

A look at education systems in Latin America

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Abstract

The review of the educational systems in Latin America allows to know the levels of training of individuals, the skills they acquire, the requirements they need to meet each stage of education, inviting to analyze the profiles that are acquired in each country. The study allows to compare Colombia training standards in relation to other countries, if the times of academic development are handled in the same way and if the same skills are handled for students. It does not give an overview of how the country is and if it is responding to international objectives and the productive sector. The methodology used is documentary research, allowing to review the educational systems and their academic structure, finding similarities between Colombia and countries such as Argentina, Mexico, Chile, among others. For this purpose, categories were selected to clearly describe each topic found, allowing to describe the levels of training.

Keywords: educational system, basic education, higher education, training levels.

INTRODUCTION

This article describes the educational systems of Latin American countries, reviewing the different levels of education from initial cycle to higher education, making a comparison with the system in Colombia, allowing to analyze the type of preparation that people have and the time of academic preparation that it takes to opt for the different educational degrees, to know the prerequisites that are required to advance and if the educational periods in Colombia are similar to those in Latin America.

A tour is made from the regulatory and academic framework, the ages to enter the stages of training and the competencies and skills acquired by the student during their formative development, a characterization of their profile once they complete each stage of primary and secondary education, middle and

higher education, the above related to the requirements of the productive sector and their personal development, providing tools in their development for their social and working life.

Literature review

Education system in Latin America

It is important to know the educational structure of Latin American countries, so, it is possible to make an approach on the use of techniques and technologies in the practices of teachers in Colombia and other Latin American countries (Observatorio Educación, 2018) .

Argentina

This country's educational system comprises the following levels of training:

Early Education: Contemplates the stages of development between the first year and five years of age.

- Primary: Seven-year training stage, starting at age six..

High school: academic permanence between five to six years, with two cycles: basic, all disciplinary areas, and orientation cycle, everything related to social and labor competencies..

- Higher Education: post-secondary education, which are public and private entities.

Figure 1. *Levels of education in Argentina*

Source: own elaboration.

They work eight types of modalities in training: “technical education, artistic education, special education, continuing education for young people and adults, rural education, intercultural bilingual education, education in contexts of

deprivation of liberty, home and hospital education.” (Observatorio Educación, 2018)

Chile

It comprises four levels of academic training:

