

Exploratory Analysis for a National Qualifications Framework proposal in Venezuela

10

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Lifelong Learning is understood as a training activity developed throughout the life of people with the aim of improving knowledge, skills and competences within a personal, social and working perspective (Guerra, 2014). This definition includes all learning modalities as sources for active citizenship, for social inclusion and for labor insertion (Vargas, 2009).

The need of having better prepared workers in order to respond to changes in the productive world, gave rise to alternatives for certifying labor competences of people. Policies on validation or recognition of learning experiences are especially a response to the economic need for more efficient management of human capital. These policies correspond to instruments aimed at the evaluation or recognition of professional competences acquired through work experience and non-formal learning pathways (Arbizu, 2011, Rimbau *et al.*, 2008).

Two concepts are important for creating a broad focus on lifelong learning:

- When linking a NQF to non-formal and informal practices of learning, the UNESCO (Singh 2014) states that for the Recognition, Validation and Accreditation (RVA) of non-formal and informal learning, six key areas are to be considered by governments:
 1. Establish RVA as a key component in the national lifelong learning strategy.
 2. Develop RVA systems that are accessible to everyone.
 3. Integrate RVA development into education and training systems.
 4. Create a coordinated national structure that involves all stakeholders.
 5. Train personnel for RVA activities.
 6. Design sustainable financing mechanisms.
- Occupational certification has been defined by Mertens (1996) as a process that tends to formally recognize the occupational qualifications of workers, regardless of how they were acquired. On the other hand, Vargas (2009) argues that the process of occupational certification refers to the formal and temporary recognition of the abilities demonstrated by a person in the work performance of an occupation, regardless of where these skills were acquired.

In Latin America, occupational certification began its development in the mid-1970s when the Inter-American Center for Knowledge Development in Vocational Training of the International Labor Organization (Cinterfor/OIT) (2016) developed a project on the measurement and certification of occupational skills acquired by workers through systematic training courses, through work experience, or a combination of both (Comparán, 2007; Castle *et al*, 2001).

According to Vargas (2009), this process of occupational certification was promoted in Latin America by the public sector, especially Ministries of Education and Labor and national institutions of vocational training. However, there are also experiences that have been promoted by private enterprises. These initiatives are usually national scoped, cover various occupational sectors of the labor market and are promoted from an inclusive perspective.

A concept related to the validation and certification of learning is the National Qualifications Framework (NQF), which corresponds to a national policy that is aiming at recognizing all learning experiences of a citizen, obtained through formal education or non-formally and informally outside of the education system. (Vargas, 2009). The adoption of a NQF also means that a country creates a unique system to express the competencies of its workers and is about accepting the equivalence of formal educational levels with competence levels from non-formal and informal learning settings. According to Arbizu (2011), this corresponds to the design of National Systems of Qualifications and Vocational Training for identifying the professional qualifications that can be recognized and accredited when looking in to the actual and appropriate competencies for the professional practice in the production system. Moreover, such a NQF can contribute to the transparency and unity of the labor market, and the mobility of workers. It should be a common reference for training systems and for the evaluation and recognition of competence.

As indicated by Tuck (2007, cited by Solis *et al.*, 2013) a NQF is defined as an instrument to develop, organize and recognize the knowledge, skills and abilities that are demanded to perform in the workplaces, arranging them into competence levels and tracing them on the basis of determined descriptors. With the existence of the NQF, the linkage of the educational system and the work space can be achieved.

There are several proposals to establish qualification levels (Singh *et al.*, 2013) and despite their differences and number of levels, all of them agree that are organized hierarchically from the levels of informal learning to the greatest degree obtained by formal education. Each of the levels of the frame has associated qualifications that can be accredited by some kind of credential, which allows recognizing learning of any kind and show them socially and in the workplace (Solis *et al.*, 2013, Bitran *et al.*, 2011, Vargas, 2009).

The role of the State in the formation of a NQF is relevant, since the State is the one who deals with the design and construction of qualifications frameworks, is

responsible for the quality of education and finances the operation of a learning system. Having a qualifications framework allows for linking the public policies with job training and certification of competencies and directing public funding towards those actions that allow people to obtain the credentials associated with certain levels of qualifications.

This research aims to analyze the educational offer of the country by studying the working population, identify occupational categories of the economically active population (EAP) that might open up to validation or certification of learning experiences and map their location within the country, which is valuable input when establishing possible actions to establish and consolidate a NQF.

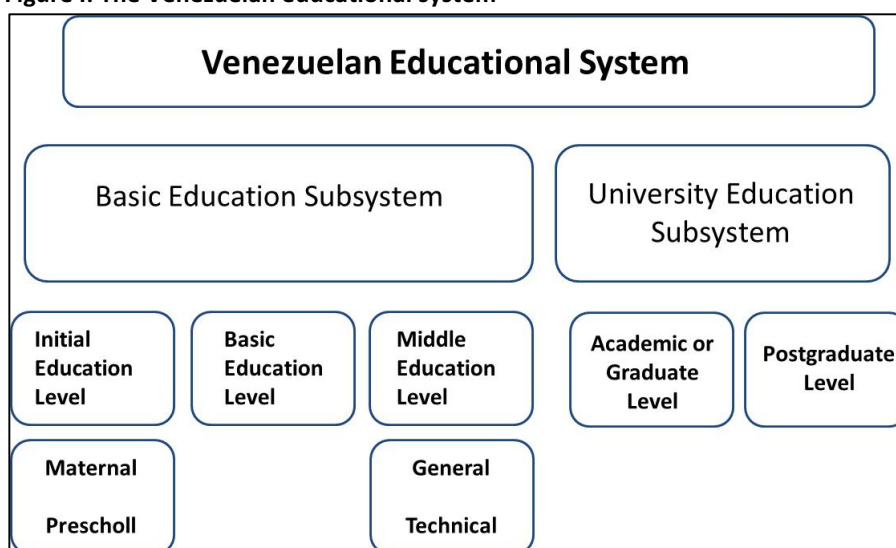
This paper presents the exploratory analysis for the construction of a proposal for a National Qualification Framework in Venezuela that could be linked to formal, non-formal and informal learning practices in the country. For this purpose, the occupation categories of the economically active population in Venezuela that could require validation or knowledge certification and their location in the country geography, were investigated. The institutional, normative and legal basis for the creation of a National Qualification Framework was also part of the research.

