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TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING
(TVET) IN LATIN AMERICA AND THE CARIBBEAN

A REGIONAL APPROACH TOWARDS 2030

► CRÉDITOS

Este informe ha sido elaborado por la Oficina Regional de Educación de la UNESCO para América Latina y el Caribe, OREALC/UNESCO Santiago, bajo la coordinación de Elspeth McOmish con el apoyo de Borhene Chakroun y Cecilia Barbieri.

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Las ideas y opiniones expresadas en esta obra son las de las autoras y no reflejan necesariamente el punto de vista de la UNESCO ni comprometen a la Organización.



BACKGROUND

The international community has set an ambitious **2030 Agenda for Sustainable Development**, whose goals, targets and indicators have been agreed upon by all countries in Latin America and the Caribbean (LAC). The 2030 Agenda for Sustainable Development has an integrated focus on development, pursuing poverty eradication in all forms and dimensions, inclusive and sustainable economic growth, the fight against inequality, the preservation of the environment, and decent work for all men and women.

UNESCO, as the United Nations agency responsible for education, is fully committed to the 2030 Agenda for Sustainable Development, and particularly Sustainable Development Goal (SDG) 4, “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. It also promotes the **Education 2030 agenda**, which is comprehensive, addresses key challenges and builds on the aspirations of the Education for All movement to “leave no one behind”.

This new roadmap, approved in Incheon at the World Education Forum (19-22 May 2015, Incheon, Republic of Korea), ascribes a significant role to technical and vocational education and training (TVET) in the fulfilment of its aspirations. In particular, the goals related to this type of education aim to promote equal access to quality TVET for men and women and vulnerable people, including the disabled and indigenous peoples, as well as increasing the number of young people and adults with technical and vocational skills for access to employment, decent work and entrepreneurship, by promoting inclusive and sustainable economic growth and supporting the transition to green economies and environmental sustainability. As the Education 2030 agenda is integral to the United Nations’ 2030 Agenda for Sustainable Development, these goals now represent global aspirations for all Member States. Thus, national TVET systems are challenged to contribute to meeting the present needs without compromising future generations’ capacities to fulfil their own.

In order to support the development of TVET in the LAC region within the framework of these agendas, the **UNESCO Regional Bureau for Education in Latin America and the Caribbean (OREALC/UNESCO)** has prepared this document, which analyzes existing challenges, sets out the current status of TVET in the region, and proposes a set of region-specific guidelines towards 2030. These guidelines are based on the recognition of the diversity of TVET systems in the region in terms of structure, institutionality, and governance in LAC countries, together with shared issues and challenges. They are in line with UNESCO’s Strategy for Technical and Vocational Education and Training for 2016-2021, which aims to support Member States’ efforts to increase the relevance of their TVET systems and provide all young and adult people with the necessary skills for employment, decent work, entrepreneurship and lifelong learning, and thus

to contribute to the 2030 Agenda on Sustainable Development. The purpose of this document is to encourage and guide governments to work on comprehensive TVET policies that foster TVET's ability to respond to the multiple economic, social and environmental requirements arising from this new scenario.

Two meetings organized by UNESCO fed into this regional effort. The first was the Regional Forum on TVET, called **Looking towards 2030: Strengthening Skills Development for Employment and a Better Future for All**, held in Montevideo, Uruguay (23-25 November 2015). The second was the Meeting of TVET Experts from Latin America and the Caribbean held in Santiago, Chile, on 5-6 May 2016. Both meetings fostered dialogue and the sharing of experiences, lessons and shared concerns across countries.

This document is divided into two parts. The first part presents the context and main challenges for the sustainable development of TVET in the region; it reminds readers of the origins, evolution and persisting challenges in key aspects of this education. The second part sets out a set of guiding principles and proposals for advancing towards the Education 2030 Agenda.

It must be underlined that pointed out that the perspective towards 2030 proposed in this document should be considered as a starting point for a broader reflection and discussion on TVET in Latin America and the Caribbean, and not as a static and completed vision. TVET changes people, economies, and societies, while being profoundly impacted by the result from those same changes. In this sense, TVET must always be adapted to the context in which it is delivered, evolving constantly in order to be relevant and valuable, and to contribute to sustainable development.



CONTEXT AND TRENDS OF TVET IN LATIN AMERICA AND THE CARIBBEAN

1.1 A REGIONAL OUTLOOK

The Latin American and the Caribbean region has shown significant progress in poverty reduction, but challenges remain in terms of equity and sustainability. This middle-income region shows significant heterogeneity in terms of the level of development among countries, and several countries present lags that require urgent attention.

Some of the main trends in the current regional scenario affecting TVET are shown below:

> INTERNATIONAL INTEGRATION

Due to steep falls in the prices of raw materials and lower international demand for goods produced by the region, the years between 2013 and 2015 were the worst period for exports in eight decades. In order to revert the resulting decrease in foreign exchange earnings due to heavy price falls in primary products, countries must participate in a more active international integration that prioritizes industrial policy, diversification, trade facilitation, and intra-regional integration (ECLAC, 2015). Intra-regional trade agreements (the Pacific Alliance, MERCOSUR, CARICOM) and inter-regional trade agreements (Trans-Pacific Partnership Agreement, General Agreement on Trade in Services) are fundamental components in reverting the decrease in foreign exchange earnings.

Nonetheless, a more important challenge are the adjustments that countries must make in order to go beyond raw materials exports, such as investing in new technologies and infrastructures, improving production processes and human capital development.

> THE REGION AND ITS MIDDLE-INCOME TRAP

Many economies in the region have fallen into the ‘middle-income trap’. Wage costs are too high to compete with countries with a low-cost workforce, but nor can they compete with developed countries at the top of the value chain.

In order to free themselves from this trap, countries need a structural remodelling allowing them to diversify their production matrix and innovate, as well as better production standards and good quality jobs. They must make a transition to economic models that are more based on knowledge and skills. Comparative international experience shows that countries able to accumulate a larger stock of quality human capital will have better chances of avoiding the middle-income trap (Eichengreen, Park and Shin, 2013).

> PRODUCTIVITY, RESEARCH & DEVELOPMENT (R+D), AND INNOVATION

According to estimations by the Inter-American Development Bank (IADB), productivity in Latin America and the Caribbean is at half of its potential. It is significantly lower than in countries such

as China, India, the European Union (EU-12), and lower than the mean for emerging and developing countries. It is also lower than average at the global level (IADB, 2016).

The increased productivity required of LAC countries is very closely related to policies promoting R+D, innovation, and human talent management. Implementation of such policies involves taking a series of actions, such as: linking research to production, correcting the lack of coordination among different stakeholders in innovation systems, promoting training required for technological innovation, fostering competition mechanisms such as resource allocation instruments for innovation at universities and TVET centres, and assessing results and impacts.

When compared to OECD countries, the LAC region shows low investment in R+D and has low private sector participation in R+D. The main exports have little to do with technology and innovation, and foreign direct investment is not concentrated on high-tech sectors, as is the case in Asia with the same investors. In order to reverse this situation, knowledge accumulated by the workforce should be transformed into an engine that activates innovation and increases its intensity. This requires institutions to be open to perceive changes in the production context and its transformation into knowledge.

> DEMOGRAPHIC TRENDS

Countries in the region face gaps in equality and sustainability, within a framework of demographic trends characterized by a decreasing fertility levels and extended life expectancy, leading to a change in the age group structure of the population. By the end of 2010, the region of Latin America and the Caribbean had stopped having a large youth population, and was turning into a population with a predominance of young adults and adults, as happened previously in Europe and North America (ECLAC, 2015).

At the same time, a regressive trend in migration flows to other regions can be observed, with greater levels of intra-regional migration. From 2000 to 2010, the number of Latin Americans living in countries different to their countries of birth increased to 32%, mainly due to the political stability and economic improvements of some destination countries (Martínez and Orrego, 2016).

> INCOME DISTRIBUTION AND POVERTY

Between 1990 and 2015, the poverty rate in the region decreased from 48% to less than 30%, as a result of policies implemented during a prosperous decade. However, the countries of Latin America and the Caribbean still, as a whole, have one of the worst income distributions. Income for the richest 10% is 14 times higher than for the poorest 40%, and other inequalities such as gender and urban-rural divides remain despite the Gini coefficient decreasing by 3.2% to a 0.8% annual rate between 2010 and 2014 (ECLAC, 2015).

6 Moreover, while the region is strongly urban, a significant part of the LAC population lives in the countryside. This population includes women who predominate in the rural informal economy, in precarious working conditions and persistent poverty. Poverty in rural populations decreased only from 62% to 49% over the last decade (2002-2011) despite an increase in the export of agricultural products, of a growth in agriculture, and economic growth.

> EMPLOYMENT

Progress in implementing structural changes also involves confronting existing deficits in employment and decent work. In 2015, the unemployment rate significantly increased for the first time in the five years, bringing this indicator to the level of that found in 2010.

