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Integrated Curriculum Design Revision—The Case of the School of Accounting and Administrative Sciences of the UMSNH

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Abstract

Interest in improving the quality of academic processes in distinct levels of education has constituted the central axis of educational politics of Mexico in the last decades. In this context, and with the need to form ethical professionals who are socially responsible and know how to confront the challenges of working in their field in the best manner possible, the School of Accounting and Administrative Sciences of the Universidad Michoacan de San Nicolas de Hidalgo (UMSNH) has initiated a process of revision and actualization of its study plans with a focus oriented towards competencies and standards. This document presents a methodological guide for designing assigned subjects and programs, and study plans with formative modules through the use of a Final Format, which serves as an analytical tool for the construction and didactic conversion implicated in a revision of school programs. This paper describes the school's transition and advance through different stages of curricular design, from the needs evaluation and diagnosis up to the proposal of the final format, represented in a methodological guide for any other study plan for any other school that finds itself in the same process.

Keywords: redesign, guide, curriculum, format

1. Introduction

The forms of education that have grown stronger in Mexico in recent years are educational models that are based on standards and competencies. The educational politics of Mexico have been immersed in this educational model for some time, leaving behind the debates that question whether universities are preparing their students adequately through the development of competencies. Proof of this advance can be seen in the Integral Reform of Upper Secondary Education (RIEMS) and the creation of the National System of Bachelor's Study (SEP, Agreement 442, 2008) as well as the Educational Reform of Basic Education (Agreement 592, 2011). These reforms coincide with the official position taken by the Secretariat of Education in the state of Michoacan, Jesus Sierra, who supports the National Plan of Educational Development 2013-2018. The National Plan of Educational Development establishes the need to "impulse educational training and preparation through certification of teaching professionals at the upper secondary level" and at the same time "consolidate the ties among different sub-systems of upper secondary education and the productive and social sectors of the country's different regions to improve the conditions of infrastructure, equipment, and school environments as well as to align the criteria of portability within the framework of a common curriculum, thus facilitating the improved educational performance of students.

Within this common curricular framework, tertiary education must also adopt a curricular model through cooperative action that will permit the development of skills, abilities and competencies in higher education which, shown by empirical evidence, "...contributes essentially to the goal of reaching economic success as well as personal success and promotes and facilitates the consciousness of a global world" (World Skills International, 2011).

In this context, the School of Accounting and Administrative Sciences (FCCA) of UMSNH has initiated a process of revision and actualization of its study plans and programs with a focus oriented towards competencies. This project has as its proposal to achieve congruency and alignment with the focus of the national educational policies and the vanguard epistemological and pedagogic orientation that permit graduating students to confront the challenges of the working world and their professors to develop their programs and investigation with the

challenges of today's complex education needs in mind. The improvement of the academic processes and educational programs of the FCCA will result in the formation of ethical professionals who are socially responsible and know how to solve problems with theoretical bases, discipline and solid methodology.

In 2012, investigators applied a qualitative study in a case study to diagnose the generic competencies and professionalism of the graduating students of the three programs of the FCCA: Accounting, Business Administration, and Administrative Informatics. The purpose of this study was to obtain a diagnosis of the pertinence of the three separate programs through the analysis of evidence, and reformulate the profiles of incoming and graduating students to comply with educational demands and needs of the labor market. At the same time, this investigation sought to prepare the bases for revision of curricular design of the three educational programs that make up the FCCA.

This document reflects the advances made in the different stages of curricular design; presents the profile of the students who graduate these programs; and introduces the Guide Format, which was used as the analytical document for the construction and conversion of the final didactic process.

2. Development

The results obtained from the diagnosis: "Pertinence of the modification of the study plan of the undergraduate plan on an educational model based on competencies" (Godinez, Romero, & Calderon, 2013), demonstrate that the labor market requires professionals who can make valuable contributions, are professionally knowledgeable, and are capable of continuous self-actualization. In this sense, the same diagnosis warned investigators that employers required personnel with theoretical knowledge who could carry it out in the practical world with efficient decision-making, communicative abilities, aptitudes of learning and autonomy. It was no surprise that the same labor characteristics and tendencies were demonstrated in Europe and has been the means of change of other educational models with a focus centered on work-based competencies (Consejo de Europa, 2010).

