

Curricular Design of Higher Education in Colombia From Educational Policies

María Eugenia Navas Ríos, Universidad de Cartagena, Colombia
Emperatriz Londoño Aldana, Universidad de Cartagena, Colombia
Jorge Armando Luna Amador, Universidad de Cartagena, Colombia

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Abstract

With the Colombian Constitutional Reform of 1991, the Government ceased to be the sole curriculum designer in educational institutions. With this Reform, the Government fulfills the role of supervision and control of educational quality. On the other hand, the Universities are granted the autonomy for the design of their Institutional Educational Projects, therefore, the design of the educational projects of each academic program offered by the institution, which are inputs for the curricular design of each program. The Government has been fulfilling its function by issuing decrees that include quality conditions. Based on the above, this research aims to describe the changes in curriculum design in Colombia, starting with the first law on higher education after the Reform of the 1991 Constitution, and how universities have migrated from a curriculum design "by objectives" to a design by "competencies," and today the design is based on learning outcomes. From a qualitative research approach supported by theoretical review and documentary analysis, using the Atlas T and the Gaphi, it is concluded that the curricular design in Colombia and its transformations obey international guidelines and maintain the same formal and sequential structure, independent of the norm that governs in each historical moment. What changes is the way of carrying out each of these elements that make up the structure.

Keywords: Competencies, Curriculum Design, Higher Education, Public Policy, Learning Outcomes

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Introduction

Curriculum design is a methodology that involves a series of steps linked by models used to organize and structure a study plan. This methodology serves as a guide for Higher Education Institutions (HEIs) in the development of curriculum proposals at different levels (undergraduate and graduate) and modalities (virtual, distance, face-to-face, and hybrid).

Each of the curriculum theories has its model. In this regard, the theory of technical approach corresponds to the unique model of curriculum design by objectives; the theory of practical approach corresponds to different models of curriculum design, using for this work the curriculum design by competencies and curriculum design by learning outcomes, which are models that have been in use in Colombia and have been protected by the educational regulations. These models respond to the guidelines of international institutions and organizations such as the World Bank, UNESCO, and the OECD.

This research shows that, despite the existence of different curriculum design models linked to a specific theory and to the current regulations of the time, their design or structure follows the same four stages (contextualization, profile definition, curriculum structure, and evaluation), what changes is how each of these stages is developed.

This research describes how the Colombian educational system works, then moves to the analysis of curriculum design in Colombia concerning the regulations chronologically, and closes with the stages involved in curriculum design at each moment of change within the framework of the regulations. It concludes with the stages necessary for elaborating the curricular design of programs that allow its application in a contextualized manner, regardless of the type and level of the program.

Method

This research is developed within a constructivist paradigm, and a qualitative study has been carried out, which, as Valles (2000) states, assumes the existence of multiple realities. The research is also descriptive and is carried out in a comparative manner, relying on documentary and content analysis.

Documentary analysis is carried out according to the concept of Guevara (2019), "Documentary analysis (DA) consists of a process of systematization and synthesis of qualitative data, it allows a triangulation of narrative documents, combined with different sources of information, it requires content analysis" (p. 107).

In terms of content analysis, the stages recognized by Arbeláez & Onrubia (2014) are followed, they are: the theoretical phase or pre-analysis, which consists in organizing the information from a superficial review of the documents; the second phase, called descriptive-analytical, is carried out in the deep review and analysis of the documents; then comes the third and last phase, called interpretive, which allows drawing the respective conclusions about the topic under study from the reviewed documents.

Results and Discussion

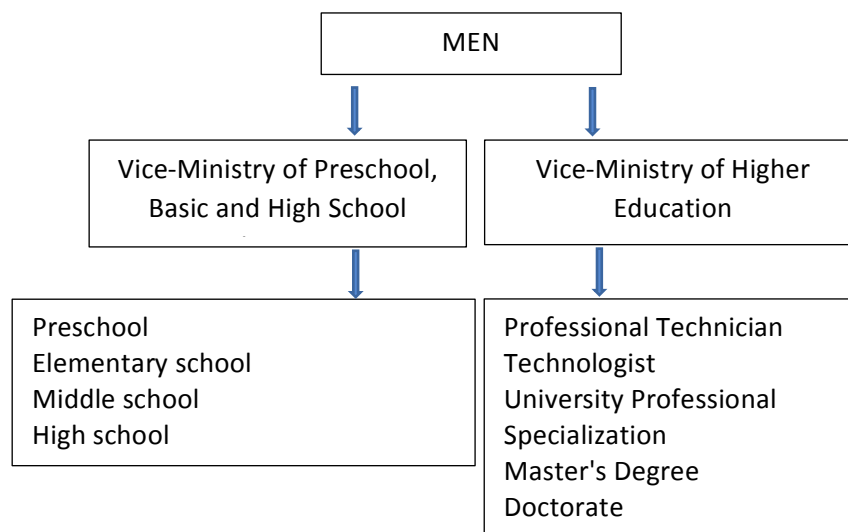
Colombian Educational System

In Colombia, education is defined as a permanent process of personal, cultural, and social formation based on an integral conception of the human person, his dignity, his rights, and his duties.