Short-term indicators do not invite optimism, and demand for labour is still very low. The employment rate, which started to show negative year-to-year variations in the second trimester of 2013, continued with in this trend in the following ten trimesters. Unemployment for women

also increased considerably, reaching 8.2% (compared to 5.9% in men) in the third trimester. In addition, youth unemployment started to increase in 2013 — on average tripling that of adult unemployment — reaching 15.3% in the third trimester of 2015.

The number of years of education level of the labour force, however, has increased. The percentage of employed people having secondary education increased from 43.2% to 48.5% between 2005 and 2014, while employed people with higher education increased from 14.5% to 20.5% (ILO, 2015a). Despite this, labour market informality still remains and continues to affect 47.7% of employed people. Data from ILO suggest that in the region, of the 20% of the population with a higher income, 30% of people are in informal employment, whereas of the 20% of people with a lower income, 73.4% of people are in informal employment.

> MICRO AND SMALL ENTERPRISES (MSES)

Latin America and the Caribbean region has always had a high number of MSEs and a very low number of mid-sized enterprises. The latest data available show that 11 million enterprises have at least 1 worker other than the employer, with most (around 10 million) of them being MSEs and only 1 million being middle and large enterprises. MSEs generate 47% percent of jobs, i.e. for 127 million people. Additionally, 76 million people are self-employed, representing 28% of jobs. Together, MSE workers and self-employed people represent three-quarters of jobs. Another 5% correspond to work in a domestic context, and only 19% by middle and large enterprises.

This prevalence of MSEs and self-employment in the production structure, and the lack of mid-sized enterprises, represents a brake on growth of productivity and quality employment. Due to this structure, 80% of the labour force works in sectors having a production level that is lower than average in LAC, and only 20% of the labour force works in sectors having a production level higher than average, directly translating into inequalities in the labour market (ILO, 2015b).

> THE 'GREEN ECONOMY' AND GREEN JOBS

The 'green economy' is defined as a set of inclusive and comprehensive-production models that takes into account environmental and social variables. Its attention to environmental impact, the efficient use of resources and its socially-inclusive vision make it a strategic economic model for the region. The focus is on de-linking economic growth from the growing use of natural resources and the adverse environmental impacts that it produces, which makes it a promising strategy to ensure prosperity for the future (CAMPOS, MELINA, 2010).

The Latin America and the Caribbean region still has a long way to go in order to generate national commitments for a green economy. However, there are promising efforts such as the Green Jobs Initiative launched jointly by the United Nations Environment Programme (UNEP), the International Labour Organisation (ILO), the International Organisation of Employers (IOE), and the International Trade Union Confederation (ITUC). This Initiative supports agreed efforts implemented by governments, employers and trade unions in order to promote consistent environmentally-sustainable policies and efficient programmes to create green jobs and decent work for all in a world challenged by climate issues (ILO, 2012). It also focuses on training efforts on this issue made by the Inter-American Institute for Cooperation on Agriculture (IICA), which works with 34 country members on the American continent and is based in Costa Rica.

> EDUCATION

On the education front, schooling rates in primary school have increased; transition and participation rates in secondary school have also increased; but, in absolute terms, they vary in the region and are reduced at the end of secondary school. Gross rates of schooling in lower secondary school are 73% in the Caribbean and 99% in Latin America, while they are 47% and 77% respectively at the upper secondary level (UNESCO, 2015b). Similarly, differences in educational

achievement rates in upper secondary school are also extreme. In 2013, 80% of youngsters in the fifth quintile completed secondary school, while only 34% in the first quintile completed it (Trucco and Ullmann, 2015).

A World Bank study carried out in 8 countries of the region states that the main reason why students drop out of secondary school is that: “they were not interested in going to school, or subjects were not interesting to them”, which raises questions about how relevant subjects are (Székely, 2015) or what education means to these populations in their lives.

Consistent with the previous data, it is noted that the percentage of young people aged 15-years and older youngsters attending school decreases. School dropout is accompanied by an increase in labour market access and, when unsuccessful, by an increase in young people who are not in education or working. Young people not working make up more than 20 million in the region, representing 20% of youngsters between 15 and 24 years. Of these, two thirds are women, and almost 60% come from poor and vulnerable homes, contributing to the perpetuation of gender and income inequalities from one generation to another (De Hoyos, Halsey, and Székely, 2016).

Regarding young people in the school system, PISA 2012 shows that, while adolescents' secondary school performance has improved by more than the average in OECD countries, there is considerable margin for progress. The eight countries participating in PISA 2012¹ continued to show low results in the three tested subjects (mathematics, sciences, and reading), positioning themselves in the lowest third (over 65 countries) (OECD, 2014). The gap between the poorest quartile and the richest quartile in each country, which equals to a two-year schooling difference.

Results from TERCE 2013² shows a similar scenario in primary school, indicating that despite the improvements made demonstrated in SERCE 2006³, the regional performance is low. One-third of 3rd grade students put in a poor performance in mathematics tests, and in performance in science tests, this figure reached more than 45%. It is therefore apparent that education challenges in the region go beyond coverage and grade retention, since they are associated with qualitative aspects in the education experience (UNESCO, 2014).

> SUPPLY OF AND DEMAND FOR QUALIFICATIONS

In direct relation to education quality, there appears to be a profound disconnection between training provided by the educational system and the skills demanded by the production sector. Among emerging regions, Latin America and the Caribbean presents the most difficulties related to skills demanded by the market, with 36% of companies in the formal sector declaring having problems finding an adequately trained labour force. This result contrasts with the global average of 21% and 15% across OECD countries. Companies with intensive production processes in skills training face the most severe difficulties, especially those in sectors with higher levels of sophistication, connectivity and complexities in the set of tradable industries (OECD, 2014). This is challenging, considering that those sectors can be critical to the structural transformation process in the region, whose production matrix is focused on low value-added industries and low productivity.

> THE WAY FORWARD

TVET plays a key role in driving connections, complementarity, and updating of training provided by the educational system, together with labour market demands and demographic trends. In particular, TVET is called to accompany changes in the structural production matrix required by the region in order to overcome extreme inequalities. For this to happen, investment in physical

1 Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, and Uruguay.

2 Third Regional Comparative and Explanatory Study by OREALC-UNESCO, where 15 Latin American countries and Nuevo León state of Mexico participated.

3 Second Regional Comparative and Explanatory Study by OREALC-UNESCO.

and human capital, as well as research and development, should be higher, and the rhythm of investment should be similar to other more dynamic emerging market economies.

Given changes in age group structure of the population, TVET efforts must go beyond making the school-to-work transition easier to young students. Since adults will become a critical mass from labour force, TVET has to face another challenge related to providing and updating their skills. Growing intra-regional migration also forces TVET to go beyond borders so educational credentials might be recognized in other countries and facilitate the labour market integration of migrants.

On the educational front, demands for decreasing persistent inequities are multiple and higher than those in the past. TVET should not only foster access to and continuity in school but also facilitate transition to subsequent educational levels, for which basic skills are essential.

Against these challenges, the need for strategic guidelines for Latin America and the Caribbean which help countries to improve and strengthen their TVET systems within the framework of Education 2030 agenda aspirations is pressing. Nevertheless, this education should be considered as heterogeneously configured in and among all LAC countries, showing dissimilar issues and inner logics based on their national educational provisions (secondary and higher education, or training for employment). In that sense, to revise the TVET's main features, progress, and constant challenges is relevant, by highlighting existing similarities and differences sometimes related to the origins of TVET.

1.2 THE CONFIGURATION OF TVET IN THE LAC REGION

1.2.1 Origin and Main Transformations

> FIRST STEPS

TVET started in Latin America and the Caribbean countries in a fragmented way. From the 1940s to the 1970s, vocational schools and some art-and-craft trainings as alternative schooling pathways to secondary academic training were naturally incorporated into school system structures. By the end of the XX century, TVET is fostered in the higher education in the form of intermediate-level programmes or technical degrees, which are implemented in a parallel area or within university.

Vocational training was provided as independent services which cover the workers' training needs, outside formal education settings. For some, vocational training services resulted from countries' calling to social stakeholders, mainly employer's and worker's organizations, in order to play a role in creating national development policies by providing training for qualified human capital (Llisterri, Gligo, Homs, and Ruiz-Devesa, 2014). For others, vocational training services are a viable response to the need for promoting the lower class through a purely educational activity, but outside education ministries.

The **National Service for Industrial Training** (SENAI) created in the early 1940s in Brazil, shows a pioneer experience which expanded in the next decades across the other countries. Some examples were **SENA** in **Colombia** and **INCE** in **Venezuela** in the 1950s, and **INA** in **Costa Rica**, **SECAP** in **Ecuador**, and **INACAP** in **Chile** in the 1960s. However, some countries took different directions to fulfil this task; Argentina and Uruguay decided to incorporate accelerated training programmes for workers as additional activities in their technical schools (Cinterfor/ILO, 1990).