It is necessary to point out that these models have been severely criticized with what has been called "managerial education" or by those who maintain a business vision based on service. In reality, the competency-based model pretends to develop the different capacities of human beings, such as imagination, creativity, initiative, adaptability, and knowledge, in other words, to develop the full potential of individuals. Francis Guzman Marin (2013) supported this statement when he affirmed that the educational paradigm of competencies proposes a certain type of education for life since it seeks to develop efficiency and efficacy of intellectual capacities so people can "apprehend" their knowledge of reality, whether the situation was as a reaction to environmental stimuli, or as the result of the construction of cognitive structures. From these significant references, from cognitive content to the recovery of social awareness, in the end, these capacities help solve the problems which appear in the real working world (Ruiz, 2010).

The challenge of universities therefore not only consists in the actualization of plans of study, but also in the permanent actualization of professionalism in each school in knowledge, skills, and abilities, which conform the transformation of laboral contexts. This transformation can be achieved through educational model based on competencies.

The concept of competencies that was used utilized in this investigation corresponds to the Council of Europe (2002) that defines competencies as "the sum of abilities, knowledge and individual resources that permit a person realize actions, project solutions and confront with efficacy an activity of work, a task or a problem." This concept integrates the ability of transfer and application of abilities and knowledge into new situations and environments. Evidently, the levels of competencies and capacities are personal, and that each person confronts the same task in a different way, depending on the strategies used, the abilities put into practice to solve the problem or do the task and the disposition or attitude with which the work is done. This is the fundamental basis of the educational focus based on competencies. The competencies identified in the present investigation were based principally on the eight blocks of contemplated competencies from the CHEERS study—*Careers After Higher Education—A European Research Study* (More & Garcia-Aracil, 2006). This study involved a total of 36 competencies identified as those that the labor market demands of European university graduates. The competencies were grouped by eight factors which were developed in the collection instruments used in the study (Godinez, Romero, & Calderon, 2013). The eight factors are:

(1) Participative competencies: those which people use to contribute and generate active environments. They include planning, making decisions and assuming responsibilities without difficulties, coordination negotiation, taking initiative and leadership.

(2) Methodological competencies: those which people use to develop sensible solutions when carrying out their

labor activities. They include knowledge of foreign languages, informatics, comprehension of complex systems, economic reasoning, and analytical competencies.

(3) Specialized competencies: those which people use to process theoretical knowledge into specific procedures in the workplace. They include specific theory knowledge and specific methodology.

(4) Organizational competencies: those which people use when working under pressure to obtain efficient results in their work. Some of these are learning abilities, time management, working under pressure, concentration powers, and independence.

(5) Disciplinary competencies: those abilities which people use to follow norms and regulations of the workplace. They include application of norms and regulations and low demand of creativity.

(6) Physical competencies: those that relate to manual dexterity and physical aptitude for work. Since this investigation was for a university field of study, these competencies were not taken into account.

(7) Generic competencies: these include general knowledge, critical thinking, written and spoken communication.

(8) Social/emotional competencies: those that people use to be able to work in teams, with a high degree of tolerance and adaptability. These competencies include reflexive thinking, teamwork, adaptability, loyalty, and tolerance.

Recently, the study of Shuayto (2013) reported that the critical competencies were those that managers of human resources departments put into the following order:

(1) Responsibility and accountability

(2) Interpersonal abilities

(3) Spoken language abilities

(4) Teamwork

(5) Ethical values

(6) Decision making and analytical ability

(7) Creativity and critical thinking

(8) Written language and communicative abilities

(9) Time management

(10) Project management

(11) Persuasion and influence

(12) Abilities to make presentations

(13) Capacity to assimilate new technologies

(14) Experiences de problem solving in computing

(15) Abilities of computing

(16) Abilities of international negotiation

These studies confirmed the same results that Project Tuning for Latin America has been announcing in a list of 20 specific competencies that undergraduate students of Business Management programs should develop. The competencies are formulated in an ideal group that should be developed in a field of study (see specific Competencies of the Business Administration Degree). According to Diaz (2005) using competencies in the educational formation of professionals at university level demands that the same universities identify which of these complex competencies characterizes the grade of expertise and knowledge to be able to act successfully in professional life. In order to identify these characteristics, the process of elaborating a curricular map based on competencies through the redesigning of study plans and programs to meet professional demands needs to be done through the analysis of tasks that are realized in a profession so graduating students can acquire the competencies to do those tasks. This curricular map should order the levels of competencies in the construction of a map that contains the following hierarchies:

(1) Generic competencies: for life and for academic skills

(2) Curricular competencies: disciplines and transversal skills

(3) Competencies for professional formation: complex and derived

(4) Professional performance: basic, initial, and advanced competencies

In this manner, the construction of a study plan based on competencies would permit us to establish the delimitation of complex or integrated competencies as a point of departure to elaborate an integrated vision of the formation of professionals in upper education.