1. The Venezuelan educational system

According to the Ministry of Popular Power for Education (2015), the Venezuelan educational system consists of four levels of education (Figure I):

- Preschool education or Initial education: This is the first mandatory level of the education system and pedagogical attention takes one year. The average age of entry are 5 years. Within the preschool education it can be considered the maternal, which refers to the pedagogical attention before the child reach 5 years and enter to preschool.
- Basic Education: This is the second level of the education system. It comprises three stages with a duration of three years each:
 - o Stage I: from 1st to 3rd grade.
 - o Stage II: from 4th to 6th grade.
 - o Stage III: 7th to 9th grade.
- Diversified or medium education: It is the third level of the education system and is before superior education. This level can have a technical output level.
- University education: It is based on previous levels and includes the formation or professional and graduate education. It can be attended at universities, colleges, and technological or pedagogical colleges.

Figure I: The Venezuelan educational system



Source: based on Ministerio del Poder Popular para la Educación (2015)

University Education – Educational offer

When considering university education, it is given in universities, university institutes, pedagogic, polytechnic, technological, and university colleges. These institutions can be public or private, and according to the Ministry of Popular Power for University Education, Science and Technology (Ministerio del Poder Popular para la Educación Universitaria, ciencia y Tecnología, 2016), there are a total of 261 higher education institutions, of which 109 are public and 152 are private, Table I presents the distribution of institutions of higher education by region.

Table I. institutions of higher education in Venezuela

Region	Public Institutions	Private Institutions
Capital	33	41
Central	15	27
Western Center	15	14
Guayana	9	11
The Andes	12	23
Llanos	6	4
Nor Oriental	12	14
Zuliana	7	18
Total	109	152

Source: Ministerio del Poder Popular para la Educación Universitaria, ciencia y Tecnología. (2016)

Education for Work or Vocational Training

An important experience to mention in Venezuela is the National Institute of Educational Cooperation (INCE), founded in 1959. It is the entity that has been responsible for generating training programs for sectors with official certification, attached to the Ministry of Education and in close cooperation with the Ministry of Labor.

For example, the INCE promoted agricultural training of rural school graduates in order to train farmers to make efficient use of land and other renewable natural resources. It also created special technical training schools, organizing learning within factories and garages with cooperation of employers, promoting the fight against illiteracy and contributing to the improvement of general primary education in the country.

In 2003, the transformation of the INCE into the National Institute of Socialist Education and Training (INCES, 2015) took place, in order to accommodate it to the country needs and to the industrial reconversion process involving its conception and vision in the open and participative socialism environment.

The contribution of the INCES in the formation of human capital is very valuable, because through this Institute certification of learning and skills at a technical level is granted, which is not acquired in the formal education system. It is a learning experience in which young people are trained to work and are certified within a group of officially endorsed trades. This makes it an important support when looking for job opportunities, since they have the recognition of the corresponding government entity. Table II presents the areas and trades qualified by INCES.

Table II. Professions qualified by the INCES

Administrative and Services Area	Industrial Area	Agricultural Area
Administrative assistant	Operator of oil plants	Breeding laying hens
Computer Business Assistant	Universal welding	Broiler breeding
Financial Accountant	Plastic injection molding	Veterinary Assistant
General manager in supermarkets	Automotive and diesel engine mechanics	Farm administration
Accounting analyst	Refrigeration and air conditioning mechanics	Breeding pigs
Assistant in foreign trade	Automotive painting and painting	Cattle breeding
Food preparation and services in fast food establishments	Food processing machinery operator	Construction and preparation of seedlings
Restaurant service Kitchen	Machine operator for the manufacture of pulps and their preservation.	Real Estate Management
Pharmacy assistant	Manufacture of mattresses	Growing of leguminous plants
	Manufacture of shoes	Family vegetable garden
		Scholar Orchard
		Soil and fertilizer management
		Irrigation Operator

	General Lithographer binding operator	Fruit crops Gardening
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Source: Own preparation from INCES (2015)

Together with the INCES, there are other institutions recognized in training for work with headquarters in different States of Venezuela, such as Fe y alegría, Instituto Venezolano de Capacitación Profesional de la Iglesia, Institutos de Formación Profesional con Certificación Universitaria and el Centro Técnico Profesional.

Regarding the media technicians, Herrera (2004) argues that the business sector has been an observer rather than a participant, that is, a passive actor in the training process and is attributed the responsibility of education to the State. At present, in the labor market the capacity of the middle technicians is questioned, due to the proliferation of University Superior Technicians, and the tendency of the business sector is oriented to the recruitment of mature people and with titles of Superior Technicians. Similarly, technical-media education professional is, today, a springboard towards the University, does not really train the individual and little has been done for its transformation.

2. Normative-legislative context of education and training for work

The Bolivarian Republic of Venezuela is a signatory to the Universal Declaration of Human Rights and the Millennium Goals (2000), as well as a member of the International Labor Organization and UNESCO, among others, agreements and organizations all involved in a comprehensive reform for education.

When examining the legislative context regarding education, it is stated that in the National Constitution of the Bolivarian Republic of Venezuela, specifically in article 102, it is established that education is a human right and a fundamental social duty, democratic, free and compulsory, and the State assumes the massive and inclusive provision of an integral, elemental and for the life education system. From this perspective, the Venezuelan State effectively assumes education as a fundamental social right whose sanction and public access would provide a significant improvement to the quality of life and collective wellbeing of citizens (Trall Project. ULA Report, 2011).