> STRUCTURAL REFORMS IN THE TVET OF SCHOOL SYSTEM

In general, secondary technical education was originated as an option into labour insertion, while academic education was a path towards higher education. Nevertheless, in order to update and to

improve the relevance of vocational education, different national structural reforms in the school system, implemented at different times, tried to tinge this dualistic purpose in higher education (De Moura Castro, Carnoy, & Wolff, 2000).

Two important non-exclusive reforms are identified in LAC countries:

- The first reform includes those aimed at eliminating training for employment from the national school systems, by promoting an unique curriculum containing some optional subjects or modes with different focuses, but with no vocational training as such. In the past, most of these national education reforms did not prosper, but they introduced variations inside the configuration of LAC countries' education systems, especially technical education.

Attempts to reproduce the American comprehensive school system in **El Salvador, Panama, Colombia** in the 1970s and the polymodal-school project in **Argentina** in the late 1990s are examples of unsuccessful innovations. With some exceptions, the **Brazilian** reform in 1997 can also be added to this unsuccessful group of innovations as well. It attempted to remove technical education from secondary education, for the provision of concomitant and subsequent technical training, but it finally recognized this model of technical education integrated into schools.

- The second one includes reforms put in place without affecting the vocational education specificity, creating diplomas that were analogous to academic diplomas which trained students for both labour insertion and continuation of studies when including a common core curriculum of general subjects and subject packages on specific fields of employment.

This second type includes the *Bachillerato Tecnológico* (technical diploma) degree created in **Uruguay** in 1997, the *Profesional Técnico Bachiller* (technical and vocational diploma) degree created in **Mexico** in 2003, and the *Bachillerato Técnico* (technical diploma) in **Ecuador** since 2011. In countries like **Chile**, where technical education was open to higher education from the beginning, changes reflect a shorter curriculum duration aimed at promoting a general training and reinforcing its technical education preparatory purpose in a discursive fashion.

> CHANGES IN VOCATIONAL TRAINING IN THE 1990S

From 1990 a vocational training originating in big, tripartite and monopolist public institutions also started to undergo significant changes, which resulted from the original model which showed difficulties in adapting to changes in the current socio-economic context characterized by high unemployment rates and significant transformations in production processes and in company organizational structures. In general, changes aimed at including not only working people as a target audience, but also specific groups with unemployment issues, such as women and young people for whom training-based programmes were developed. Many of these public institutions changed their legal status to non-profit private entities directly managed by national and sectorial business chambers, as is the case of FOMO, **Bolivia**, which became INFOCAL when transferred to *Confederación de Empresarios Privados* (Bolivian confederation of private business). Likewise, private companies were assigned training actions, while the State, a former provider of training, took a regulating and policy-making role. The unique controlling model is, thus, disassembled, making way to multiple forms of vocational training in the **LAC** region (Abdala, 2014; Ramírez, 2002).

CHART A › Trends in Labour Laws related to vocational training

Using a comprehensive, comparative analysis of labour laws in several countries in the Barbagemata region (2000), four vocational training trends in the 1990's were identified:

- i) A focus on economic considerations and on labour market integration as an attempt by countries to improve their levels of competitiveness levels, to provide qualified workforce for companies, and to facilitate workforce employability;
- ii) Expanding awareness of the right to receive training, which is pointed out and included in both national and international regulations;
- iii) Improving the decentralization process in the form of training provisioning in multiples places and its financing and management levels based on territorial dimensions;
- iv) iv) Increasing the significance of practical training and the resulting development of new training and employment contracts, together with the revaluation of training contracts.

> FOSTERING TVET OF HIGHER EDUCATION

Regarding higher technical education, one of the main transformations relates to the fostering of technical training provided by independent institutions in parallel to university, which is based on vocational training institutions that are formally promoted to tertiary education. In general, this occurred in countries with a high demand for higher education that attempt to increase tertiary education coverage by diversifying traditional university models and long-term degree training (Jacinto, 2013). Another significant but limited recent change is the academic drift phenomenon, which makes some education institutions to decide towards research and development by allowing them to provide bachelor's and post-graduate degrees. Technology schools in Colombia and polytechnic universities in Mexico are examples of this trend.

1.2.2 Organisation of TVET Provision

> HETEROGENEITY IN THE FORMAL EDUCATION SYSTEM

Although segmentation between secondary curricula with academic emphases and secondary curricula with vocational emphases prevails in the LAC region, provision variants for the latter are multiple. Technical and vocational education at the secondary level varies in terms of duration, denomination, and school's position on provision.

In general, duration in secondary level is similar to duration in university/college programmes, covering the last three years in secondary education. However, duration for TVE in secondary schools is six years in some countries like **Argentina** and **Venezuela**, while in others like **Chile** and **Colombia** it only takes two years.

There are some LAC countries where technical and vocational education is only provided in specialised institutions with a significant standing in technical and vocational education, just like the case of the *Colegio Nacional de Educación Profesional* (CONALEP) schools in **Mexico** and the *Universidad del Trabajo* (UTU) in **Uruguay**. Whereas, TVET provision is segregated across schools which also provide academic subjects in other countries like **Guatemala**, **El Salvador**, and **Ecuador**.

At the tertiary education level, diversity of training forms is even greater, due to different degree levels for this education in each country, with programmes lasting from 2 years to 5

years that can lead to diplomas comparable to university degrees (bachelor's degree, master's degree). This is complemented by institutional provision, since unlike traditional academic education provided by universities, TVE in tertiary education is provided by a wide range of universities with different business registrations according to the different degrees given by those institutions.

Each country has its own institutional and degree policies, making regional comparison difficult. Additionally, in countries that have progressed in integrating the different variants of TVET, higher education programmes can be also provided by vocational training institutions without supervision by the Ministry of Education, such as SENA in **Colombia**, and the "S" System in **Brazil**. Finally, in some countries like **Guatemala** and **Honduras** TVET in higher education is still exclusively provided by universities; therefore, TVET is not considered as an alternative education to university.

Institutional heterogeneity in the region should be considered in order to promote certification-recognition policies that support the previously mentioned migration processes.

> VOCATIONAL TRAINING AND PROVISION VARIANTS

There are three important organisational provisioning variants in the region identified in vocational training (Llisterri et al., 2014):

- The first variant refers to a national institution which establishes policies and acts as a TVET provider. Additionally, delegates vocational training provision to other institutions whether by contracting, accreditation, or different types of contracts, but always playing a regulating role. Some examples are INA in **Costa Rica**, INFOP in **Honduras**, INCES in **Venezuela**, and SENA in **Colombia**. In all of these countries, national entities are still perceived in the system as strongly structuring vocational training providers of it.
- The second variant shows a clear separation between entities which establishes training-for-work policies and strategies, and those providing training services. In this case, the State through the Ministry of Labour takes on a regulating and promoting role in vocational training provided by private institutions. This is the case for **Chile**, where SENCE works as a public entity that regulates policies without providing any training; this is also the case for **Argentina**, **Uruguay**, and **Trinidad & Tobago**. These latest countries also show a development of non-formal skills that continues to be facilitating in technical institution from the school system.
- In **Mexico**, **Brazil**, and **Ecuador**, among other countries the third variant shows a combination of the two variants above; countries have both specialized public entities establishing policies and promoting training by the private sector, and big national institutions with technical capabilities for establishing their own policies and directly providing education and training actions. For some authors, the coexistence of two variants responding to different logics reflects the presence in countries of logic vices from previous stages and the arising of new political approaches to vocational training that are not yet enough to reach the desired level of institutionalism (OAS, Dutra 1999).

1.3 KEY AREAS AND ON-GOING CHALLENGES

1.3.1 Access Coverage and Diversification

Secondary education has always been a privileged place for the implementation of TVET in the region. As a result, many countries have a wide and prevailing offer of technical and vocational education in upper secondary education. That is case for **Cuba**, **Chile**, **Ecuador**, and **El Salvador**,

where TVET enrollment accounts for over 40% of all enrollments. **Argentina, Colombia, Costa Rica, and Paraguay** show a TVET enrollment of 20%. At this level TVET offer in **Bolivia, Peru, Venezuela, and Nicaragua** is marginal or non-existent. However, in 2013 **Bolivia** started a gradual implementation of a technical-humanistic bachelor's degree in all institutions providing secondary education within the framework of a new law on education; a TVET expansion in schools is therefore expected in **Bolivia** (Contreras, 2015).

In lower secondary education, technical education provision is still present in the region, although less extended.

CHART B › Professional Agricultural Initiation (IPA) in Paraguay

The Agricultural Professional Initiation programme (IPA, by its acronym in Spanish) is a training modality aimed at students between 12 and 14 years old who have finished 6th grade in primary school. The objective is to develop basic technical skills that enable both incorporation in agricultural work in local settings, and continuity of studies in the formal education system. The IPA programme promotes a comprehensive community development by in-situ job experience in local farms, so that they can receive technical assistance from both professionals and apprentices. IPA allows rural youngsters to settle in their town and promotes the application of technologies in agricultural activities using technical, economic and environmental sustainability criteria.