2.1 Construction of the Profile of Graduating Students

The indispensible criteria which support adopted decisions in the process of curricular design begin with the defining of the profile of graduating students. This profile should be determined by the skills, knowledge, abilities, and attitudes that students should acquire during the academic formation as they pass through an organization of modules based on areas of knowledge or on competencies. The definition of a formation plan should be represented graphically, on what is known as a curricular map on which the professional competencies that singularize each major can be ordered and studied. Thus, a curricular focus based on competencies has important didactic, organizational and evaluative implications (Cassany, Luna, & Sanz, 2003).

If the curricular objectives were designed in terms of capacities, then the design would have to include evaluative activities that inform those interested of what students can do instead of evaluations based on points. An academic focus based on competencies implies that students learn in situations that are as close as possible to those that they might confront in a real job. The inclusion of generic and professional competencies provides a structural framework for the development of the professional competencies of an administrator, such as leadership and organizational management (British Council, 2012; Martínez & Carmona, 2009; Molina & Calderón, 2013).

Once the revision, prerequisites, and selection of competencies is finished, designers can proceed to formulate the profile of the graduating students, which should be the official expression in which the institution communicates to society that the generic proposal sustains and constitutes the compromise of the university to support the declaration that the graduating student has a professional formation. Regularly, the profiles are worked in two dimensions, one that declares the competencies of formative character and the other that suggests the competencies of actuation that the university expects the graduating students to have but cannot guarantee. With this perspective, the design described in this paper integrated these two dimensions in the final list of competencies, structuring the formative competencies in the corresponding courses while proposing that the competencies of actuation were transversal throughout the curricular map.

3. Methodology for the Selection of Curriculum

The methodology for curricular revision of the educational programs in question developed with the participation of 35 professors representative of 12 out of the 13 academies of the FCCA and each of them as specialists in their field of work. Thus, the study was able to produce the following products:

(1) Profiles of graduating student of the three academic undergraduate programs

(2) Generic and professional competencies for each of the above

(3) A format for each of the undergraduate programs

One of the objectives of the UMSNH that is clearly stated in its mission is to form *integrated human beings, who are competitive and show leadership*, through pertinent educational programs of quality. Under this guiding principle, the FCCA has made the compromise to represent a Model of Academic Quality that manifests a process of continuous improvement of knowledge that detects and satisfies needs within its social context. The accreditation of its three educational programs since 2009 demonstrates this compromise; however, to continue maintaining the parameters of quality that the Accreditation Council of Accounting and Administration, A.C. (CACECA) imposes to receive accreditation, the reformulation and actualization of the curriculum of the undergraduate programs towards a competitive model was needed to fortify the professional formation of graduating students.

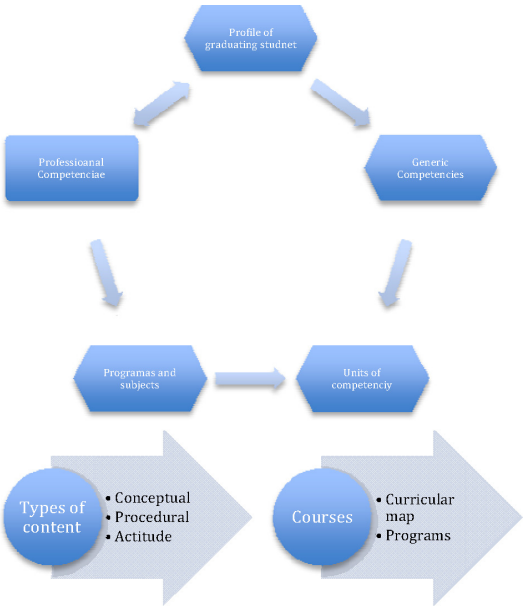

Figure 1. Process of reflection and construction of the study plans

Source: Study elaboration

The basic competencies are the intellectual capacities that are indispensable for the learning of a profession; among them there are the cognitive, technical, and methodological competencies necessary to reach a personal goal, an active citizen, social inclusion, and employability in a knowledgeable society (European Framework for Key Competences for Lifelong Learning, 2006)