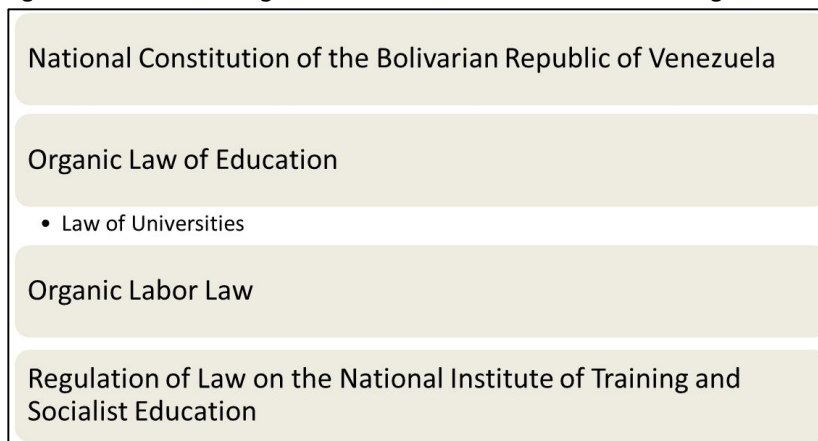
In the Venezuelan Organic Law on Education (Ley Orgánica de Educación, 2009), specifically article 22 expresses the obligation of public and private companies to contribute and provide facilities for workers for their academic training, upgrading, upgrading and professional development, to provide facilities, services, personnel Technical and professional training for the execution and development of programs in the areas of training for work, internship plans for students of general secondary and technical media, undergraduate and postgraduate university and in the modalities of the educational system. Jointly, public and private companies are required to cooperate in the educational, health, cultural, recreational, artistic,

sports and citizenship of the community and its environment. Public and private companies must do it.

In the Venezuela Organic Law for Labor (Title V of Collective, Integral, Continuing and Permanent Training of Workers, chapters II and III) (Ley Orgánica del Trabajo para los Trabajadores y Trabajadoras, 2012): It is established that based on the economic and social development plans of the Nation, the State in co-responsibility with society, will generate conditions and create opportunities for the social, technical, scientific and humanistic formation of workers, and stimulate the development of their productive capacities, ensuring their participation in the production of goods and services. The State, the family and society will create opportunities for young people to stimulate productive transition to adult life, particularly for education and inclusion in the social process of work as a student or trainee.

The Venezuelan Law for Universities (Ley de Universidades, 1970) establishes the functions, organization and responsibility of public and private universities. Specifically, article 145 of that law establishes that university education is directed to the integral formation of the student and his training for a useful function in society. The university education complements the training begun in the previous educational cycles, the universities will point out fundamental orientations tending to improve the general quality of the education in the country.,

Figure II. Venezuelan Legislative Context of Education and Training for Work



Source: own preparation

In the Regulations of the National Institute of Training and Socialist Education (INCES) Law (Ley del Instituto Nacional de Capacitación y Educación Socialista, 2008), it is established that this institution aims to formulate, coordinate, evaluate,

direct and implement educational programs of comprehensive training and qualifications. Jointly, promote the socio-productive inclusion of all people, especially those in extreme poverty and conditions of special vulnerability or exclusion.

3. General data concerning economically active population in Venezuela

The working population is made up of all persons aged 15 and over. It is divided into the Economically Active Population (EAP) and the Economically Inactive Population (EIP). This population represents the educational demand that corresponds to the people who can choose to enter into the higher education system or some professional formation program.

According to the National Institute of Statistics of Venezuela, for the year 2015, the information presented in Table III is available, which shows that 92.95% of the working-age population is employed (Occupation rate), while the remaining 7.05% is unemployed. Of the unemployed population, 6.4% were occasional unemployed, that is, people belonging to the working-age population who had worked at the time of the survey were not working and were looking for work, and 0.65% were unemployed, looking for work for the first time.

The inactivity rate is 36.35%. The inactive population is those Venezuelans of working age, who at the time of the interview are students, housewives, rentiers, pensioners and retirees.

Table III: Working Age Population Data

Occupancy rate	92.95%
Activity Rate	63.75%
Unemployment Rate	7.05%
Severance Rate	6,4%
Rate Looking for work for the first time	0.65%
Inactivity Rate	36.35%

Source: Own preparation from INE (2015)

Descriptive statistical analysis of the Economically Active Population

The study population corresponds to Venezuelans of working age, that is, whose age is greater than or equal to 15 years. The sample extracted was of 81,676 people of whom several variables were analyzed, information that was extracted of the Survey of Households by Sampling (SHS) of the second semester of the year 2012. Of these data, a uni and multivariate descriptive statistical analysis was given for the characterization of the population under study, which serves as input for the construction of a national framework of qualifications.

The SHS is a statistical research that has been carried out in Venezuela every six months since 1967, and arose in response to the need to have information on the

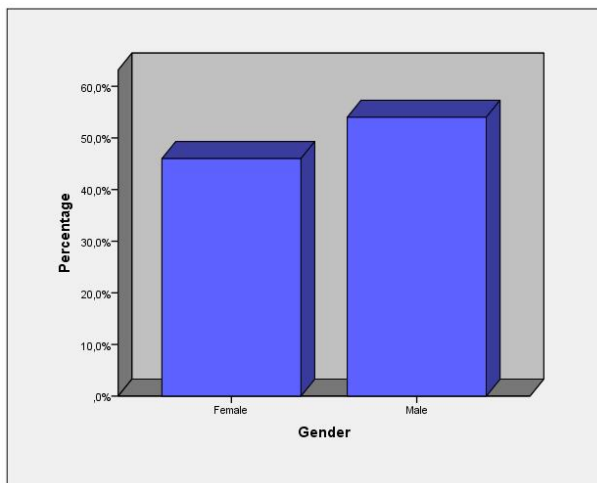
structure, evolution of the labor market and the socioeconomic characteristics of Population (Instituto Nacional de Estadística, 2013).