Since its inception in 2005, the program has grown dramatically, increasing the number of participating schools from 35 to 700, and students from 1,680 to more than 22,300. A study carried out by the Ministry of Education and Culture of Paraguay in 2011 reported that the technical training provided to the students by the programme is seen as a basis for their future careers, encouraging school continuity. There are some pending studies for analysing the feasibility for creating IPAs in peripheral urban areas in Paraguay.

Source: Ministry of Education and Culture of Paraguay.

Over the last few years, countries such as **Paraguay, Uruguay** and **Mexico** have been fostering their basic technical programmes in order to decrease the number of dropouts in the first years of secondary school, particularly learners of lower socio-economic status or students living in rural areas. In these countries, as an alternative to technical degrees, vocationally influenced technical programmes aimed at young people who left behind school and are looking for early labour market integration are also provided in upper secondary education. These alternative technical programmes provide vocational skills, as well as facilitating the continuation of studies in higher education.

On the other hand, the trend in the **Caribbean countries** is to incorporate TVET into general education so all students develop their technical skills in school in the framework of CARICOM Regional Strategy for Technical and Vocational Education and Training (UNESCO, 2015a). In that sense, in countries like Barbados, Saint Kitts and Nevis, and Trinidad and Tobago, secondary school provide optional TVET subjects granting training and educational certifications by the Caribbean Examinations Council (CXC). In Jamaica, particularly, it is mandatory that all students have to learn skills

in TVET regardless of their training/educational orientation and where secondary education remains segmented between academic and vocational curricula (UNESCO, 2015a).

However, policies that set a new path for formal TVET in a more crosswise manner in the region are those aimed at positioning TVET in tertiary education, due to technical degrees at the secondary level are necessary but not enough for accessing good jobs (Jacinto, 2013). As a result, technical and vocational education at the higher education level is rapidly expanding, mainly in countries, such as **Colombia, Mexico, Brazil, Chile, and Peru** with the highest rates in secondary education completion in the region and with their own parallel-to-university institutional environment for providing TVET at

the higher education level. In **Chile** and **Peru**, the private sector has the deepest involvement in the provision of TVET at the higher education level, but new laws are being developed in order to foster the education sector by creating new public institutions based on the demand for TVET and the complementarity of the private sector offer.

In contrast, provisions by the public sector in **Colombia** and **Brazil** are relevant and commonly have the highest prestige and low costs, but they are not able to meet the existing demand for TVET and are mainly based in the big urban areas.

The creation of Regional Higher Education Centres (CERES, by its acronym in English) in the most unattended regions in **Colombia** in partnership with regional governments and the productive sector was one measure taken by the country to counteract the public sector's inability to meet the existing demand for TVET. CERES are under the supervision of higher education institutions and SENA; one-hundred and fifty five CERESs having an enrolment of 36,158 learners in 2013.

In **Brazil**, the National Programme for Access to Technical Education (PRONATEC, by the acronym in Portuguese) aims at the expansion of the Federal Network for Education, Science and Technology that provides technical and technological courses at intermediate and higher levels, as well as professional qualification courses aimed at workers. More than 200 new units were incorporated to the network in the 2011-2014 period, and 360 were additionally incorporated in 507 municipalities .

In the area of non-formal skill development, which shows low programme coverage statistics, TVET diversification results from the emergence of programmes for special populations, including socially at-risk young people, racial or ethnic minorities, immigrants, and low-skilled workers. At the same time, at both public and private levels there is an increasing decentralization in TVET provision.

In the first case, regional or local governments are responsible for TVET provision on the public level, while foundations and NGOs are responsible for TVET provision at the private level, as well as companies and unions, using vocational training as a positioning and strengthening strategy. The facilitation of a great coordination between stakeholders, firstly with the private sector, is one of the main challenges posed by this new provision architecture (Llisterri et al., 2014). It is noticed that many of the taken provision actions do not have any defined legal support, and so are therefore deployed as isolated programmes only, working under the autonomy of private stakeholders and regional authorities, making these provision actions hardly lasting in time (Barretto, 2015a).

1.3.2 On-The-Job training expansion and Companies' Contribution

On-the-job training is an important component of TVET programmes, which can take a variety of forms, such as unpaid/paid internships programmes, dual trainings, or contracts for apprentices.

14 > TVET INTERNSHIPS IN SECONDARY AND POST-SECONDARY

In secondary schools while unpaid internships are recognised to be essential to validate contents learned in schools and to acquire new knowledge and skills, not all secondary students accessing technical and vocational education have on-the-job experience. In **Argentina**, for instance, just in 2013 internship programmes started to be implemented as a mandatory curricular strategy. In other countries, such as **Chile** and **Ecuador**, less than half of secondary students do internships although are key components of their school's technical programmes. In **Paraguay**, in order to offer students their first experience in the world of work, the technical degree modality includes a mandatory curricular internship of at least 240 hours, but there are no monitoring mechanisms to ensure their effectiveness.

In the case of TVET of higher education, internships in workplaces are often not a graduation requirement in countries such as **Colombia** and **Chile**, and internship incorporation is at the discretion of higher education institutions under their institutional autonomy. On the other hand, in the federal institutions and the "S" system in **Brazil**, students must fulfil a certain number of

working hours in a company according to their curricular internship. This instance is used to guide an educational planning by the training institutions by gathering information for the preparation of indicators. In **Mexico**, the Technological Universities have the obligation to schedule residencies or internships at the end of careers. This modality has had positive results and is considered a resource not only to facilitate work insertion for graduates, but also to improve interpersonal communication and problem solving skills (Jacinto, 2013).

> TRAINEES' PROTAGONISM

In the field of vocational training, the contracts for apprentices are an expression of on-the-job training, which establish employment links with companies unlike paid/unpaid internships.

In the region, **Brazil** and **Colombia** have a long tradition in this area and have well-defined legal regulations that include having a certain number of trainees working at the companies or the payment of a monetary subsidy. In the case of **Brazil**, the contracts for apprentices used to be exclusive to the "S" System, but recently the recruitment of trainees from all accredited vocational training institutions was promoted by the National Plan for Professional Learning (PNAP, by the acronym in Spanish). In **Jamaica**, as well as in **Trinidad and Tobago**, these kind of contracts are seen as a strategy to facilitate the transition from training to work. However, the traceability of labour trajectories of young people graduating from these programmes is considered a challenge since that information is required for evaluating the effectiveness of these initiatives that require significant financial resources and coordination efforts (Barretto, 2015b).

CHART C › Challenges for the Implementation of Internship Programmes in the LAC region

According to a study by the Inter-American Development Bank (IDB, 2016), LAC countries face particular challenges for the implementation of programmes, which are linked to several factors, including:

- i) **Economic:** A low economic performance in the region, high levels of informality and high incidence of micro, small, and medium enterprises (MSMEs);
- ii) **Educational:** Skills deficiencies in job seekers;
- iii) **Legal:** Obsolete and/or non-existent regulations on internship regimes, and labour regulations affecting intern recruitment costs and risks perceived by enterprises;
- iv) **Informational:** A lack of adequate information on the labour market, a lack of follow-up, impact assessments, and cost-benefit analysis;
- v) **Institutional:** A lack of strong quality assurance mechanisms;
- vi) **Sociocultural:** An insufficient collaboration between the public and private sectors, and a lack of trust on institutions.

Limitations contrast with the common elements of innovative and effective internship programmes highlighted in the McKinsey & Company report (Farrell & Barton, 2016) built on a knowledge base involving 25 countries having successful training and education systems. Common elements are:

- i) **The elimination of barriers between training providers and employers**, who contribute to the design of curricula and assign their employees as teachers. Training providers consider on-the-job internship hours (not less than half the time of their curricula) as guarantees of subsequent recruitment.
- ii) **A joint approach of education-employment transition.** Employers commit to hiring young people before enrolling in any skill development programme.

In the region, **Chile** has this type of evaluations carried out using administrative record data when the training and labour intermediation system is reviewed. The results of these evaluations are still preliminary; however, they show that training initiatives for young people on the workplace have auspicious employability results, although limited in scope.

> DUAL TRAINING

Originated in Germany, the dual training model has been used as a strategy to bring TVET closer to employment and replicated and adopted by several countries of Latin America and the Caribbean as in the rest of the world. However, in terms of coverage these are limited experiences, although they are extensive in other countries like **Chile** and **Costa Rica** where, for more than 20 years, the model has been being implemented as a variant for secondary technical programmes. In **Costa Rica**, a law is recently attempting to massively promote dual training, normalizing duration of residency in companies. However, its approval has gone through a series of difficulties associated with a lack of consensus by social stakeholders regarding the benefits of alternation between schools and companies.

