knowledge it mobilizes is attainable.	X		
	b. Professional profile			It is recommended to rewrite it, considering the observation of some aspects of paragraph one and paragraph two, in order not to repeat them.
	The object of the profession.	X		
	The fields of action.	X		
	The environments of action.	X		
	Necessary competencies.	X		
	This should be written on approximately one page (250 words).	X		

Image 3. Review filter made to the Hispanic Language and Literature career. Source: own construction.

The process of curricular harmonization has been developed according to established planning. Two workshops have been held with the presence of 135 people: working groups in which the members of the commission present their proposals (which have been agreed upon by their academic groups) and then a process of reflection and consensus-building is developed to reach harmonization.

Table 3. Workshops to harmonize the work of careers

Workshop	Objective	Participants
Progress in the work of curriculum design: results of diagnosis of tasks of the profession.	Harmonizing the work of universities on the tasks of the profession, the fields of action, the spheres of action, and the object of study of the career.	45
Progress in the work of curriculum design: specific competencies and professional profile	Continue the work of the Harmonization Commissions by career on writing specific competencies and professional profile.	90

Source: Own construction. Report of accompaniment to Harmonization Work Commissions (2019).

2.5. Projections of the harmonization work

With the work developed up to the time of writing this article, the following projections can be made about the next meeting scheduled for December and the next phase:

Table 4. Projections of harmonization work

Stage	Results	Majors amount
Stage 1	Written objectives (level and semester), construction of axes, curricular components	9
Stage 2	The level objectives have been drawn up and a few axes have been constructed.	2
Stage 3	Difficulties in writing objectives and building axes.	3
Stage 4	Advancement of 4th stage: training in macro and micro-planning (December 2019)	2
Stage 5	4th stage: training in macro and micro-planning (January 2020)	11
Stage 6	Written and revised curriculum documents (February 2019)	13

Source: Own construction. Report of accompaniment to Harmonization Work Commissions (2019).

The projections presented may change with the progress that academic groups are experiencing.

3. CONCLUSIONS

The main conclusions of the first and second stages are the following:

- Support for the harmonization process by the institutional leaders involved in the process is valuable for its effective continuity.
- The awareness of the institutional and union sectors of the universities allowed the detection of the main doubts and resistances, mainly in the teaching sector: displacement of the comfort zone of the teachers, erroneous perception of the process that has been interpreted as the loss of privileges and with a change of routines and ways of doing things.
- Training, accompaniment, counseling, and review are important moments in the process that have generated positive effects on the work of academic groups and the harmonization commissions.
- Most careers with different learning and working rhythms will be able to finish their curriculum and start in the first semester of 2020 with a competency-based curriculum.
- To continue with the accompaniment and advice to the work of the academic groups and harmonization commissions for the achievement of the proposed goal.
- To elaborate the methodological norms of PFP and Internships, as well as to update the Regulations of the Student Academic Regime to adapt it to the new realities that the curriculum by competencies will generate concerning the evaluation of the learning.

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