From 81,676 Venezuelans there were analyzed the variables: gender, age, educational level, literacy, occupation, and living region for the person interviewed during the analyzed period.

Statistical analysis was performed using the SAS statistical package, and the analysis consists of two parts: descriptive analysis and multiple correspondences analysis. The most important results are shown below.

The gender variable only has two modalities, which correspond to the female gender and the male gender. Of the Venezuelans included in the study, 46.08% are female and 53.92% are male, as can be seen in the bar diagram (Graph I).

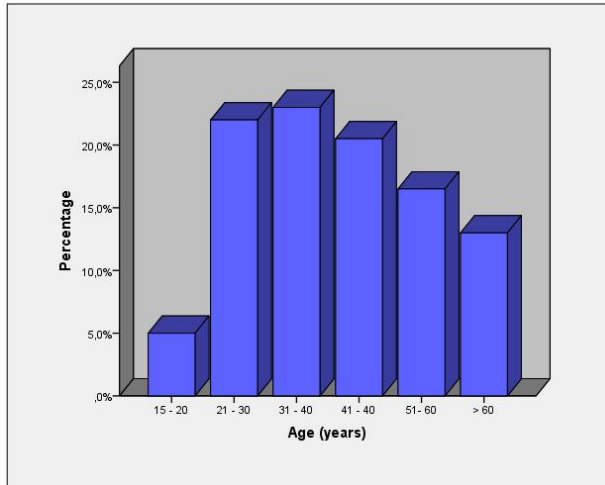
Graph I: Bar chart by gender



Source: based on SHS (2012).

The age variable was grouped into six modes or categories (Graph II). A group was formed with the youngest Venezuelans between the ages of 15 and 20. Four groups consist of decades of 21 to 30 years, 31 to 40 years, 41 to 50 years, 51 to 60 years and the last group by Venezuelans with ages greater than or equal to 61 years. Graph II shows that the age groups most frequently correspond to the decades of 30 years (22.40%), followed by the decade of the 20 (22.01%). This result was to be expected, since it is the two decades in which there is a greater percentage of people employed.

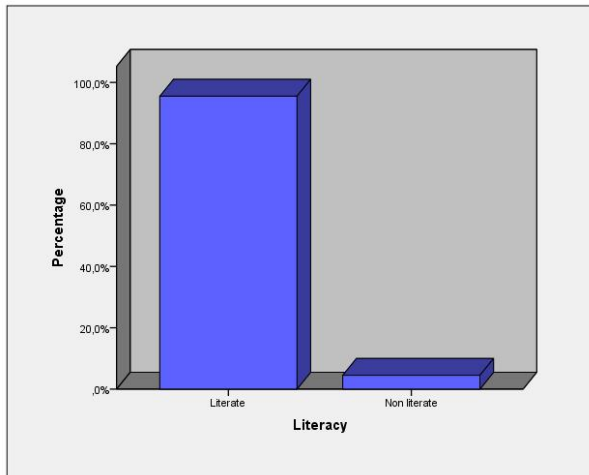
Graph II: Bar chart by age



Source: based on SHS (2012).

For the variable literacy there are two types or categories: literate and non-literate. Of the people included in the study, 95.35% were literate at the time of the SHS, and only 4.65% were non-literate, as shown in Graph III.

Graph III: Bar chart for literacy

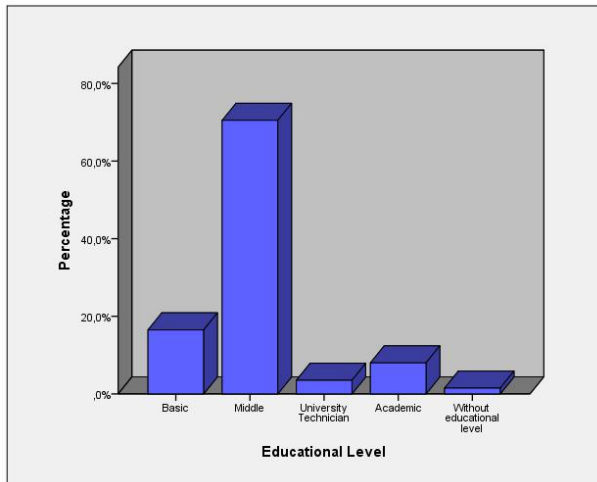


Source: based on SHS (2012).

The educational level of the people has been grouped into five classes or categories that correspond to basic education, secondary education, university

technical superiors (TSU), university education and without educational level. From the people included in the study, 70.47% have a secondary education, that is to say that a group of these can be middle technicians and are qualified in a particular office, 16.68% basic education, 7.97% university education, 3.25% are TSU and 1.63% without educational level, as can be seen in Graph IV.

Graph IV: Bar chart by educational level



Source: based on SHS (2012).