CHART D › Dual Training in High School Vocational and Technical Education (EMTP) in Chile

In 1991 a dual training model was adopted in Chile as a joint initiative of the German Agency for Technical Cooperation (GTZ) and the Government of Chile in order to bring the education and production sectors closer together through business-school cooperation as two complementary learning options. The model has three key players: the student who works at the company while maintaining his/her student status, the trainer who is responsible for the student learning while at the company, and the tutor who is the interlocutor between the educational institutions and the company.

In 2012, about 230 high schools and more than 26,000 corresponding to 14% of the total number of students in the EMTP participated in the model. However, penetration in the curricular offer is not heterogeneous and is more significant in the economic sectors of metalworking, graphics, shipping, and hospitality and tourism. In 2001, an evaluation was carried out on the implementation of the model in the EMTP, by gathering favourable evidence regarding the achievement of skills development by students for their labour market incorporation and continuity of systematic studies. However, no recent assessments were found to corroborate these findings.

Source: Ministry of Education of Chile

The Uruguayan alternation-based Agricultural Basic Technological Cycle implemented since 1997 is a variant of this training model, where some students between 12 and 15 years old stay for a week in companies and others in production establishments. However, coverage is low, reaching only 8 public agricultural schools and approximately 1,000 students, with no systematic evaluations of their results.

Dual training has also broken out into higher-education TVET. In **Saint Kitts and Nevis**, the **Advanced Vocational Education Centre (AVEC)** provides post-secondary programmes in dual mode, having a 30% of theoretical component and a 70% of practical component, leading to the relevant higher education degree. **Ecuador** is seeking to consolidate the offer of TVET education in line with the needs for productive growth and so the implementation of this model is part of the reconversion project of public technical and technological institutes. The new 2016 law for higher education institutes and schools In **Peru** supports the progressive application of dual training in institutions with corresponding basic conditions.

A further cooperation between the State and the productive sectors in order to provide dual training within an adequate functioning framework is the challenge of these initiatives, including curricular proposals, skills certification, and shared funding of its costs. **Mexico** has also made progress by allowing students in secondary technical programmes who enroll to this modality, to obtain an external certification of vocational skills they have gained during their on-the-job experience under the productive sector standards.

> TRAINING ACTIVE WORKERS

A recent study for the countries in the region related to TVET in the workplace, informed that a training course or programme was received or undertaken by a smaller proportion of active workers against the OECD countries or others in other region which there is information about (IDB, 2016).

Particularly, the study supported by social protection surveys showed that in previous years in **Chile** and **Colombia** about 9% had received some training while working in companies, while the skilled workers were 13% in **Ecuador**. On the other hand, in countries such as **Mexico**, systematized data showed that only one-third of active workers had participated in a course or training programme throughout their working lives. This proportion falls to 13% in **El Salvador** and 10% in **Peru**. According to the study, LAC percentages contrasts with evidence from some high-income countries where a large proportion of workers receives training on a continuous basis, even in countries having more similar incomes to those perceived in the region.

The reasons why companies are not training their workers were attempted to be identified in a recent IDB survey of a representative sample of companies in **the Bahamas, Colombia** and **Honduras**, whose responses shows that, in many cases, companies have little interest in investing in training their workers due to they are not aware of the need for improving their productivity. The high costs involved, the fear of losing workers once trained, and the reduced number of adequate training providers are also reasons associated with low training (Flores Lima, González-Velosa and Rosas, 2014).

Taking into account the workers' educational level and age, the study also identifies concerning differences in their training. In general, the least skilled workers are those with lower levels of education, mainly due to they require a more intense training, which makes it more expensive. In absence of public policies for changing these patterns, this would explain that companies provide more training for workers who are younger and have a higher education level, leaving without having the opportunity for on-the-job training a large part of the region's workers (especially those most in need).

1.3.3 Permeability and learning pathways

Based on the philosophy of lifelong learning, the learning pathways in TVET require vertical tracing between the levels of secondary and higher education, as well as horizontal tracing, with vocational training and informal learning. The institutional division that traces back to the origins of TVET and that prevents from making reference to a national system as such in most cases, has been one of the main constraints to this task in LAC countries.

> FORMAL EDUCATION

While technical school programmes enabling continuity of studies prevail in the region, they are generally not curricularly articulated by technical programmes in higher education. In this sense, there are content voids or repetitions which do not encourage students' educational pathways.

In **Ecuador**, for technical graduates to obtain their technical bachelor's degree in production, may opt for an additional year of studies for developing specific complementary skills in the same

occupational field. However, these curricula are not linked to curricula for higher technical and technological education, so they are not an alternative for professional growth (MINEDUC-Ecuador, 2015). There have been several strategies implemented to address this problem, but not always effective.

Since 2005 the MEGATEC programme in **El Salvador** is being implemented and curricularly articulates levels of technical secondary education and higher technological education, and so allowing the reduction of study time. The programme, which has a limited scope, is based on the organization of networks formed by a higher education institution, which is called MEGATEC Headquarters, and technical-level study centres close to MEGATEC which train learners in the first years (UNESCO, 2013).

In **Chile**, in the last decade the *Redes de Articulación de la Educación Técnica Profesional* (articulation networks of professional technical education) carried out within the framework of the *Chile Califica* Programme had a similar design, but they were not institutionalized at system level due to various technical and political problems, remaining as demonstrative experiences only without concrete results.

In the early 2000s **Colombia** passed a law to increase permeability and articulation of the system, making technical and technological education go through propaedeutic cycles so students may progress by stages throughout their training process, from high school to university education. However, universities have been reluctant to open themselves to programmes considered as lower profile or status; therefore, to create different modalities with higher degrees within the same technical and technological institutions was an alternative path.

In **Brazil**, a more comprehensive strategy is adopted by the “S” System and the Federal Institutes of Education, Science and Technology, guided by the principle of vertical integration for the process of technical and technological education having all levels from basic to doctoral in a single institutional space (Jacinto, 2013).

> INFORMAL EDUCATION

Regarding informal learning, a significant number of countries in the region have made progress in developing certification systems which allow standardization, evaluation and recognition of skills acquired during working life, rather than in an educational or training environment.

SENA in **Colombia** and **INA** in **Costa Rica** have been delegated the operation of these systems as national vocational training institutions, while others countries created an ad-hoc institutional framework for this purpose, as is the case of **CHILE VALORA** in **Chile** and **CONOCER** in **Mexico**. This experience has been carried out in **Argentina** by the **Ministry of Labour**, which provides technical and financial assistance for stakeholders representing the activity sectors in the processes development and the recording of their results in the labour market portfolio (Vargas, 2015).

The ultimate goal of these systems is improving employability conditions for workers by providing them with a portable certificate for their skills and competencies.

However, these systems are still in their early stages in the region with some exceptions, limiting only to certification for a limited number of sectors, without covering all the occupational profiles at a national level. Integration of these systems into the training offer and formal education is still incipient. Ideally, achieved capabilities for a profile should be identified by certification and training should be provided for failed subject.

> TOWARDS QUALIFICATION FRAMEWORKS

Qualification frameworks are seen as key tools for linking educational trajectories, vocational training and informal learning acquired at work, as they can facilitate understanding and recognition of equivalences by ordering qualifications into a single structure that is organized in tiers.

The **CARICOM** countries, particularly **Barbados, Jamaica, and Trinidad and Tobago** show the most significant developments in the region by having well-established frameworks that are used for the certification of skills acquired at schools or workplace. In addition, national frameworks respond to the Caribbean Vocational Qualification (CVQ), which is a regional benchmark for occupational credentials and, therefore, the cornerstone for achieving a skilled and certified labour force with free passage in the single economic market of the Caribbean.

Colombia stands out in **Latin America** with the implementation of pilot projects in the ICT and financial sectors, and with a legal regulation supporting the creation of a national qualification framework as the basic instrument of Colombia's policy for strengthening human capital training (Conpes 3674).

Peru, Ecuador, and Chile are in the most incipient stages, although in the latter the efforts have been being carried out since 2007 to progress in the conception and design of a qualification framework.

However, this instrument should not be considered as one for automatically solving TVET articulation problems and low permeability with the rest of the educational system, nor is it the only means to achieve these purposes. The risk is to bog down in reaching consensuses related to scope, objectives and structure, within contexts of high institutional autonomy and limited state regulation.

CHART E › Caribbean Vocational Qualification (CVQ)

The CVQ is a fundamental component of the Regional Strategy for Technical Education and Vocational Training for Human Capital Development and Economic Competitiveness of the Caribbean Community (CARICOM) 2012. It allows the acquisition of credentials associated with a set of competencies which meet occupational labor market standards defined in 5 levels:

- LEVEL 1.** Worker in need of supervision
- LEVEL 2.** Self-Qualified worker
- LEVEL 3.** Specialist or Supervisor Worker
- LEVEL 4.** Master Craftsman or Technologist
- LEVEL 5.** Advanced and/or Managerial Professional

Occupational standards are developed by inputs from industries in the relevant economic sectors, and they should be reviewed by all member countries and approved by the CARICOM Human and Social Development Council in order to include occupational standards in the CVQ.