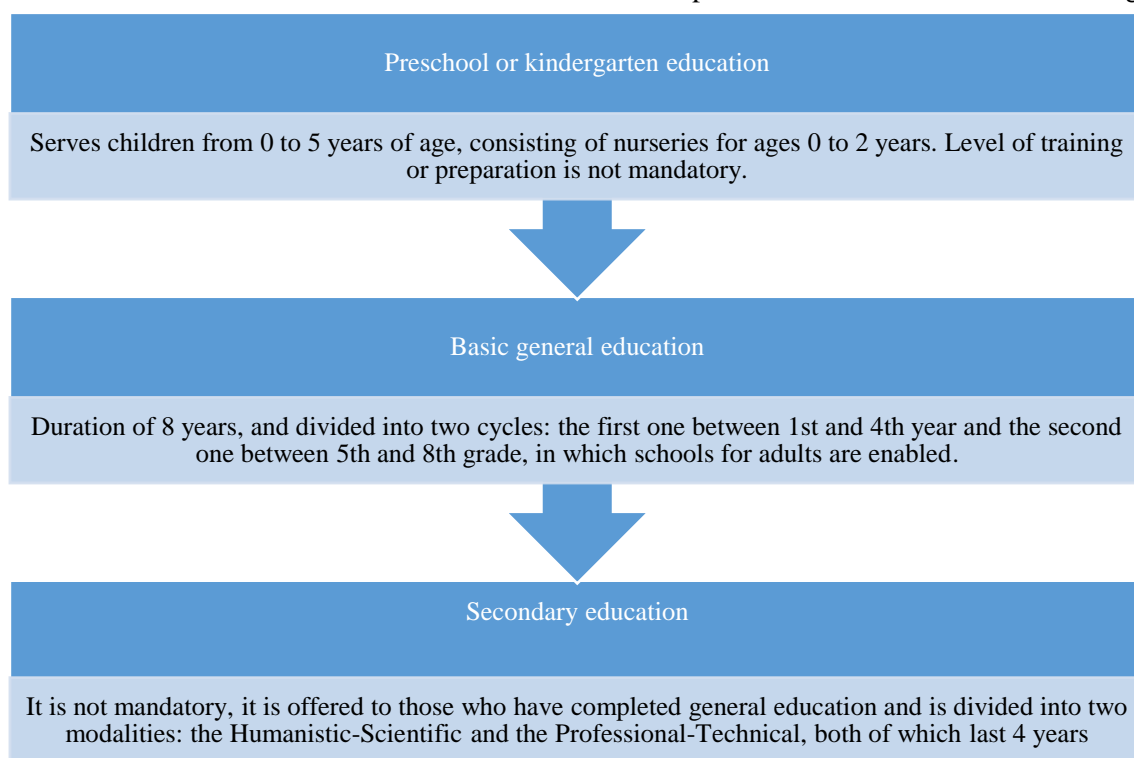


Figure 2. *Levels of training in Chile.*

Source: Own elaboration.

Higher education

A high school diploma is required to access this level of education, the institutions in this country that handle higher education are:

Universities, Professional Institutes and the Technical Training Centers.

Ecuador

According to the guidelines of the Organic Law of Intercultural Education, the training levels are schematized as follows.

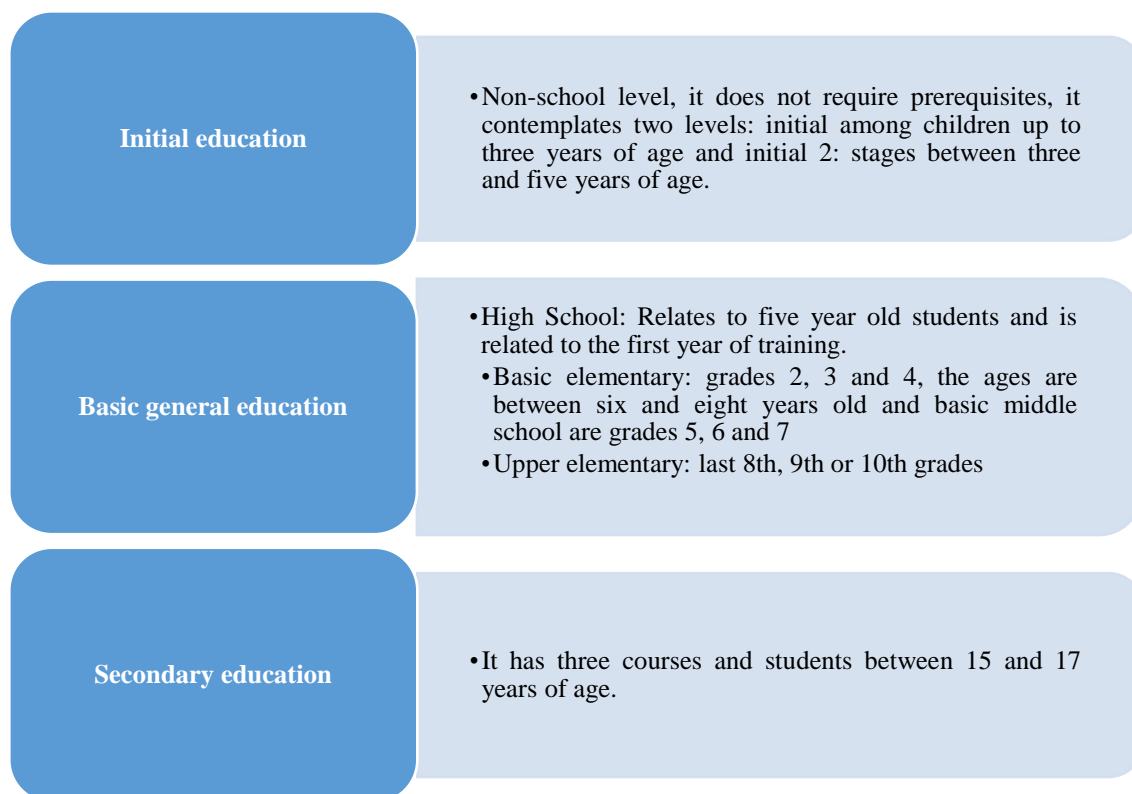


Figure 3. *Levels of training in Chile.*

Source: Own elaboration

Mexico

The country's education system is decentralized and organized by levels, as established by the General Education Law, with secular education (formal education, without any religious interference) and compulsory courses: preschool, primary and secondary.

Preschool education, administered by the Ministry of Public Education, includes indigenous population, administered in the different states of the country, private entities, in rural and urban areas; this education is oriented towards the preparation of children's oral skills.