The Constitution establishes the fundamental characteristics of the nature of the educational service. It states, for example, that education is an individual right, a public service with a social function, and that it is the responsibility of the State to regulate and exert supreme control and supervision over the educational service in order to ensure its quality, the fulfillment of its purposes, and the best moral, intellectual, and physical training of students. It is also established that adequate service coverage must be guaranteed, and the necessary conditions for access and permanence of students in the educational system must be ensured.

The policy and regulation of the educational system are delegated by the President of the Republic to the Ministry of National Education (MEN) (see Figure 1), which in turn is made up of two Vice-Ministries: the Vice-Ministry of Preschool, Basic and High School Education, which manages the first cycle of the system, and the Vice-Ministry of Higher Education, which regulates the university cycle, including Professional Technician, Technologist, Undergraduate and Postgraduate Degrees including Specialization, Master and Doctorate.

Figure 1: Organizational chart Ministry of National Education (Colombia)



*Source: own elaboration

Chronology of Educational Policy on Curriculum Design

Until 1991, the Government (through the MEN) was the sole designer and regulator of the curriculum for the entire education system, relying on external experts. In the words of Mann (2006), the State exercised an infrastructural power that dominated through coercion, from the generation of sectoral policies to their regulation.

The prevailing curriculum design was based on the vision of science, supported by positivism, which allowed a segmented, hierarchical, and compartmentalized education, hence the work with curriculum design based on objectives, from the mechanistic perspective of the curriculum, which coincides with Phenix (1962) and Hirst (1974) who called it a vision of liberal education. This education focuses on developing the mind (knowledge) without considering vocation or usefulness; valid curricular knowledge is observable in objective reality.

With the constitutional Reform of 1991, a real educational reform began in Colombia; in its art. 27 "guarantees the freedom of teaching, learning, research and professorship"; 67, "education is an individual right and a public service with a social function"; 69, "guarantees the autonomy of universities" (Congreso de Colombia, 1991). These mandates constitute the space for curricular change in each HEIs.

The sequence of educational reforms in Colombia is described below:

First Educational Reform: The first educational Reform occurred with the enactment of Law 30 of 1992 for Higher Education (Congreso de Colombia, 1992).

General Education Law 115 of 1994: This opens space for HEIs to promote participatory and contextualized curriculum design within minimum regulations that the State, in its role as guarantor of quality, will continue to standardize. For the first time in Colombia, there is talk of Institutional Educational Projects to be developed by the universities in their autonomy (Congreso de Colombia, 1994).

Decree 2566 of 2003: first decree issued in the 2000s that promulgates and regulates the quality of programs, the system measured by credits and training by competencies (Ministerio Nacional de Educación, 2003).

Law 1188 of 2008: It regulates the qualified registration of higher education programs and establishes other provisions related to the minimum requirements a curriculum proposal must have for HEIs to obtain the corresponding authorization to offer an educational program (Congreso de Colombia, 2008).

Decree 1295 of 2010: This decree is issued to operationalize the previous law (Ministerio Nacional de Educación, 2010) and carries immersed a change already envisioned by Alonso Brá (2007), who called it the construction of a new common sense regarding education, and similarly expressed De Blassi (2009), who indicated how it could leave the traditional institutionalized to adopt new and alternative approaches that allow and impact improvements in the educational quality of each HEI. This decree leads Higher Education to a change in curriculum design, which is immersed in the practical approach of the curriculum, and its principal characteristic is a flexible and contextualized curriculum. In this approach, teaching focuses on a reconceptualization of culture in the classroom, working on skills, values, content, and methods (being, living together, knowing, and doing). Meaningful learning is recognized, which according to Ausbel et al. (1986), occurs when new knowledge is related in a non-arbitrary and substantial way to the knowledge the learner already has.

With this decree, the curriculum design by competencies is introduced and must be adopted by all Colombian universities. This curriculum design has its origins in the guidelines of UNESCO (1998) "...higher education (...) is confronted with an education based on

competences and the relevance of its curricula..." There is a correspondence with the exercise carried out by the European Union Tunning Project in the years 2000-2002; 2003-2004, which succeeded in unifying professional degrees based on competencies in the countries that make up the European Union (González & Wagenaar, 2005). Thus, by consensus, professionals' general and specific competencies were defined concerning a specific degree. The methodology used served as an example for many Latin American countries, including Colombia.