A number of requirements such as standards related to infrastructure and facilities must be complied by TVET institutions in the Caribbean countries. This does not always happen, so the certifications awarded by some providers of this education are only valid at local and non-regional level.

1.3.4 Relevance and Quality Improvement

In Latin America and the Caribbean, TVET has been frequently criticised for its poor quality and for not responding to the needs of labour markets and society at large. The effectiveness of their teaching and learning processes is questioned in order to develop relevant skills in accordance with the demands given by their environment. TVET is usually categorised as a second-class education, aimed at those who could not access other more socially prestigious options.

> THE LABOUR SKILLS APPROACH

The introduction of the labour skills approach when designing their curricula was one of the strategies used for addressing this stigma and for aligning this training with the requirements of

the companies. With few exceptions, this approach was a key part of the TVET reform processes for secondary education that have taken place in the region since the late 1990s.

With different variants and conceptual reformulations, **El Salvador, Chile, Colombia, Uruguay,** and **Mexico** have deepened and extended skill-based training in their systems. However, the excessive bureaucracy in the school system that leads too late to curricular adjustments for updating skills and the lack of teaching strategies to instruct according to the labour skills approach are difficulties remaining until present.

CHART F › PROJOVEN, National Institute of Employment and Vocational Training of Uruguay

In operation since 1994, PROJOVEN is a training programme for low-income young people whose secondary education is not complete. PROJOVEN's purposes are labour market integration and re-integration, as well as continuity of studies. The program is executed at a tertiary level by training entities selected through open bids for evaluating the quality and relevance of their training proposals. Entities are required to support their offers by means of a scaled-down market exploration which may demonstrate that training actions are linked to the needs and opportunities identified in the productive sectors of student's environment.

The program is offered in various short-training modalities ranging from 3 to 9 months, including workshops on social and vocational guidance, internships at companies considered as part of the training process, as well as a post-training guidance.

In terms of scope, 3,700 young people were selected and referred and took courses provided by 53 training entities in 2009 according to recent data available. Thirty-seven per cent of them continued taking some type of training at the end of the programme and 86% were employed. Sixty-three per cent of young people continued to work after more than a year of training.

In **Chile**, in 2016 the existing curricula in force since 2002 for secondary labour-skills-based technical and vocational education available to educational institutions, was replaced. Different technical problems prevented administrative policy from making a curricular adjustment. In higher education, the development of relevant skill-based curricula has also been promoted as a strategy for quality improvement, but it has a limitation caused by educational institutions' autonomy when designing and deploying their training offer.

In **Colombia**, external exams designed according to labour-skills approach guidelines and made for students who are about to finish their studies, allowed adoption by both private and public institutions providing Technical and Technological Education (Jacinto, 2013).

In other countries such as **Peru** and **Ecuador**, skill-based curricula come from central levels in Ministries of Education, which are responsible for defining vocational profiles curricula for TVET in public higher education within the framework of policies promoting this education.

> STRATEGIC DECENTRALIZATION

In the **SENA of Colombia**, which is recognised for its close ties and coordination with the labour market, curriculum development is largely autonomous and defined at regional training centres. One of the mechanisms used by this vocational training institution is to involve the Regional or Sectoral Round Tables in the curriculum development process. These Round Tables establish consultations on the needs of the region and the creation of functional maps that outline the necessary skills and competences for specific sectors. To this end, employers or business chambers are included, as well as NGOs and the public sector for specific geographic regions or specific productive sectors within the regions. However, their operation is not always regular, which limits the possibility for curricula to be updated in a timely manner.

On a smaller scale, **Uruguay's PROJOVEN Training Programme** also defines training relevance at the micro level. This is because each training institution must certify the participation of the productive sector in the design and deployment of its training programmes in order to obtain financing.

> TEACHERS' TRAINING

In addition to the relevance of contents to productive sector requirements, training of teachers and trainers is a key aspect for TVET quality. With a few exceptions, this is the largest debt the region has to TVET, and limits the application of innovative teaching methodologies and technologies.

In **Bolivia**, for example, the lack of trained teachers is one of the greatest impediments to the implementation of the new curriculum since 2011. The new curriculum highlights the practical, theoretical, evaluative, and productive nature of medium-level technical education. In this country, there are no teacher training programmes to provide technical education, and potential professionals who could perform such functions are not recognised by the teachers' union (Callisaya, 2013).

In **Paraguay**, there are no specific training programmes for TVET teachers, except for some isolated experiments in the public and private sectors. The same happens in **Costa Rica**, where teacher training in the Ministry of Public Education's technical schools is mainly academic and does not provide learning opportunities at work. In this country, as in many others of the region, the requirements for teaching in these schools are different from those imposed by the INA for vocational training, which makes it difficult to share resources to cope with the shortage of trained teachers and trainers (Alvarez-Galván, 2015).

The case of **Jamaica** is different. There is a specific training that certifies four types of skills required for this role: technical, academic, training, and attitudinal skills. The Vocational Training Development Institute (VTDI) in **Jamaica** provides training programmes for teachers and instructors, providing Bachelor's Degree in Vocational and Technical Education, along with a number of short-term Diplomas in Education and Training.

Mexico and **Argentina** have incorporated in their recent reforms the professionalization of education services of TVET in secondary education, implementing programmes for both initial and continuing training for teachers or aspirants. However, the impact of these initiatives on improving the students' learning achievements is still unknown.

1.3.5 Information Systems and Mechanisms to Ensure Quality

The implementation of information systems that collect and analyse data on TVET provision and results is key to improving the planning, design and evaluation of TVET proposals and programmes. However, in most countries in the region, statistics are limited, as is the availability of national assessments. This is mainly due to the presence of multiple stakeholders and the absence of entities responsible for setting and regulating data collection actions.

The identification of provider institutions and the respective enrolment, in addition to the lack of human resources and computer intended to this task, is even more critical in countries implementing changes for the provision of TVET education at the secondary and tertiary levels (UNESCO, 2013).

In the region, **Brazil** has SISTEC, an integrated national information system dedicated exclusively to both initial and continuing TVET, which collects data from all education institutions that provide technical courses, regardless of their administrative category, whether public or private. In other countries, such as **Chile**, **Mexico**, and **Peru**, data from educational units and formal TVET enrollment are collected together with information from the rest of the system and are general in nature, so they do not allow the development of specific TVET indicators such as completion rates for internships or the number of existing professional councils.

Available information on the results of TVET graduates in the labour market is even lower for countries in the region. Follow-up surveys on representative samples of TVET graduates allow data to be available for this purpose.

Mexico and **Argentina** have national studies on educational and career paths for secondary education graduates. These studies allow us to know the type of employment to which they have access, the associated salary as well as the continuity of regular studies. However, the performance of these studies is not systematic over time.

A more effective and less expensive strategy is the integration of administrative databases containing census information on educational and labour histories of certain student populations.

Colombia and **Chile** have observatories for higher education graduates, including those of TVET, which allow to know students' academic profile and working conditions achieved with some regularity. In **Chile**, the use of these integrated databases has also allowed the country to perform a wide range of studies on the effectiveness of the secondary technical and vocational education. The challenge is the regular performance of this type of research, the use of its results in the design of public policies, and adequate dissemination to education providers and the public at large.

On the other hand, it is possible to identify that higher level TVET is usually included in national evaluation and quality accreditation processes in some countries, like **Peru**, **Ecuador**, **Colombia** and **Chile**. However, as these operations were originally designed for traditional university/college education, the uniqueness of TVET is not always recognised, and for instance the verification of the existence of effective mechanisms to link with the labour market that are key to this education is omitted.

In the Caribbean countries associated with qualification frameworks, quality assurance systems have been implemented for post-secondary TVET that provide accreditation to programmes and institutions according to a set of standards. This is the case of the *Barbados Accreditation Council*, which is also responsible for skill certification within the qualification framework of the country.

In Brazil, the national catalogue of technical and technological courses acts as a reference in this area by containing skill profiles, minimum hour load, and adequate infrastructure for such courses (Jacinto, 2013).

Finally, in the area of vocational education and training, it is common that there are only records from providers or that accreditation systems are in practice just a registration mechanism with very low or non-restrictive acceptance condition for providers. Quality assurance in this industry is very limited in **Peru** and non-existent in **Honduras**, **Chile** and **Uruguay**, while it is not mandatory in **Colombia** (Llisterri et al., 2014).

1.3.6 Institutions based on social dialogue

Few countries in the region have an institutional framework in charge of articulating actions for formal and non-formal skill development from a systemic approach and involving the various stakeholders.

It is generally the case that Ministries of Education are in charge of TVET programmes in schools and in higher education, while the management of vocational training and job training is dispersed in different departments, including the Ministries of Labour. But even within the ministries of education of some countries, TVET in secondary and higher education are in different directorates or divisions, being managed independently and not achieving the complementarity of policies and actions implemented.