Primary education is divided into three cycles: the first cycle for grades 1 and 2, the second cycle for grades 3 and 4, and the last cycle for grades 5 and 6, with three learning modalities: general, community and indigenous courses.

Finally, secondary education refers to training in three modalities, for adults, workers and technicians, with a duration of three years. It is compulsory and is a requirement for promotion to intermediate studies such as professional and high school.

Upper secondary education, associated with a non-mandatory requirement before the state. It consists of three levels: general baccalaureate, technological baccalaureate and technical professional education. The general baccalaureate is responsible for the academic preparation that will allow the graduate to enter higher education. The technological baccalaureate corresponds to the preparation of know-how, which will allow a link to the productive sector.

Professional education is aimed at preparing students to occupy intermediate positions in production and service areas, and has as

prerequisites a high school diploma and an entrance exam in some institutions.

Higher education

It is made up of universities, technological institutes, teacher training colleges and technological universities. Its levels of preparation include university technical college or associate professional, bachelor's degree in basic education, participation in the schools of the Ministry of Public Education and postgraduate studies (specialty, master's and doctorate).

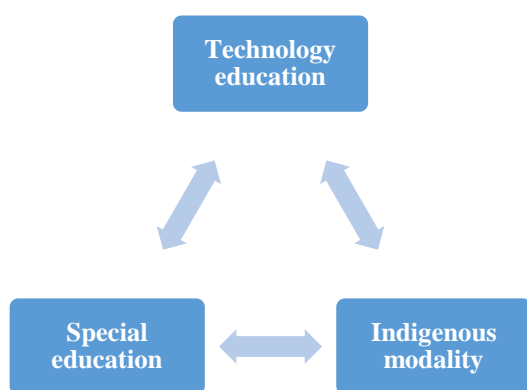


Figure 4. *Other types of training in Mexico*

Source: Own elaboration

The previous types of training refer to preparation for work, access to populations of different cultures and customs, in this case it is difficult to provide an adequate service, due to the system to meet with different native languages and the dispersion of indigenous groups throughout the regions, in order not to abandon them, guide texts are created to guide

their learning based on the reaction of the native language.

Finally, special education, which is the inclusion of students with disabilities, as a complement to this attention, spaces such as Multiple Attention Centers and public attention units are provided to guide caregivers and family members on how to meet the needs of students.

Education System in Colombia

Educational training in Colombia is contemplated in two modalities, one of them is the so-called formal education, which represents a sequence of preparation of a person in cycles, with a curricular structure that requires prerequisites to continue advancing in their academic development and thus culminate their studies and opt for an academic degree; this education includes preschool, primary and secondary, middle and higher education, which is contemplated in Law 115 of 1994 and Law 30 of 1992 (Ministry of National Education, 2021).

Formal education

In this sense, the national education system is made up of formal education, education for work and human development, formerly known as non-formal and informal education, in compliance with the right granted by the 1991 Political Constitution on access to education. The Ministry of National Education-MEN is the main regulator of education; to begin with the characterization of types of education, a primary type of education is described:

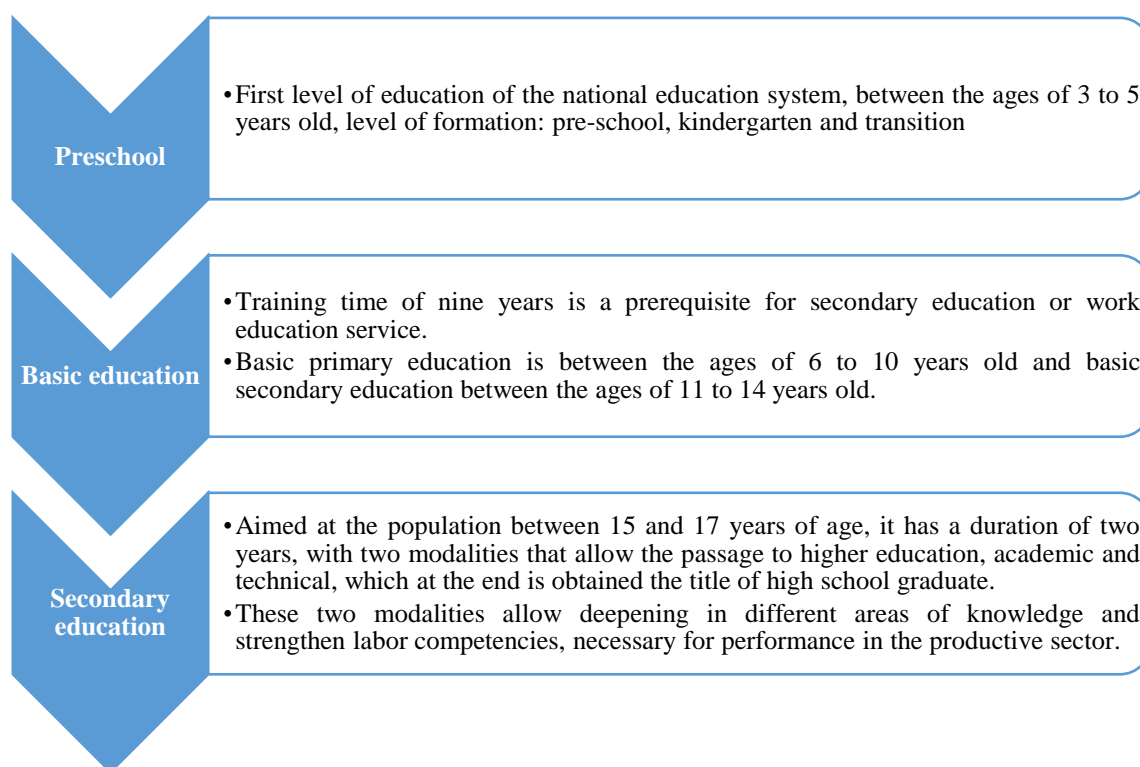


Figure 5. *Formal education in Colombia*

Source: Own elaboration.

It should be noted that formal education institutions are autonomous in defining their areas of knowledge according to each level of training offered, taking into account the needs of the region where they are located, methodical aspects for the teaching-learning process, taking into account the guidelines given by the MEN (SITEAL, 2020) .

Formal higher education institutions

According to national guidelines, the levels of higher education are as follows:

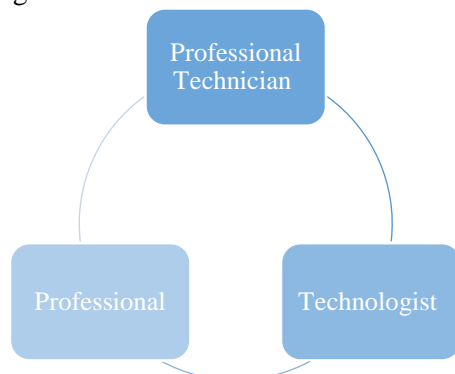


Figure 6. *Undergraduate level*

Source: (Ministry of Education, 2020)

Postgraduate programs are also offered:

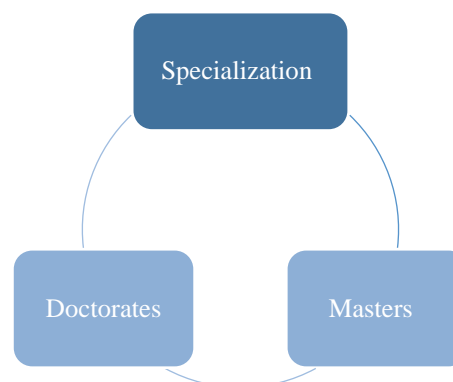


Figure 7. *Postgraduate level*

Source: (Ministry of Education, 2020)

These training levels are a field of work performance for professionals, joining as teachers in the different training areas to lead classes, guide projects and/or develop projects.

For professional training programs, institutions must be approved by the Colombian Institute for the Promotion of Higher Education-ICFES,

complying with academic, administrative, financial and research requirements as established by Law 30 of 1992, and the programs offered must be registered with the National Higher Education Information System-SINIES.

Higher education

In this education system there are gradual curricular scales that lead to undergraduate and postgraduate academic degrees, from professional technical, technological and university degrees, within the areas of knowledge that are developed throughout the training are: research, technology, science, arts, humanities, among others.

There are two levels of training in this type of education: The undergraduate level includes professional technical education, technological education and university education, and the postgraduate level includes specializations, master's degrees and doctorates (SITEAL, 2020).

The type of higher education institutions that offer academic programs are of a technical-professional nature, universities or technology schools, which require a bachelor's degree and the results of the SABER 11 state exam.

In accordance with Law 30 of 1992, higher education programs are offered in Professional Technical Higher Education Institutions, University Institutions or Technological Schools and Universities. Young high school graduates interested in entering higher education must have a bachelor's degree or its equivalent abroad and have taken the State Examination for Entrance to Higher Education - SABER 11 tests. There are some differences between the institutions mentioned above:

- a) Professional techniques: qualified to offer operational or instrumental programs.
- b) Schools of technology: offer occupational and academic training programs, as well as specialization programs.
- c) University: oriented to professional academic training, specializations, master's degrees and doctorates.