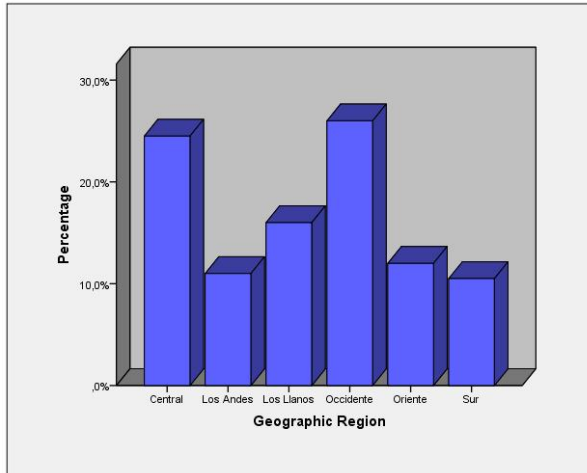
The geographical region variable refers to the State where the place of residence of the persons included in the study is located. Venezuela has 23 States and one Capital District, which were grouped and conformed six regions or geographical areas as follows: Region

- Central Region: Conformed by States Aragua, Carabobo, Miranda and Capital District.
- Los Andes Region: conformed by States Mérida, Táchira and Trujillo.
- Los Llanos Region: conformed by States Apure, Barinas, Cojedes, Guárico, Portuguesa and Yaracuy.
- West Region: conformed by the States Falcón, Lara and Zulia.
- East Region: conformed by the States Anzoátegui, Monagas, Nueva Esparta and Sucre.
- South Region: conformed by the States Amazonas, Bolívar and Delta Amacuro.

For this variable, the results reveal that approximately 50% of the people included in the study come from the central and western regions, a result that was to be expected since these regions are composed of States that have some of the most populated cities of Venezuela, in which much of the country's economic activity is concentrated, as well as the public organizations. The regions with the lowest

representation in the SHS are the Andes region and the South region, as can be seen in Graph V.

Graph V: Bar chart by geographic region



Source: based on SHS (2012).

The most relevant variable in the study is the one related to the occupation of Venezuelans. When the sample of 81,676 people belonging to the economically active population was found, a great diversity of occupations was found that were grouped in eighteen (18) classes or modalities according to their similarity and the educational level required for the performance of a particular occupation.

Table IV shows the occupation modalities with their respective absolute frequency and percentage. Of these results, it should be noted that 15.83% of the people included in the study work as salesmen, promoters or in public service. The second category with the highest percentage of occupation is agriculture and related activities with 13.49%, and the third category with the highest percentage of occupation is that of the cleaners or persons who act as custodians or cleaning staff in public or private institutions.

The least represented occupations are persons employed in maritime, air transport, university teachers and researchers, military personnel and workers in the petrochemical industry. There is a group of people belonging to the EAP that reported as an occupation at the time of the survey to be part of the informal economy. These people, usually, are street vendors or are dedicated to the rental of mobile phones.

Table IV: Occupations reported in the second half of 2012 SHS

Occupation	Frequency	%	Occupation	Frequency	%
Administrative - Legal	5078	6.22	Informal	3556	4.35
Air – Maritime	218	0.27	Petrochemistry	894	1.09
Farming	11020	13.49	Health	2030	2.49
Craftsmen	2.2	2.71	Security	2530	3.10
Cleaners	9042	11.07	Transport	5255	6.43
Goods and services	2828	3.46	Office work	6102	7.47
Building	7127	8.73	Technicians	5369	6.57
Basic education	4885	5.98	University students	336	0.41
Armed forces	266	0.33	Sellers	12930	15.83

Source: based on SHS (2012).

Although there is a system of uniform classification of occupations accepted and applied at international level (ISCO), Venezuela does not use it. This ISCO system establishes the existence of ten large groups, as presented in Table V below, each group is divided into main subgroups, these are divided into subgroups and the latter into primary groups of occupations.

Examining this classification, it is evident that the one used in the investigation is broader, in general it was tried to group the sector to which belong the occupations of the Venezuelans included in the study. In the health sector, for example, Venezuelans whose occupations are associated with this sector were grouped together, and they were considered doctors, nurses, laboratory technicians, radiologists, bioanalysts, dentists, pharmacists, among others. However, if some of these groups are fused, the ISCO classification is obtained.

Table V. Groups and main subgroups of the International Standard Classification of Occupations (ISCO)

Group	Description
1	Directors and Managers 11 Executive Directors, Public Administration Directors and members of the Executive and Legislative Bodies 12 Managing and Commercial Directors 13 Directors and Managers of Production and Operations 14 Managers of hotels, restaurants, shops and other services
2	Professional scientists and intellectuals 21 professionals sciences and engineering 22 Health professionals 23 Teaching professionals 24 Specialists in organization of public administration and business 25 professionals information technology and communications

	26 Professionals in law, social sciences and cultural
3	Technicians and associate professionals 31 professionals sciences and engineering midlevel 32 associate professionals health 33 associate professionals in financial operations and administrative 34 associate professionals Legal, social, cultural and related 35 Technicians information technology and communications
4	Administrative support staff 41 Clerks 42 Employees dealing directly with the public 43 Employees and accounting charge of registration materials 44 Other administrative support staff
5	Service workers, salesmen and markets 51 personal services workers 52 Sellers 53 personal care workers 54 Personal protection services
6	Farmers and workers skilled agricultural, forestry and fishery 61 Farmers and skilled workers in farms with for the market 62 qualified forestry workers, fishermen and hunters 63 Subsistence farmers, fishers, hunters and gatherers subsistence
7	Officers, workers and craftsmen of mechanical arts and other crafts 71 officers and construction workers, excluding electricians 72 officers and operators of metallurgy, mechanical engineering and related 73 Craftsmen and operators of graphic arts 74 specialized in electricity and electronic trades workers 75 Operators and official food processing, clothing, cabinetmakers, other artisans and related
8	Plant and machine operators, assemblers 81 Stationary plant and machinery 82 Assemblers 83 Drivers and mobile-plant operators
9	elementary occupations 91 Cleaners and helpers 92 Agricultural, forestry and fishery laborers 93 Labourers in mining, construction, manufacturing and transport 94 Food preparation assistants 95 Peddlers and related services 96 Refuse workers and other elementary occupations
0	military occupations 01 officers of the armed forces 02 NCOs of the armed forces 03 Other members of the armed forces

Source: based on OIT (2008)

Multiple correspondence analysis (MCA)