When TVET school programmes also depend on other public ministries other than education, coordination is more challenging. This is the case with formal and non-formal agricultural sector programmes in **Paraguay**, which are in charge of the Directorate of Agrarian Education under the Ministry of Agriculture and Livestock.

In this area, the most significant progress has been achieved by the **Caribbean countries** that have national technical and vocational education agencies (NTAs) with multisectorial representation, and act as coordinating and regulatory bodies for TVET systems in countries. The structure of NTAs (also called TVET councils in some countries) varies depending on the size of countries and available resources, but perform similar functions, focusing on promoting the quality and coherence of education and training actions. Recently, these agencies have played a leading role in their respective countries, through the Caribbean Association of National Training Agencies (CANTA), which is the regional agency responsible for monitoring and implementing the plans developed by the countries within the framework of CARICOM's development strategy for human capital and economic competitiveness.

In Latin America, the *Argentinean National Institute for Technological Education* (INET) is responsible for coordinating the implementation of public policies for technical education at the secondary and higher levels and vocational training by the Ministry of Education. In that sense, it acts as an entity that links and coordinates the different areas of technical education in secondary school and higher education, strengthening TVET holistic approach. In addition, it has two permanent areas of consultation and agreement, with which develops and reviews the TVET proposals: the *Federal Commission for Professional Technical Education and the National Council of Education, Labor and Productions* (CoNETyP) that has a tripartite representation composed of the State, employers, and workers. However, the operation of CoNETyP has been haphazard in some jurisdictions, mainly because those who are part of it do not necessarily represent their sectors, which threaten its resolving and binding capacities, despite of being regulated by law.

Social dialogue among stakeholders in TVET can take place at different levels and allows us to envision what this education is expected to do in order to achieve different purposes.

In **Parana, Brazil**, a State programme “*Educando para la sustentabilidad*” (educating for sustainability) was launched in 2008. This programme originated in a business network in the city of **Curitiba**, which made a partnership with training institutions to address a broad work agenda that included an introduction to the concept of sustainability in TVET programmes and in the planning of students' career paths.

In 2014, within the framework of the Productivity, Innovation and Growth Agenda of the Ministry of Economy of **Chile**, Dialogues on Mining Productivity were held, and was attended by public and private stakeholders of the mining industry, including trainers from Human Resources. In that instance, a series of actions were agreed to build technical and management capacities for mining suppliers with the support of centres of excellence specialized in the development of sustainable practices throughout the production chain of the mining industry. This social dialogue allowed for the development of specific proposals for a new Technical Education policy in **Chile** through the “*Mejora la técnica*” initiative by the Education 2020 Foundation. The initiative implemented between 2015 and 2016 opened a public and participative space for debate, discussion, and proposals on technical education, demonstrating that changes can be made with the leading role of citizens and civil society.

Thus, private foundations, or international cooperation in other cases, are emerging as new stakeholders to facilitate social dialogue and/or promoting partnerships. However, a social dialogue on TVET also contributes to achieving more specific purposes. In **Costa Rica**, INA initiates consultations with different local authorities in order to gather specific demands for training and to carry them through mobile units that provide vocational training services to rural areas or with no specialized centres.

Participative or academic institutionalized dialogue groups known as Business Councils are frequently created in secondary and tertiary TVET institutions in order to create partnerships with the productive sectors and other relevant stakeholders. However, they are often formal actors who are not regular in their functioning, particularly when they do not have well-defined work agendas and short-term results.

The tripartite nature of the directorates of national vocational training institution in the American countries including entrepreneurs, workers, and government, is another search expression for

social dialogue within TVET. However, it is also common to find that business representation is more nominal than real, in part because of the institutional weakness of business organizations and the administrative rigidities in training institutions whose governance is defined by public administration rules.

1.3.7 Funding

As a general rule in LAC countries, TVET provided in the school system and in higher education is funded first by the State and then by families, while in the case of the development of non-formal skills, companies are the ones that provide financing primarily, through training levies or provision of apprenticeships.

In particular, national training institutes are funded by contributions or parafiscal contributions in the form of a mandatory employer payroll tax, as the case of **INA** in **Costa Rica** and **SENAI** in **Brazil**. In other countries, such as **Chile**, **Argentina** and **Peru**, tax deductions or credits operate as incentives for training in companies. Another way of additional financing is the national general budget, which usually includes items to cover both the functioning of operating institutions of training systems, as well as fellowships and grants to individuals and companies.

In **Argentina**, the National Fund for Professional Technical Education was created by national decree in 2005, and funded with an amount of not less than 0.2% of the total current incomes of the consolidated annual budget and which is calculated in addition to resources allocated by the Ministry of Education, Science and Technology. The allocation of these resources to the different jurisdictions is made through a polynomial equation that takes into account the enrollment associated with TVET education and the socioeconomic vulnerability of the target population.

In **Mexico**, it is also established by law that public education spending cannot be less than 8% of GDP and that at least 1% must be allocated to technological research and development; therefore TVET has specific budget lines. However, in the vast majority of LAC countries, TVET does not have secure funding, and the flow of state resources for up-to-date educational equipment and materials is particularly unstable.

Another aspect limiting the available resources for TVET in the region is the existence of an important segment of the productive sector that is part of the non-formal education system; therefore it is excluded from tributary taxes obligations and from contributing financially to TVET education.

In the light of the limited government budget for TVET education in some LAC countries, sources of funding for technical schools have diversified, for example through the use of self-generation mechanisms of financial resources that have been used for other educational purposes. In this regard, it is worthy of mention the Self-Sufficient Agriculture Schools of **Paraguay**, whose training model combines students' learning with income-generating activities through various undertakings established by schools on campus. The undertakings are owned by the school and sell products and services in the local market, generating income to pay for school expenses and ensuring their long-term financial sustainability. At the same time, these undertakings provide students an opportunity to learn technical and business skills in a practical way. However, one of the major challenges of the model is to recognise the thin line separating the student who is in a learning process from the worker who produces for the educational institution.



HOW TO TRANSFORM TVET: PRINCIPLES AND GUIDELINES FOR A REGIONAL ACTION PLAN

2.1 GUIDING PRINCIPLES

TVET has always been a key component for the development of Latin American and Caribbean countries regardless of the different development's prototypes that have been implemented throughout history (import substitution and national industrialization, international opening markets, improving income distribution). However, as previously shown, there are significant gaps in the region between what TVET is, could and should be to contribute to sustainable development.

Looking to the future, as the Education 2030 Agenda, is equivalent to changing the current situation. How to transform TVET so that it contributes to the harmonization of economic growth, social inclusion and environmental protection, which are fundamental to the well-being of people and the societies? UNESCO, as a United Nations Specialized Agency, in the interest to this response, decided to forge a holistic approach integrating these three dimensions and facilitating the making of public and private decisions towards the achievement of the goals committed.

This is part of transforming TVET into a foundation for sustainable development, focusing on green economies, inter-generational rights and global citizenship. Therefore, it should be translated into policies that address climate change, reducing the risk of environmental disasters and biodiversity.

The above will only be possible through teaching methods promoting critical thinking, the imagination of future scenarios and a collaborative attitude in accordance with the democratic societies aspired to achieve. In short, the invitation is to forge innovative TVET that responds better to contextual factors and long-term development trends.

Consistent with the Global Strategy for TVET 2016-2021 (199 EX / 6) and with the commitments of the 2030 Agenda on Sustainable Development, we propose some principles that should guide decisions countries of the region need to make in this framework:

› **TVET as a Human and Enabling Right**

Many international regulations protect the fundamental human right to education. In line with the Education 2030 Agenda, TVET can be seen as a right in the sense that its provision and access should be facilitated to all, including special groups (ethnic minorities, immigrants, socially at-risk young people, and people with disabilities), in quality conditions and according to their needs. Moreover, as an enabling right, TVET should also allow the acquisition and exercise of other rights, such as the right to a job and the right to continue their education. Finally, TVET is expected to promote effective work and education transitions for all.

› TVET as a Public Good

Education should be a common mission of society, which implies an inclusive process in the formulation and implementation of public policies. The concept of TVET as a public good emphasizes its collective nature, highlighting the significance of the engagement of all stakeholders, who play specific roles and are irreplaceable. In this regard, TVET requires partnerships between governments, civil societies, and the private sector, with the participation of companies. The role of the State as a regulator and determiner of quality regulations and standards is essential, particularly considering the increasing engagement of the private sector in the provision of TVET.

› An Egalitarian TVET for Men and Women

Because of inequalities and gender stereotypes, TVET programmes tend to have a gender bias that has an impact on the access and participation of women in specific working fields, generally those with higher salaries. Closely linked to the right to education for all, TVET should equally empower both men and women. In order to do so, TVET should ensure that both groups have the same opportunities to learn, develop, and enhance their knowledge, skills, and competencies, addressing their diverse needs. TVET should be aimed not only at an egalitarian access, but also at an implementation of skill-based teaching strategies that considers the gender approach.