These institutions are regulated by the National Accreditation System for Higher Education Institutions-SNA to guarantee the quality of education, other state entities that monitor the educational service are: Consejo Nacional de Educación Superior - CESU, Comisión Nacional Intersectorial para el Aseguramiento de la Calidad de la Educación Superior - CONACES, Consejo Nacional de Acreditación - CNA, el Instituto Colombiano para el Fomento de la Educación Superior - ICFES. (Colombian Ministry of National Education, 2021).

The SNA system makes two types of recognition, one mandatory and the other voluntary, the latter being determined by the educational institution. The first, which is mandatory, concerns the so-called Registro Calificado, a license granted by the Ministry to an academic, once the minimum quality conditions required by law are met.

The second recognition, called high quality accreditation, is a process that institutions voluntarily initiate to certify their capacity to offer education with conditions superior to those required by law.

Credit system

The credit system defined by Decree 2566/2003, to measure the work done by class hours and training performance according to the training levels. The credits determine the amount of work required from the student to complete a course, related to exams, attendance and activities developed in classrooms, laboratories and other academic spaces such as projects, degree projects, thesis.

According to (Ministry of Education, 2020), one academic credit corresponds to a workload of about 48 hours, distributed as follows: 16 hours of face-to-face class, 32 hours of independent work with teacher accompaniment.

Propaedeutic cycles

Law 1188 of 2008 regulates the qualified registration of higher education programs and extends the possibility of training by cycles to all areas of knowledge and Law 749 of 2002 establishes the propaedeutic cycles, specifically

in the areas of engineering, information technology and administration.

These cycles are developed in undergraduate programs whose characteristics are flexible, sequential and complementary, which means that one can start in the professional technical stage with a duration of two to three years, go on to study a technology with a duration of three years and then finish with the professional stage.

With this training modality, the institutions can offer academic programs that allow the student to acquire three degrees, meeting the demands of the labor market, where the student, as he/she is being trained as a professional, with the previous programs granted, can perform according to the demands of the productive sector, in turn strengthening the Professional Technical and Technological-Technological-TyT Education.

Non-formal education

Currently called Education for Work and Human Development as of Law 1064 of 2006, these institutions provide learning to update and complement knowledge of academic or labor character, also applies to supplement knowledge. The objective of this education is the improvement of a job or trade, the preparation for a craft, cultural, artistic, occupational or technical performance,

according to the needs of the citizen, it also allows learning about the use of natural resources, the ability to a citizen and community participation (Law 115, 1994), these institutions offer.

The National Development Plan has within its work agenda, to promote the strengthening of labor competencies, for this the National Planning Department participates in the technical tables for the development of the evaluation system of higher education programs and schools, in order to build and monitor the National Qualifications Framework, necessary to respond to the requirements of the productive and labor sector, thus verifying that the training of human capital acquires competencies of work and human development, these tables of action are articulated with the National System of Certification of Labor Competencies, a process that allows the verification of skills and abilities relevant to fulfill a trade or job, and the verification of skills and abilities relevant to fulfill a trade or job (SENA, 2020). These action tables are articulated with the National System of Certification of Labor Competencies, a process that allows the verification of skills and abilities relevant to fulfill a trade or job.