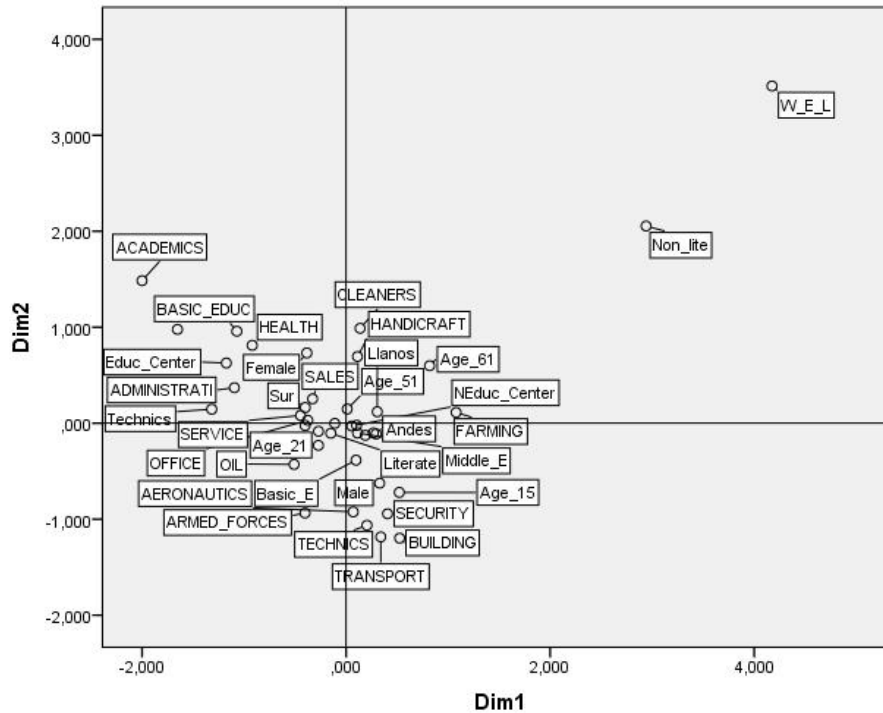
The MCA is a statistical technique that is part of multivariate data analysis, which allows projection on a Cartesian plane relations between modalities of a group of qualitative variables, which in this case correspond to variables drawn from the Survey of Household Sample obtained in the second half of 2012. This technique was first described by the French Jean-Paul Benzécri, and is based on the decomposition of a frequency hypertable or frequency matrix called Burt matrix (Lebart *et al.*, 1984; Escoffier *et al.*, 1992).

Using the decomposition in eigenvalues and eigenvectors, the coordinates (dimensions) that will be used to represent a Cartesian plane modality of qualitative variables under study are obtained. In this particular application, the MCA considering the variables age, gender, literacy, educational attainment, attendance at a school, region and occupations is done. For this analysis the following results can be presented:

- The statistical value $\chi^2 = 3.006.492$ suggests that the joint independence hypothesis is rejected, therefore it is possible to perform the Multiple correspondence analysis.
- Concerning the quality of representation, the best represented variables are the gender, the literacy and in smaller level, the educational level. Occupations and regions are poorly explained.
- As the goodness of fit, it can be commented that the eigenvector or dimension 1 (x - axis) explains better the modalities of literacy, age greater than or equal to 61 years old, without education and persons engaged in activities associated with agriculture and the university sector. On the other hand, the eigenvector or dimension 2 (y - axis) explained in greater proportion the modalities of the gender variable and literacy together with people without education, janitors and construction workers and other duties associated with the construction.

However, there are more interesting relations when considering the dimensions of MCA and a quadrant analysis as shown in Figure III and Table VI.

Figure III: Representation of the first two dimensions of the MCA



Source: based on SHS (2012).

Table VI: Quadrants Analysis

<p>Second Quadrant: In this quadrant can be found female people mainly inhabiting the south region. The educational level associated with these people is Superior Technical University (STU) or University and by the time of the survey were attending a school. These people have occupations in the area of goods and services, administrative (managers, accountants, bookkeeper, among others), basic and middle education teachers or professionals and technicians in the health sector, office work and sellers in general.</p>	<p>First Quadrant: This quadrant are mainly those who inhabit the Llanos region, aged between 51 and 60 years or over 61 years usually have no educational level and therefore are not literate. Occupations associated with these people are agricultural activities (agriculture, livestock, and beekeeping, among others), janitors and artisans.</p>
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<p>Third Quadrant: The third quadrant includes people living in the central region, aged between 21 and 30, 31 and 40 and 41 and 50 years. They are literate and engaged in the armed forces and the petrochemical industry</p>	<p>Fourth Quadrant: In this quadrant there are represented male persons that inhabit Los Andes, West and East regions. They are the younger people, because age is between 15 and 20 years. The educational level associated with these people is basic education and middle education, and those who at the time of conducting the survey were not attending an educational center are also associated. Occupations associated with these individuals are construction and other related trades sector, security and civil protection, technicians (electricians, electronic, mechanical, electromechanical, among others), workers in the airline business - maritime and informal workers (vendors).</p>
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Source: based on SHS (2012).

Reviewing the multiple correspondence analysis presented in Table VI, susceptible groups to perform learning validation are the followings:

- People located in the first quadrant, i.e. those engaged in agriculture activities and especially artisans. In this last group are embroiderers, weavers, painters and plastic artists. In this case it can be designed State policies at the state level that can certify the knowledge on to general food agriculture area and in to handcraft area.
- People located on the second and third quadrant are part of the participants in the formal education, whose labor sectors require formation at Superior University Technical level or university level and therefore will not be key objectives within the creation or a national qualifications framework.
- People located in the fourth quadrant, whose occupations are associated with the construction industry, are technicians (electricians, electronic or mechanics, electromechanical, mechanics, mechanics, machines operators, among others), and informal vendors. In this case, it can be designed State policies that can certify knowledge in the construction and trade related areas.