3.1 Basic Competencies

(1) Communication skills

(2) Math skills

(3) Digital skills

(4) Ethical behavior

(5) Social responsibility and civic compromise

(6) Learning to learn

(7) Capacity for acting in new situations

(8) Capacity for resolving problems

(9) Sense of initiative and entrepreneurship

(10) Sensitivity towards the preservation of the environment

(11) Civic and social competencies

(12) Respect and value for diversity and multiculturalism

3.2 Generic Competencies

The generic competencies are the common base of the profession and they refer to concrete situation of a practicing professional that needs to find complex answers to complex questions. These competencies are common in all professions and occupations, and they constitute the professional profile of a graduating student:

(1) Capacity of abstraction, analysis and synthesis

(2) Capacity of applying knowledge in practice

(3) Capacity of organizing and planning time

(4) Knowledge about the area of study and the profession

(5) Capacity of spoken and written communication

(6) Capacity of communication in another language

(7) Skills in using information technologies and communication

(8) Capacity of investigation

(9) Capacity of learning and permanent self-actualization

(10) Skills to look for, process, and analyze information from diverse sources.

(11) Critical and self-critical capacities

(12) Creative capacity

(13) Capacity of identifying, stating, and solving problems

(14) Capacity of making decisions

(15) Capacity of teamwork

(16) Interpersonal skills

(17) Motivational capacity and reaching goals

(18) Compromise with the preservation of the natural environment

(19) Compromise with the social-cultural element

(20) Skills for working in international contexts

(21) Skills for working autonomously

(22) Capacity of formulating and managing projects

(23) Ethical compromise

(24) Compromised to quality

3.3 Specific Competencies

Specific competencies are the particular base of exercise in a profession and are related to specific conditions of execution. They are divided into two large groups:

(1) Disciplinary and academic competencies: those that are related to knowledge, in other words, of theoretical knowledge that individuals should acquire through the subjects they take in the undergraduate course curriculum.

(2) Professional competencies: those that are associated with skills, abilities, and practical knowledge that should be learned during the students' years in formalized education. They possess a high degree of specialization and they contribute their own characteristics to each program of study since they meet specific requirements in each of the three undergraduate degree areas and in the professional profile needed in each area of future labor or field of work.

3.3.1 Specific Competencies of the Business Administration Undergraduate Degree Program

The Tuning Project of Latin America 2011-2013 "Innovation and social education" suggests the following specific competencies for the graduating students of the Degree Program in Business Administration:

(1) Develop strategic, tactical and operative planning

(2) Administrate the organizational business risks

(3) Optimize the organizational negotiation process

(4) Administrate an integrated logistics system

(5) Manage administrative control systems

(6) Identify the organizational functional interrelationships

(7) Evaluate the judicial framework applied to business management

(8) Elaborate, evaluate and administrate business projects in different types of organizations

(9) Interpret the accountable and financial information to help determine managerial decisions

(10) Use the information about costs for the planning, the control and the making of decisions

(11) Make decisions referring to the investment, financing, and management of funding resources in a business

(12) Exercise leadership for the achievement of goals in the organization

(13) Develop human talent within the organization

(14) Identify ethical and cultural aspects of reciprocal impact between the organization and the social environment

(15) Improve and innovate the administrative processes

(16) Detect opportunities to try new ventures and/or develop new products

(17) Utilize the information and communication technologies in management

(18) Administrate the technological infrastructure of the business

(19) Formulate and optimize information systems for management

(20) Formulate marketing plans

3.3.2 Specific Competencies for the Undergraduate Program of Accounting

The formation of professionals in the Accounting program comprehends a technical and scientific knowledge base in agreement with the universe of proper knowledge needed for this area. It includes a methodological foundation for investigation in the field of Accounting and generates new knowledge from an ethical perspective.