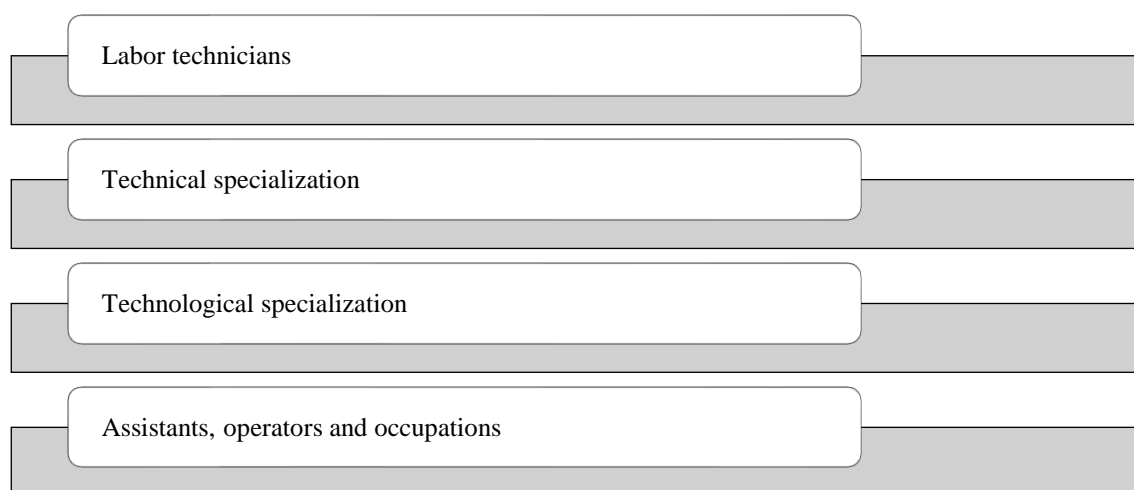


Figure 8. *Training offered by SENA and other institutions for Labor and Human Development (FTDH).*

Source: own elaboration, 2021

This line of training allows citizens to update their skills, strengthen the competencies required by companies and advance in their

studies, which they can do from this stage of preparation and move up the academic cycles.

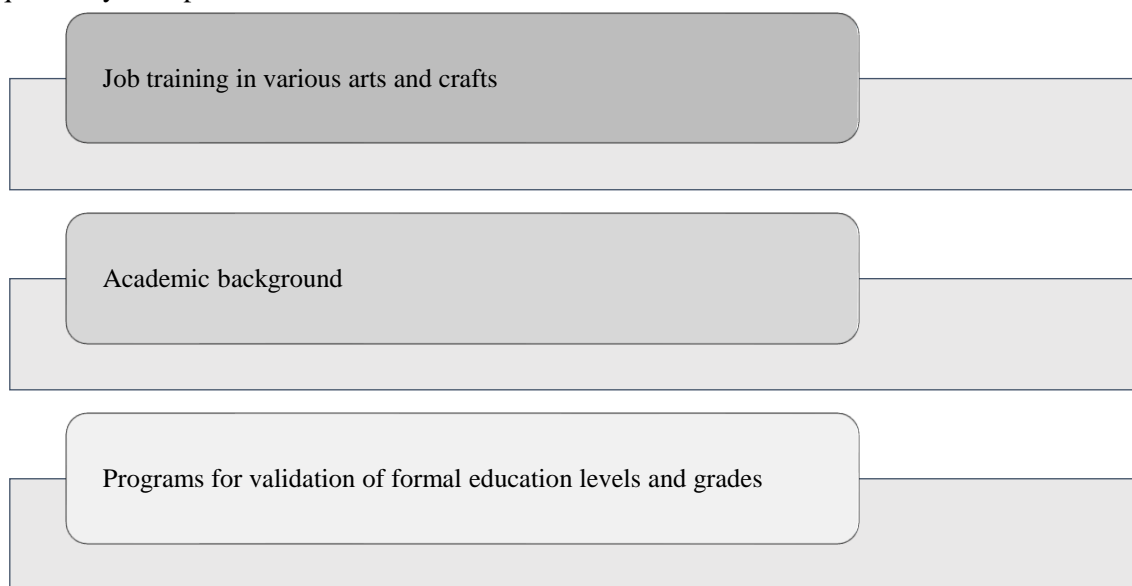


Figure 9. *Benefits of non-formal education or education for work and human development.*

Source: own elaboration, 2021

Institutions in this category are governed by Decree 114 of 1994 and regulated by the Secretaries of Education (EnColombia, 2021). The institutions in this category are governed by Decree 114 of 1994 and regulated by the Secretaries of Education, who grant their operation, according to the requirements fulfilled by them, such as identification of programs offered, hourly intensity and the relation of the type of certificates to be issued to the attendees. It is important to clarify that non-formal education does not train at a professional level, but rather offers preparation in skills and abilities for a particular trade, i.e., improving empirical skills.

In order to be registered with the labor training programs before the regulatory control entities, they must have 600 hours of training, with fifty percent in practical development, the education modalities can be face-to-face or distance. Citizens are prepared for specific areas that are relevant to the productive sector according to the requirements of the National Classification of Occupations.

The academic training programs must have a minimum duration of 160 hours, its preparation

is the acquisition of skills and abilities in various areas such as science, specific techniques, technological development, languages, recreation, recreational and cultural activities, among other training, for human development, allowing labor development. Once the person has satisfactorily completed the training, the institution must issue a certificate of occupational skills, which is not equivalent to obtaining a professional degree.