Decree 1330 of 2019: A new Decree on Qualified Registrations is issued and presented as the result of the systematization of previous experience, and its main objective is to simplify and streamline the process of approval and renewal of qualified registration and accreditation of an institution or academic program. Among the most representative modifications are: previously, each program had to present 15 quality conditions; now, the decree separates six conditions corresponding to the IES, and the program has to present and develop only nine conditions to obtain its qualified registration. Another modification to highlight is that the concept of curricular design by competencies is replaced by the learning outcomes, which serve the program as a parameter to evaluate and improve teaching and learning (Ministerio Nacional de Educación, 2019).

This leads HEIs to a new approach to curriculum design, moving from competencies to learning outcomes, which are defined as "the explicit statements of what a student is expected to know and be able to demonstrate at the end of his or her academic program (...); therefore, learning outcomes are expected to be in line with the profile of the graduate established by the institution and by the specific program" (Ministerio Nacional de Educación, 2019).

Models of Curriculum Design in Colombia From the Policy Perspective

A theoretical review of the different curriculum design models, complemented by the experience of the authors, and taking into account that restructuring or changing the curriculum approach implies changes in graduate profiles, curricula, teaching, learning, and evaluation methodologies, revealed the following:

Objective-Based Model of Curriculum Design

The objective-based curriculum design was the first model adopted in Colombia when the State was the sole curriculum designer for the entire educational system. Tyler presented the methodology used in this design in his work *Basic Principles of the Curriculum* (1973). The emphasis of this model is on the use of behavioral objectives. Among the pioneers of behavioral objectives were Charters (1923), who presented a list of behavioral objectives for elementary and secondary basic education in his work "How to Make a Curriculum."

According to Tyler's model, the curriculum design is structured in seven stages and is preceded by the curriculum planner's selection of essential and achievable objectives, which can be stated in different ways depending on the source consulted (Tyler, 1973).

The sources consulted were students, society, and specialists. The first stage was to find out from the learners (students) what the educational goals could be, understood as changes in human behavior involving thinking, feeling, and acting (Tyler, 1949). The second source of information was society, considering that many situations experienced in school reflect societal situations. The third stage consisted of consulting specialists who would give the

academic perspective on how the subjects contributed to the formation of the student. The specialists worked in commissions, and the school texts they produced included the respective objectives.

In the fourth stage, which emphasized the importance of the philosophy of education and the psychology of learning, these two sciences were used as filters. The first filter (philosophy) consisted in selecting, from the long list of objectives, those that were reasonable and related to the values of the school's philosophy. On the other hand, in the psychological filter, only those objectives were selected that would allow to achieve behavioral or attitudinal changes in the students, as a consequence of learning, simply, without investing a lot of time and effort.

Once the filters have been completed, the objectives were defined, and the fifth step is the selection of learning activities to achieve the proposed objectives, i.e., those to be carried out by the teacher.

The sixth stage refers to organizing the activities to be carried out to achieve effective learning. These activities are organized taking into account continuity, sequence, and integration criteria (Vélez and Teran, 2010).

The seventh and last stage is related to the evaluation of the activities. Tyler (1973) says that evaluation helps to verify the validity of the hypotheses on which the organization was founded. Its final result will make it possible to determine the positive elements of the curriculum and which, on the contrary, need to be corrected."

One of R. Tyler's followers with significant influence on curriculum design was Hilda Taba, who summarizes that every curriculum design should have a statement of specific goals and objectives, a selection and organization of content, particular teaching and learning norms, and a program for evaluating results (Taba, 1974).

Competency-Based Model of Curriculum Design

This type of curriculum design is intended to respond to two primary and complementary needs: first, to respond to the demands of the knowledge society and, second, to bridge the gap between the university, the Government, and enterprises.

Regarding this type of curriculum design based on competencies, it is impossible to speak of a single design that is universally valid and timeless because this type of design takes into account the spatial and temporal context in which it is developed, which implies a diversity of models. Authors such as Rué and Martínez (2005) point out three models of competency-based curriculum: Curriculum design focused on training for production, which is relatively simple. The curriculum design focused on professional practice, and the curriculum design aimed at personal training of professionals focused on individuals and their discipline-based training.

Another theorist who contributes to this type of curriculum design is De Miguel (2006), who proposes a model that focuses on planning the competencies to be acquired by students within a training context and an organizational context, which requires the definition of both teaching-learning methods and evaluation systems.

International educational institutions have developed other models in the first decade of the 21st century, such as the Instructional Performance Technology of Boise State University (Sutcliffe et al., 2005); the St. Xavier Model was developed at the Technical Teachers Training Institute and implemented at St. Xavier's Technical Institute, Mumbai, India (Earnest & De Melo, 2001). Solar and Sanchez (2008) proposed the Chilean model at the Latin American level.