3.3.3 Specific Competencies for the Undergraduate Program of Administrative Informatics

(1) Apply the knowledge of computing sciences, informational technology, and their organizations to develop information solutions

(2) Conceive, design, develop and operate solutions of information based on principals of engineering and standards of quality

(3) Apply a systematic focus in analysis and resolution of problems

(4) Apply mathematical, algorhythms, and theories of Computer Sciences in the modeling and design of information solutions

(5) Perform different roles in informational projects, in multidisciplinary and multicultural contexts, including from local to global contexts

(6) Apply knowledge in an independent and innovative form when seeking informational solutions, from local to global contexts

(7) Apply acquired knowledge in an independent and innovative form in seeking informational solutions, with skills to improve the performance of organizations through the efficient use of informational solutions

(8) Lead processes of incorporation, adaptation, transference and production of solutions to support the strategic objectives of organizations

(9) Apply standards of quality in the development and evaluation of informational solutions

(10) Comprehend and apply the ethical, legal, economical, and financial concepts when making decisions and when managing informational projects

(11) Lead business ventures in the creation of products and services linked with information

(12) Assimilate methodologies of investigation through search, foundation and elaboration of information solutions

(13) Assimilate technological and emerging social changes

(14) Know promote, and maintain a vigil over the correct application of different standards and models of technologies and telecommunications in professional solutions

4. Results

During the revision period of the "Profile of graduating students in the undergraduate program of Administration: Construction based on Competencies" (Godinez, Calderon, & Romero, 2013), those who used the program manifested that the required level of dominion of competencies from graduating students from the Business Administration field of study was different for each competency. The following list shows the order of the competencies according to Business Administration needs in decreasing order of importance:

(1) Acceptance of procedures and established norms, as well as the application of norms and regulations (disciplinary competencies)

(2) Ability to work in teams, demonstrating a degree of tolerance and adaptability (socio-emotional

competencies)

(3) Planning capacity (participative competencies)

(4) Confronting decision making and assuming responsibilities (participative competencies)

(5) Working under pressure paying attention to details and doing it independently (organizational competencies)

Here, two aspects of the disciplinary competencies become important to employers. The first refers to the fact that in many places, employees must follow rules and regulations of the workplace. This can translate into two threads: one that seeks the integration of a new employee into an organizational culture in the quickest manner without procedural complications; and another that might suggest that the leadership style of the employers still tend to be highly autocratic, with little emphasis on delegation of authority.

The second aspect has to do with the requisite that the employer asks of his employees, that they have the ability to put their own creativity on hold in order to adjust to pre-established norms. This can partially explain why local employers view innovation with such low relevance, and imply that an academic degree program must make a greater effort to help students penetrate these more traditional work environments. This viewpoint suggests that these businesses that are interested only in being productive have not yet evolved through the change paradigm that implicates creativity as an essential component of competition.

Following the grouping of competencies by factors from the theoretical framework, for the employers, the competencies with most relevance in the workplace after the disciplinary ones, are the social-emotional competencies, followed by the participative, the methodological and the organizational competencies. The results of the former affirmations can be seen in Figure 2, with respective means shown disciplinary, 4.5%; social-emotional: 4.48%; participative 4.3%; and organizational competencies 4.35%.