The Quality System for Training for the Workplace

The National Council of Economic and Social Policy-CONPES 81 of 2004 (National Planning Department-DNP, 2021). defines the components of the National System of Training for Work in Colombia, requesting the Ministry of Social Protection, the quality accreditation factor for training institutions for work.

The objective of this system, whose Decree is 2020 of 2006, is the definition of mechanisms and follow-up aspects to guarantee quality in the supply of job training, verifying that the institutions have the resources and means to cover the training processes, responding to the

needs and requirements of the productive sector.

Informal education

According to Article 43 of Law 115 of 1994, it is defined as informal education is considered to be all freely and spontaneously acquired knowledge, coming from persons, entities, mass media, printed media, traditions, customs, social behaviors and other unstructured ones.

According to the description and approval of the Ministry of National Education in Colombia, informal education refers to provide opportunities to complement, update, perfect, renew or deepen knowledge, skills, techniques and practices this free and spontaneous knowledge acquired from people, entities, mass media, print media, traditions, customs, social behaviors and other unstructured, whose hourly training intensity is less than 1600 hours (Colombian Ministry of National Education, 2021).

With Decree Law 2150 of 1995, the institutions are regulated and subject to inspection and do not require authorization from the Secretaries of Education of each national territory, but they must report the courses or other forms of training to these entities and must have a duration of less than 160 hours, and may be offered by individuals or legal entities.

Therefore, in this type of training it should be clarified that a certificate of attendance granted

in the training is not the same as a certificate or academic degree or that validates any occupational aptitude.

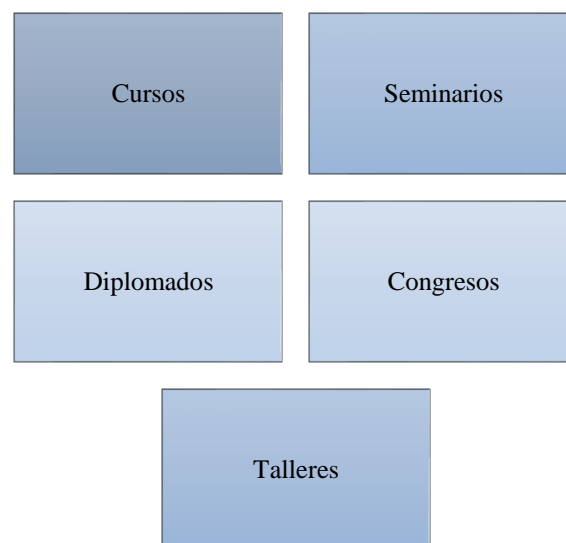


Figure 10. *Types of training offered in informal education*

Source: (Grupogear, 2020)

A with Decree 1075 of 2015, makes reference to the three types of education in Colombia from the normative (Ministry of National Education of Colombia, 2021). with the support of Law 115 of 1994.

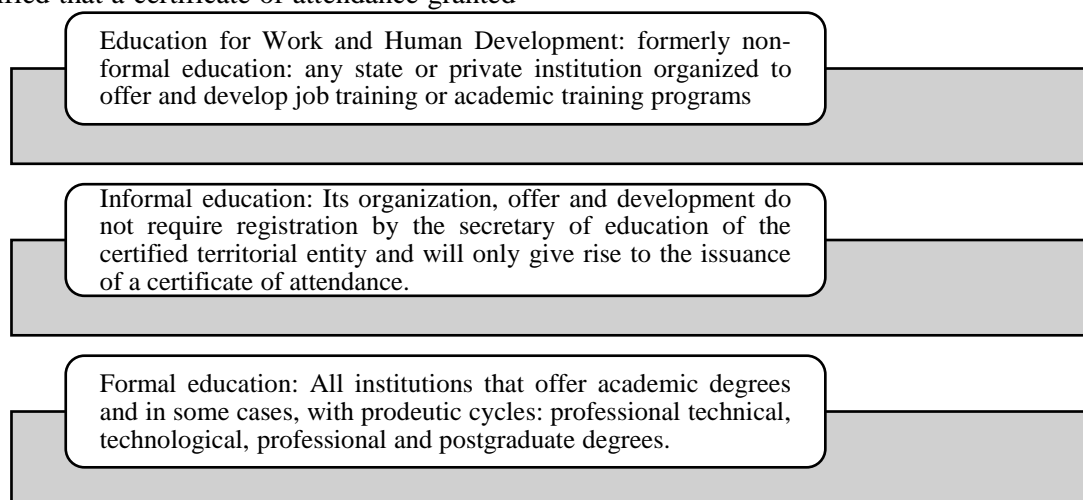


Figure 11. *Types of training in Colombia*

Source: own elaboration, 2021

Methodology

According to (Bernal, 2014) , documentary research consists of an analysis of written information on a certain topic, with the purpose of establishing relationships, differences, stages, positions or current state of knowledge regarding the subject under study, which is why this article evidences documentary review to know the educational systems in Latin America and of course Colombia, description of the levels of training, stages of development in which students are admitted and requirements for access to the different academic degrees.