- From the geographic point of view, the multiple correspondence analysis allowed detecting occupations that can be certified by region (Table VII). This suggests that State policies may be sectorized by regions.

Tabla VII: Suggested Certifications by region

Region	Activities
Los Llanos	Agriculture and related activities such as farming, fishing, poultry and beekeeping. Cleaners and janitors Artisans: including in this group embroiderers, weavers, potters, woodworkers, among others.
Central South	Office work (secretaries, clerks, messengers, etc.) vendors
Los Andes West East	Construction (masons, plumbers, blacksmiths, welders, carpenters, machine operators) Technicians (electricians, mechanical, electronic, electromechanical) Informal Workers or vendors

Source: Own preparation

Table VIII shows the correspondence between the occupation sector used in the research for Venezuela and the codes of the associated subgroups in ISCO - 08. This means, in the investigation for Venezuela, occupations reported in the Sampling Household Survey were grouped according to their affinity or similarity, and not according to the level of studies or training required for occupations. Only in some of them are the primary groups placed. Only for university professors and belonging to a research center, were assigned the literal 2 of the group of professionals, scientists and intellectuals, since in the universities are gathered professionals from all areas of knowledge.

Tabla VIII: Correspondence between occupational sector used in the research in Venezuela and the codes of the associated subgroups in ISCO – 08

Occupation (Venezuela)	Code ISCO-08	Description
Administrative - Legal	112	Managing Directors and Chief Executives
	121	Business Services and Administration Managers
	122	Sales, marketing and development managers
	241	Finance professionals
	242	Administration Professionals
	261	Legal Professionals
	331	Financial and Mathematical Associate
	332	Sales and Purchasing Agents and Brokers
	341	Legal, Social and Religious Associate Professionals
	431	Numerical Clerks

Air – Maritime	315 511 835	Ship and Aircraft Controllers and Technicians 3151 Ships’ Engineers 3152 Ships’ Deck Officers and Pilots 3153 Aircraft Pilots and Related Associate Professionals 3155 Air Traffic Safety Electronics Technicians Travel Attendants, Conductors and Guide Ships’ Deck Crews and Related Workers
Farming	611 612 613 621 622 631 632 633 634	Market Gardeners and Crop Growers Animal Producers Mixed Crop and Animal Producers Forestry and Related Workers Fishery Workers, Hunters and Trappers Subsistence Crop Farmers Subsistence Livestock Farmers Subsistence Mixed Crop and Livestock Farmers Subsistence fishers, hunters, trappers and gatherers
Handicraft Workers	731	Handicraft Workers 7313 Jewellery and precious metal workers 7314 Potters and related workers 7317 Handicraft Workers in Wood, basketry and related materials 7318 Handicraft Workers in textile, leather and related materials 7319 Handicraft Workers no elsewhere classified
Cleaners and Helpers	911 912 961	Domestic, Hotel and Office Cleaners and Helpers Vehicle, Window, Laundry and other Hand Cleaning Workers Refuse Workers
Goods and services	133 134 141 142 143 243 333 351 352 512 514 516 933 941	Information and Communications Technology Services Managers Professional Services Managers Hotel and Restaurant Managers Retail and Wholesale Trade Manager Other Services Manager Sales, Marketing and Public Relations Professionals Business Services Agents Information and Communications Technology Operations and User Support Technicians Telecommunications and Broadcasting Technicians Cooks Hairdressers, Beauticians and Related Workers Other Personal Services Workers Transport and Storage Labourers Food Preparation Assistants
Building	214 216 311	Engineering Professionals (excluding Electrotechnology) Architects, Planners, Surveyors and Designers

	312 711 712 713 721 722 931	Physical and Engineering Science Technicians Mining, Manufacturing and Construction Supervisors Building Frame and Related Workers Building Finishers and Related Trades Workers Painters, Building Structure Cleaners and Related Trades Workers Sheet and Structural Metal Workers, Moulders and Welders, and Related Workers Blacksmiths, Hammersmiths and Forging Press Workers Mining and Construction Labourers
Basic education	233 234 235 342	Secondary Education Teachers Primary School and Early Childhood Educators Other Teaching Professionals Sports and Fitness Workers
Armed forces	01 02 03	Commissioned Armed Forces Officers Non- commissioned Armed Forces Officers Armed Forces Occupations, Other Ranks
Informal	521	Street and Market Salespersons
Petrochemistry	214 311 313	Engineering Professionals (Excluding Electrotechnology) Physical and Engineering Technicians Process Control Technicians
Health	221 222 223 224 225 226 321 322 323 324 325	Medical Doctors Nursing and Midwifery Professionals Traditional and Complementary Medicine Professionals Paramedical Practitioners Veterinarians Other Health Professionals Medical and Pharmaceutical Technicians Nursing and Midwifery Associate Professionals Traditional and Complementary Medicine Associate Professionals Veterinary Technicians and Assistants Other Health Associate Professionals
Security	541	Protective Services Workers 5411 Firefighters 5412 Police Officers 5413 Prison Guards 5414 Security Guards 5419 Protective Services Workers Not Elsewhere Classified
Transport	831 832 833 834	Locomotive Engine Drivers and Related Workers Car, Van and Motorcycle Drivers Heavy Truck and Bus Drivers Mobile Plant Operators

Office work	411 412 413 421 422 621	General and Keyboard Clerks Secretaries (general) Keyboard Operators Tellers, Money Collectors and Related Clerks Client Information Workers Forestry and Related Workers
Technicians	311 723 741 742 821	Physical and Engineering Science Technicians Machinery Mechanics and Repairers Electrical Equipment installers and Repairers Electronics and Telecommunications Installers and Repairers Assemblers
University students	2	Professionals (in All Science Areas)
Sellers	522 523 524	Shop Salespersons Cashiers and Ticket Clerks Other Sales Workers

Source: Own preparation from OIT (2008)