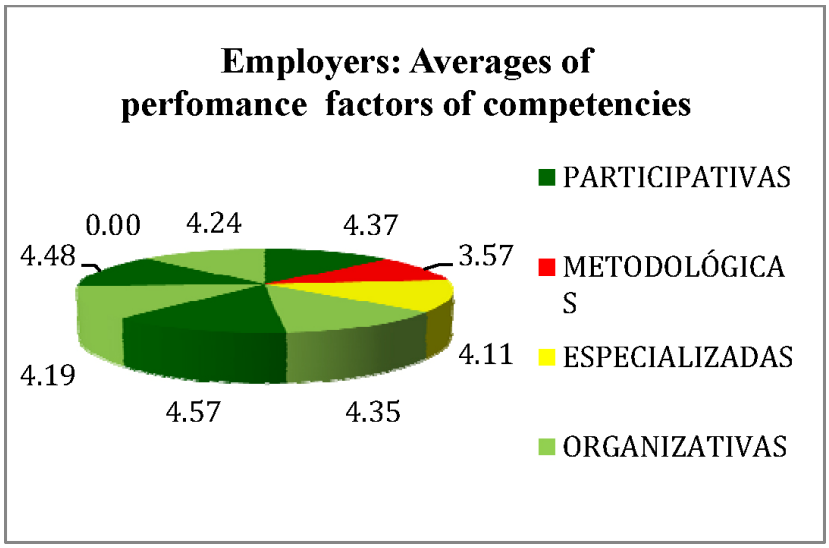

Figure 2. Employers: Averages of performance factors of competencies

Source: Elaboration with data from the employers' survey 2012-2013

On the other hand, the survey of graduating students revealed that 62% worked in large businesses and the majority of them occupied middle-level posts whose salaries were between $5,000 and $12,000 pesos per month. Only 10% of all of those interviewed had salaries greater than $25,000, and these few had their strengths in social-emotional competencies and in general, had a high level of competence in spoken and written communication, critical and reflexive thinking, teamwork, tolerance, adaptability, and integrity.

Based on the perception of the graduating student, the global medium of competencies upon graduation is 3.54%, while the reported percentage needed for high performance in the workplace is 4.18%, as can be observed in Figure 3 and 4. These results also show that the competencies that *they* have had to strengthen are: knowledge of a foreign language, software knowledge (methodological competencies), the development of interpersonal relationships and the formation of networks (social-emotional competencies). According to the means obtained from these factors, the most important competencies that they have had to develop have been methodological

competencies, with a medium of 2.93%, the specialized competency with 3.51%, followed by disciplinary competencies at 3.76%, and finally in general with 3.86%.

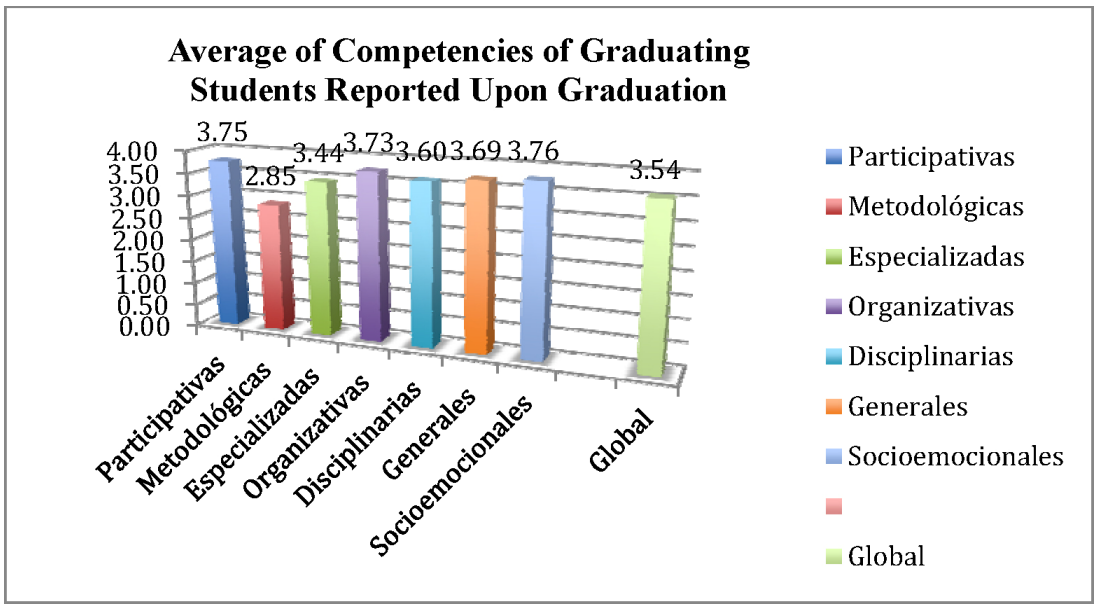

Figure 3. Competencies of graduated students from the Business Administration Undergraduate Program