Information is reviewed from digital book sources, pages of the Ministries of Education of the different countries, non-governmental entities, which are responsible for collecting data on the state of schooling of the population, geographic areas for access to education, among other aspects.

Categories of analysis

For the documentary review, it is necessary to define some categories that allow a better understanding of the topic regarding educational systems, describing the different modalities and levels of education in Latin American countries, allowing the analysis of the system in Colombia in comparison with Mexico, Ecuador, Argentina, among others.

Table 1. *Categories of analysis.*

Category	Description
Educational system	Legal framework establishing the organizational and academic structures for the national educational service.
Grade of schooling	Levels of training of children, adolescents, young people, adults in schools, colleges and validation institutes.
Levels of training	Post-college or post-school academic ladders, which allow for the strengthening of labor and professional competencies.

Source: own elaboration.

Results

According to the theoretical and normative review, it is found that in Latin American countries, the levels of education are similar, changing in some aspects the denominations, but it is clear that the academic development is universal, where there is formal and non-formal education, in the formal education there are all the cycles from kindergarten, basic primary education, high school and middle school, where the latter provides students with technical emphasis to facilitate their entry into the productive or academic sector, for entry into higher education, The formal education includes all cycles from kindergarten, elementary school, high school and middle school, where the latter provides students with technical emphasis to facilitate their entry into the productive or academic sector, for entry into higher education.

In Colombia, in the search for information, it is possible to describe in a complete way the formation of the student from its zero stage of learning, the characteristic in the country, is that alternatives of formation are offered, once the basic studies of initial, basic and middle education cycle are completed, we speak then of students linked to schools, known in other countries as schools, They may have three options to enter higher or informal education, or within the same higher education institution, they may go through three cycles called propaedeutic, without having previous prerequisites, i.e., the person may enter a professional technical academic program, or enter a technological program or only a professional program.

In any case, by political constitution or law in each country, there is a right to education and public and private institutions provide training services to have access to this right, guaranteeing training alternatives to ensure academic and work preparation for citizens, so that they can have the tools to develop personally and professionally.

Discussions and conclusions

There is clear evidence of the academic training related to basic, secondary and higher

education in some Latin American countries, i.e., different levels of formal training are described specifically and their equivalence with the higher education system in Colombia:

Table 2. *Educational systems of Latin American countries compared to the higher education system in Colombia.*

Colombia	Mexico	Argentina	Chile	Ecuador
Professional technician 2 years	Not applicable	Not applicable	Higher Level Technician 2-4 Years	Senior Technician 1-2 Years
Technologist 3 years	Associate Professional/ Higher University Technician 2-4 Years	Not applicable	Not applicable	Senior Technologist 3 Years
Technical specialization 1 year	Not applicable	Not applicable	Certification subsequent to a Higher Level Technical Degree 1 Year	Not applicable
Technological specialization < 1 year	Not applicable	Undergraduate degree 2-3 Years	Not applicable	Technology Specialist 1 Year
Professional university degree 4-5 years	Bachelor's Degree 4-5 Years	Specialization 2-3 Years	Bachelor's Degree/ Professional 4-5 Years	Bachelor's Degree University Professional Degree 4-5 Years
University specialization 1 year	Specialty 1 Years	Title Degree 4-6 Years	Postgraduate degree 1-2 Years	Specialization 1 Year
Master's Degree 2 years	Master's Degree 2 Years	Master's Degree 1-2 Years	Master's Degree 2 Years	Academic Master's Degree with Professional Experience 1.5 Years
PhD 4-5 years	PhD 4-5 Years	PhD 4-5 Years	PhD 4-5 Years	PhD 4-5 Years

Source: Own elaboration based on (Ministry of Education, 2021)

A relevant aspect to take into account is that in the countries mentioned above, as in others not mentioned in this article, the academic development and fulfillment of the student per period corresponds to academic credits, that is, “the estimated time of academic activity of the student according to the academic competencies that the program is expected to develop”, as far as higher education (formal education) is concerned (Ministry of Education, 2021).

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