4. Next steps for proposing a National Qualifications Framework

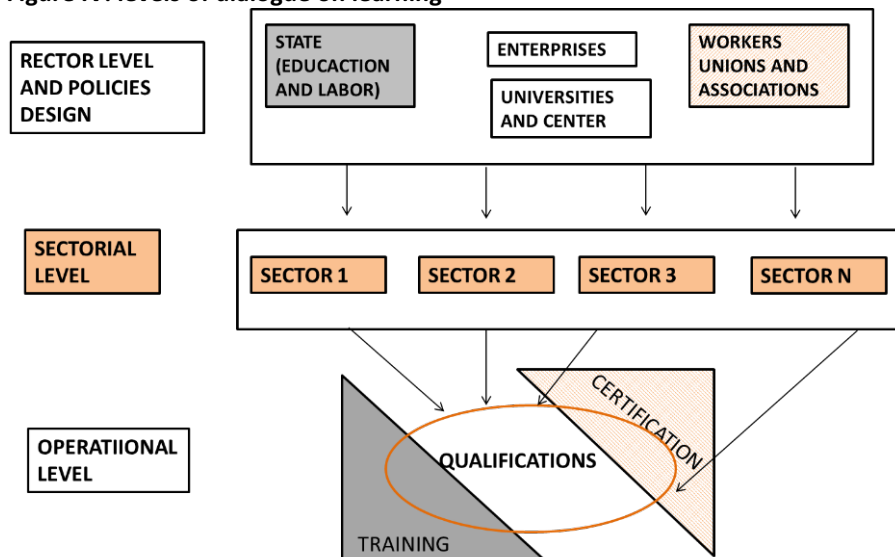
In Venezuela a legal framework is constructed for education and work. Venezuela has signed agreements with the ILO. However, Venezuela needs to develop a NQF, to have relevant qualifications that facilitate lifelong learning and employability through standardization, evaluation and certification processes. In this first enquiry into the potential of a NQF in Venezuela, that might constitute an exploratory and diagnostic stage around the working-age population and the formative educational context, the identified areas of participation and interest groups are given by:

- State or Government through representatives of the Ministry of Popular Power for Education, Ministry of Popular Power University Education, Science and Technology and the Ministry of Popular Power for Labor and Social Security and other related Ministries, which policies and programs have to be articulated and creating a regulatory function concerning the NQF.
- Business and enterprises Sector, through the Federation of Chambers and Associations of Commerce and Production in Venezuela (FEDECAMARAS), which corresponds to the main business association of Venezuela. Companies demand qualified workers, they will provide key information about the labor market, and the NQF needs to respond to those labor market needs.
- Workers, through different unions or public and private associations
- Educational and Training Institutions and Research and Development Centers, which correspond to training providers, from which the participation of the teaching community is required. In the educational-training centers the curriculum or learning programs are designed, the knowledge associated with the qualifications is imparted, this means that the qualifications are formatively translated.

According to Billorou and Vargas (2010), three levels of dialogue between social actors are distinguished: rector level, sectorial level and operational level. Figure IV shows the relationship between these levels of dialogue, highlighting the role of the State in the educational training activity, and workers as the ones who will require the certification of experiences and knowledge:

- At the rector level, policies concerning qualifications are designed, the NQF is designed and actions have to be taken to monitor and evaluate impact results, at this level the State intervenes through the ministries and/or agencies responsible for Education and work, enterprises, universities, training centers and workers through trade unions and associations.
- The sectorial level establishes the competences, standards and qualifications of each particular occupation sector. At this level the needs and strategies for the human resource development in the particular sectors are determined.
- At the operational level, the institutional arrangements are implemented once the NQF is implemented. The maintenance and updating, quality assurance, resource management and certification of competencies of the NQF are held.

Figure IV: levels of dialogue on learning



Source: Own preparation from Billorou and Vargas (2010)

According to Billorou and Vargas (2010) and Tuck (2007), the trend is towards the design of flexible frameworks, which is a bridge between the formal education system and training for work. The ideal situation converges towards a transfer between education and vocational training through statements and agreements, especially with secondary education and technical or technological superior education. In addition, it is suggested that the NQF should be linked, this means,

that there should be a joint NQF for the education sector and the labor sector. In Venezuela, a pilot or a partial NQF for a particular sector, without the need to unify all education and vocational training could be implemented, but keeping in mind the importance of this linked activity.

5. Conclusions

This paper corresponds to an exploratory phase in Venezuela to determine the need for a National Qualifications Framework that is linked with the guidelines for Recognition, Validation and Accreditation of non-formal and informal learning of the UNESCO. It is evident that there are groups of people in Venezuela that are suspicious to the validation of prior learning. The examples and results both within sectors and occupations and in specific regions, could form the basis for the creation of a National Qualifications Framework in Venezuela, which will promote lifelong learning for the sake of improving training opportunities for individuals. Also, it can support the linkage of educational, business and organizational sectors seeking to develop the skills required by workers and the validation of prior learning, improving working conditions and opportunities in the labour market.

From the results obtained from the statistical analysis (descriptive analysis and multiple correspondence analysis), a set of categories of occupation and their geographical distribution in Venezuela was determined. Based on these results, a national qualifications framework can be created that encompasses and addresses the learning processes that are tuned in to the requirements of the labor market and the interests of individuals. Such a NQF should also (1) stimulate creating procedures for standard setting in learning programmes (formal and informal), (2) ensure the quality of training of involved staff members and (3) manage the process of incorporating the qualifications that need to be part of the national framework.

The steps that must be met after determining the qualifications to be incorporated into the national framework are: the formal adoption of the framework for government and business entities. Subsequently it should involve the education sector into the activities of formalization, structuring and establishment of agreements and responsibilities of all parties involved. Finally, the national framework can be adopted by the different public and private sectors and serve as a reference tool for incorporating new skills, when labor dynamics requires it.

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