Source: Elaboration from data from the survey for graduating students 2012-2013

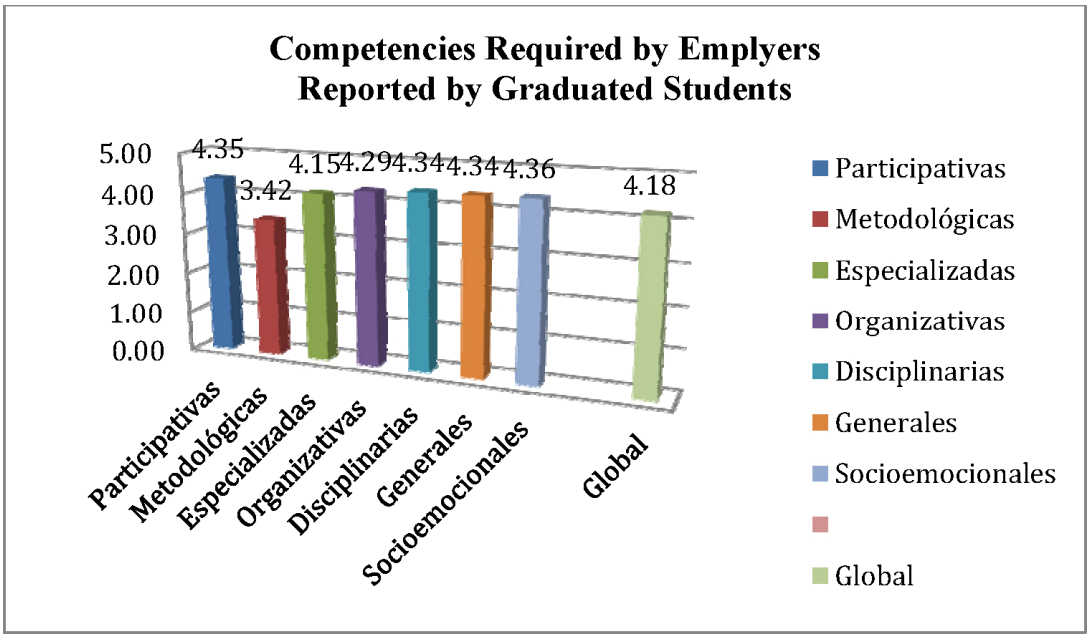

Figure 4. Competencies required by employers reported by graduated students from the Business Administration School

Source: Elaboration with own data from graduated students survey, 2012-2013

In this way, each proposed profile of the three educational programs of the FCCA read like this:

The incoming student of any of the three undergraduate programs given in the FCCA should have

logical-mathematical abilities, verbal skills, basic computing skills for informatics and communication, as well as foundations in administration and accounting.

(1) Profile of graduating students from the School of Business Management

A student graduating from the School of Business Management is a socially responsible professional, capable of managing, optimizing, and innovating processes and resources of organizations with the aim of propitiating local, regional and international sustainable development.

(2) Profile of graduating students from the School of Accounting

A student graduating from the School of Accounting is a financial expert and as such, a professional authority in everything that refers to obtaining and applying financial resources of entities, in the areas of Accounting, Treasury, Auditing, Fiscal planning and Financing as well as planning, analysis, critiquing, interpretation and investigation in the area of finances.

(3) Profile of graduating students from the School of Administrative Informatics

A student graduating from the School of Administrative Informatics is a professional with ample competence for planning, organizing, leading, and controlling the development and optimal functioning of centers of information and information resources, through analysis and application of the latest technologies and methodologies of evaluation, selection, and implementation of information technologies and digital communications, as well as the development of information systems.

The theory of curricular design states that from the revision of entering and graduating student profiles in an undergraduate program, designers should proceed to the construction of Units of Competencies that will lead to the integration of knowledge and content integrated in formative modules, and afterward to the construction of a curricular map. As this project consists of the actualization of content and knowledge of the subjects already organized in a curricular map, designers proceeded to the revision of the Subject Programs following the format described below in order to realize a new curricular design of the study plans of the FCCA in the near future.

5. Design Guide for Subject Programs

(1) Construct the attributes of a specific competency

(2) Construct units of competency or sub-competencies of the competency of the subject

(3) Identify the specific competencies, sub-competencies, and attributes that will be integrated in the subject program

(4) Identify or establish the formative module that pertains to each subject. In this case, some might be narrowly related to disciplinary fields of academics

(5) Construct the specific competency of the subject

(6) Enunciate the specific competency win which attributes will be developed, with indicators and criteria of quality that define them

(7) Identify the basic and general competencies that the subject will also address

(8) Define the structure of the subject program. Consider the units of learning that will be developed during each course, relating them with the unit themes

(9) Propose a series of products and/or substantial evidence to achieve during the course

(10) Reflect upon the model of competencies that will orient the subject

(11) Revise internal and external coherency of the subject

(12) Below is the format agreed upon by all the members of the workshop, with questions that can be used as a guide to fill the format

6. Conclusions

Based on the competencies required by the labor market, and the real competencies of graduating students contrasted by exit profiles and market needs that determined the revision of graduating students' profile for the two other majors in analog form.