This design, like Tyler's previous one, starts as a first stage, from the identification of the social needs of the program, taking as sources of consultation the interested parties, that is, employers and other beneficiaries, professionals and professional organizations; the academic community, to identify common points of reference, as well as the available resources or possible alliances for their use, to move from there to the second stage.

The second stage consists of defining the profile leading to the degree, both academic and professional, expressed in competencies, which include knowledge, understanding, skills, and abilities, expressed as generic competencies and specific competencies to be achieved in each program; these competencies serve as reference points for the design and evaluation of the curriculum and a common language.

The third stage is the content to be worked on, i.e., the definition of the study plan, which includes both the content and its structure or organization, expressed in modules and valued in credits.

The fifth stage defines the teaching-learning approach required for this curriculum design, which implies a student-centered approach oriented towards achieving the professional profile. It also defines how the educational activities are to be carried out in order to achieve the defined competencies.

The last stage refers to evaluation, which implies the implementation of strategies that make it possible to demonstrate the competencies achieved in the students' performances. This evaluation is conceived in the context of continuous quality improvement and must be carried out throughout the training process (before, during, and after).

Curriculum Design Based on Learning Outcomes

This new pedagogical approach has been experimental in Colombia since the decree was issued in 2019, just before the COVID-19 pandemic. This new curriculum design for Colombia under Decree 1330 of 2019, as well as the competency-based approach, is immersed in the practical curriculum design, and for its structuring, the same stages are fulfilled: The first stage is the identification of the social needs of the program; the second stage is the definition of the profiles based on the expected learning outcomes to be achieved by the professional after graduating from the institution; the third, fourth and fifth stages are related to the design, structure, content of the curriculum, pedagogical and methodological approaches and activities to be developed that allow the measurement and demonstration of these learning outcomes; the last stage includes everything related to the evaluation.

To give a more concrete idea of how curriculum design based on learning outcomes is carried out, from the personal experience of the authors, the curriculum design methodology carried out by the Doctorate in Management program of the University of Cartagena is presented:

The first step was identifying the training, business, economic, and social needs the program should respond to. For this purpose, studies of secondary sources such as internal institutional and external documents (related to education, government policies and regulations, business documents from unions and companies, and benchmarking of similar programs at regional, national, and international levels) were reviewed. For the primary information, focus groups were conducted with expert peers at the doctoral level, directors, and presidents of business associations.

After collecting and systematizing the information, we proceeded to define the program's strategic direction, i.e., its mission, vision, and purpose. For this process, several meetings were held with the Faculty of Economics of the University of Cartagena doctors until a consensus was reached.

This direction was then translated into a graduate profile regarding expected learning outcomes, as required by the normativity. This consensus is essential to continue the process.

A comparative analysis of the profile, competencies, and learning outcomes was then carried out, which started the construction and validation of the curriculum. It was determined that the teaching-learning approach should be student-centered, with teachers' guidance and a thesis director's advice from the beginning. Additionally, pedagogical strategies were defined to ensure compliance with the learning outcomes.

Finally, evaluation strategies were developed to measure the progress made in achieving the learning outcomes during the formative process. There are different ways to measure learning outcomes, which led to the construction of an evaluation tool that would allow a formative, contrasted, reliable, and validated evaluation (Mateo & Martínez, 2005). The instrument was the rubric (Alsina, 2013), which manages a set of criteria and indicators that are, in turn, divided into qualitative or quantitative descriptors that reflect the level of achievement of student learning outcomes.

Conclusions

In conclusion, it is noted that any curriculum design can be carried out according to four basic stages:

The first stage, contextualization, begins with identifying needs through consultation with the program's target audiences.

The second stage is the definition of profiles in coherence with the purpose of the program and the study of relevance, regardless of the way it is required (based on objectives, based on competencies, or based on learning outcomes) and the denomination (professional, academic, or graduate profile).

The third stage, called curricular structure, includes the curriculum, its contents, its organization, the definition of the teaching-learning approach, and the pedagogical strategies.

The fourth and last stage, called evaluation, is an indispensable requirement of any curricular design in order to be able to demonstrate the results and to proceed to the appropriate feedback in terms of continuous improvement within the quality assurance systems.

Regardless of the time that has passed from the first objective-based curriculum designs in 1991 to the current curriculum design based on learning outcomes, and regardless of each regulation of the Colombian State that leads to a new curriculum design, these four stages are still fulfilled, what changes is how each of them is implemented.

In the case of comparing the regulations, the first stage of contextualization would be in the denomination and justification; stages 2, 3, and 4 are included in the curricular aspects, organization of academic activities, research, relationship with the external sector, teachers, educational means, physical and technological infrastructure.

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Contact email: jlunaa@unicartagena.edu.co