The results obtained in general show that graduating students of the Business Administration major of the FCCA indicated having a level of competencies lower that what they needed to perform efficiently in their workplaces. These findings demonstrated that the most significant differences between the acquired level and the required level corresponded to the competencies of "manage and develop personnel", "evaluate and control quality,"

"capacity to apply norms and regulations," and the "spoken communication" competencies. These same competencies were taken into account during the elaboration of the new exit profile of graduating students.

On the other hand, the theory of curricular design states that once the revision of the incoming and outgoing profiles of these undergraduate programs, is finished that the construction of Units of Competencies leads to the integration of knowledge and integrated content in formative modules. The final step is the construction of a curricular map, a process that is currently being executed and adopted in the FCCA.

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Appendix A

Undergraduate Degree Programs in Accounting, Business Administration, Administrative Informatics

Format for: Subject Program

<table>
<tr><td>Subject:</td><td colspan="3"></td></tr>
<tr><td>Semester:</td><td>Hours:</td><td>Credits:</td><td>Key:</td></tr>
<tr><td colspan="4">Formative Module: Academy of …</td></tr>
<tr><td colspan="2">Character :</td><td colspan="2">Pre-requisites:</td></tr>
<tr><td colspan="4">Purpose and General Description:
In short and coherent paragraphs describe the purpose and proposals. What will the student put into practice? What will be acquired during the course? What will be developed? What practical training will be undertaken? How will performance be evaluated?
Competencies of Students After the Course
Integrate in this section at least one competency of the major. Only note those that this course will affect. Use the general catalogue.</td></tr>
<tr><td colspan="4">Competencies of the Subject
Integrate the specific competency, at least one general and one basic competency. For these last ones, use the general catalogue.</td></tr>
<tr><td colspan="4">General Structure of the Subject: Units of Learning
Explain using Units of Learning how the subject is structured and how each unit will be approached.
Unit of learning I.
Unit of learning II.
Unit of learning lll.</td></tr>
<tr><td colspan="4">General Orientations for the Development of the Subject
Explain the environment of learning that should be constructed in concise form to achieve the proposed competencies. Orient the professor to factual aspects and other necessary details for a good development in the subject. Consider depth of knowledge instead of using limiting instrumental aspects.</td></tr>
<tr><td colspan="4">Evaluation Suggestions
Suggest evaluations that serve as a tool for knowledge construction. What would you consider to be expected outcomes and evidences to evaluate the process of learning and observation of performances and conceptual knowledge, procedures, and attitudes?</td></tr>
</table>

Appendix B

Format for: Unit of Learning

<table>
<tr><td colspan="3">Unit of Learning I
Construct an integrative name of the unit</td></tr>
<tr><td rowspan="2">Competencies of the Unit of Learning</td><td colspan="2">Paste here the competencies of the subject that will be learned in this unit.</td></tr>
<tr><td>Atributos</td><td>Describe the principal attributes that contribute to the achievement of the competency.</td></tr>
<tr><td>Development of the Unit of Learning</td><td>Content sequence</td><td>Elaborate two or more elements that the unit will cover, taking care that each one integrates into a schematic sequence according to the desired attributes.</td></tr>
<tr><td></td><td>Didactic strategies and activities for learning</td><td>Suggest situations, strategies, and integrated activities. Suggest essential questions and content that will aid in constructing knowledge and contrast situations.
Propose the necessary learning situations that carry out the sequence of content area.</td></tr>
<tr><td></td><td>Evidence of knowledge</td><td>List the principal evidences of learning that result from the situation, strategy, or activity susceptible to evaluation and that has a relation with the competencies of the unit.
Criteria of evaluation
List the principal criteria that should be considered to evaluate the level of achievement of the competency.</td></tr>
<tr><td colspan="3">Do the same for each Unit of Learning</td></tr>
</table>

Bibliography y references bibliographical	Basic and Complementary Use APA style Create a space for “other resources” for recommending Websites, investigations or cases that are not yet published.

Credits: those who have elaborated the program itself

Date: of the last revision.