› TVET as an Axis of Lifelong Learning

The concept of Lifelong learning according to which educational and training systems should organize themselves was coined by the Faure report and was relayed in all the Education 2030 agenda. TVET as an axis of Lifelong Learning should promote the development of knowledge, skills, and transversal competences that allow continuing learning. It must also ensure bridges between different TVET levels and modalities to recognize previously learned contents, as well as promote flexible processes that facilitate training without leaving work. TVET holistic approach that encompasses the development of both formal and non-formal skills for people of all ages facilitates the task.

› TVET as a Part of a Broader Learning System

The Education 2030 agenda uses all educational levels and modalities to make progress in its overall objective of ensuring an inclusive and equitable quality lifelong education for all. TVET needs to be addressed as a part of a broader learning system, not in isolation nor without considering its links to and dependencies on the performance of other sectors, including primary education, secondary academic education, and higher education, in order to contribute to economic growth, social equity, and environmental protection. There is a tendency to judge TVET by goals or aspirations that should be reached by the education system as a whole, not only TVET.

› TVET as a Vehicle for Social Mobility

This principle combines TVET's economic and social view by emphasizing the TVET's role in promoting and improving employment opportunities and income generation, beyond people's social, economic, or cultural background. In order to do so, TVET should provide learning environments according to productive sector requirements and people's needs, so people can become full members of society and can continue learning. This principle wants to alienate TVET from the vision of an education that creates socio-cultural inequities, empowering individuals in their education and employment decisions and building bridges to higher levels of education, including university.

› TVET Ensures Sustainable Development

Consensus reached on 2030 Agenda for Sustainable Development recognizes equality as a guiding principle and underlying value, and structural change as a way to achieve

equality. Therefore, it is necessary to consider as pending challenges the vulnerability to natural events caused by climate change, and the dependence on the environment and natural resources. TVET has a fundamental role to play in the construction of a new paradigm based on environmental care, the use of renewable energies, new forms of production, and patterns of consumption. To this end, its contents and training modalities should be ruled by quality and ownership standards, and linked to economic growth, competitiveness, social equity, and environmental sustainability.

2.2 GUIDELINES FOR NATIONAL ACTIONS PLANS

The review of TVET current state and main trends in LAC countries shows not only that this education is heterogeneously configured in the region, but also that the degree of progress in the different key areas is also heterogeneous. This situation is mainly due to country differences in productive matrix structures, technological change and degree of development of social dialogue. Likewise, the various levels of coverage of secondary and higher education in countries are directly associated with the extent to which TVET is present in these educational spaces and the relevance of vocational training and job training.

Despite the existing differences, it is common in all countries of the region the need to make progress in improving the quality and relevance of TVET, as well as in the implementation of mechanisms to ensure these attributes. Only insofar as these progresses can be achieved, it is possible that this education responds to its different demands within the countries, and to build regional confidence, allowing free transit and recognition of competences in the future.

Considering previously mentioned aspects and following the agreement reached in the TVET Forum for Latin America and the Caribbean held in November 2015 and May 2016, the following guidelines are proposed for countries to implement their own plan of action within the framework of its educational, social and productive development policies.

➤ REGARDING DESIGN AND IMPLEMENTATION OF QUALIFICATIONS:

This area begins with the recognition of the relevance of curricula in TVET as a guide to the teaching and learning processes. The challenge is to articulate and balance fundamental and specific skills that young people need to acquire for both employment and entrepreneurship, and for the continuation of learning in formal education or in job training. The guidelines in this topic are:

- Involve the productive sector, through institutionalized spaces that allow the effective and systematic translation of their needs in the corresponding training curricula.
- Establish mechanisms for periodic updating of curricula and monitoring implementation.
- Generate unique qualifications frameworks allowing the regulation of profiles, curricula and associated credentials without discriminating institutional areas of work in order to promote transparency to employers, officials and students.

➤ REGARDING LEARNING PATHWAYS:

This area focuses on people and the need of lifelong learning, incorporating new technologies and constantly updating their skills and abilities. This in order to promote their insertion, progression and conversion within the changing labor markets and their active participation in the globalized society. Some guidelines to consider in TVET curricula in line with these purposes are:

- Establishing a link between TVET and general education in order to create flexible trajectories at all levels and facilitate the progress of young people and adults to higher levels of education as part of lifelong learning strategies.
- Promoting the recognition and transfer of individual learning through transparent, well-articulated and results-oriented training systems. Quality assurance mechanisms should also be integrated.
- Taking innovative measures to provide quality and inclusive TVET, especially to disadvantaged groups, including people with disabilities, marginalized and rural population groups, migrants and people in conflict and disaster situations caused by climate change.
- Encouraging the incorporation of information and communication technologies (ICT) into TVET in order to reflect the transformations taking place in the workplace and society in general.
- Implementing tools and procedures for the identification, accreditation and certification of skills acquired both in formal context and through work experience.

➤ REGARDING GOVERNANCE:

Governance mechanisms for TVET require roles, rights, obligations and accountability of involved public and private stakeholders to be defined. Also, it is imperative to encourage stakeholders' participation as well as partnership development. To do this, the following is proposed:

- Creating opportunities for interministerial coordination around this education that allow the connection of its different training spaces (secondary, postsecondary, vocational training), along with ensuring the technical, administrative and management capacities of those who participate in them.
- Encouraging social partners' participation in the TVET policies development in accordance with agreed regulations on labor market, education and training.
- Promoting private sector participation in TVET according to public policies, support for social dialogue, responsibility, accountability and efficiency.

➤ REGARDING QUALITY ASSURANCE:

Although there are processes for evaluating and monitoring educational policies and programmes in most countries of the region, these are non-specific in nature, with progress being limited to TVET in particular. When TVET is subject to evaluation, process results are measured, but medium-term and long-term impacts are not. Some guidelines to make progress towards quality assurance of this education are:

- Identify indicators in the main areas of TVET (funding, access and participation, quality and relevance in terms of economic growth, productivity, innovation and improvement of employment quality).
- Designing and implementing comprehensive information systems on TVET provision in the different LAC countries, and on the results achieved by their graduates in the labour market, in line with the defined indicators.
- Strengthening frameworks and tools to improve the collection of quantitative and qualitative data that are useful in the formulation of national policies, including information on teachers and trainers, as well as their monitoring and evaluation.
- Considering policies for the dissemination of TVET results addressed to institutions, teachers, officials and representatives of the world of work.

➤ REGARDING CAPACITY BUILDING FOR STAKEHOLDERS:

Stakeholders in TVET are multiple and include their own students and families. Unlike general education, companies and unions play a major role in TVET as they are specific users. Involving these actors requires sufficient capacities to contribute to strengthening and benefiting from this education. Some guidelines in this area are:

- Empowering students, through vocational and labour counseling mechanisms that help them make good decisions regarding their educational trajectories and build capacities to meet the challenges of current and future labour markets.
- Designing and launching mechanisms for information on the characteristics of TVET provision for companies and their unions.
- Implementing capacity-building and leadership programmes aimed at business and social stakeholders involved in TVET.

➤ REGARDING FUNDING:

In this area, it is recognized that TVET contributes to different purposes that go beyond those outlined at the economic level and that adequate funding is key to the achievement of those purposes. The guidelines in this area are:

- Developing measures aimed to diversify funding sources and engaging all stakeholders through partnerships, including those forged between the public and private sector.
- Promoting funding schemes for specific institutions in order to facilitate access for disadvantaged groups and to jobs in the green economy.
- Finally, promoting the necessary funding for the operation of TVET providers, as well as to assure the appropriate degree of operational and financial autonomy, so they can participate in collaboration with their local setting, forge new partnerships to improve the quality and relevance of TVET programmes, and generate additional revenue.



Abdala, E. (2014): “Esbozo de la dinámica histórica y algunos aspectos de los sistemas nacionales de formación profesional en América Latina”. En: *Macroeconomía del Desarrollo*, 162. CEPAL.

Alvarez-Galván, J. (2015): “A Skills beyond School Review of Costa Rica, OECD Reviews of Vocational Education and Training”. Paris: OECD Publishing.

Asian Development Bank (2012): “Asia 2050: Realizing the Asian Century”.

Banco Mundial (2016): “Informe sobre el Desarrollo Mundial. Dividendos Digitales. Panorama General”.

Barbagelata, H.H.; Barreto, H. y Henderson, H. (2000): “El Derecho a la Formación Profesional y las Normas Internacionales”. CINTERFOR-OIT. Montevideo

Barcena, A., y Prado, A. (2016). “El imperativo de la igualdad. Por un desarrollo sostenible en América Latina y el Caribe”. Naciones Unidas. CEPAL. Buenos Aires: Siglo Veintiuno Editores Argentina.

Barretto, H. (2015a). “Actualidad de la formación profesional en el diálogo social”. Montevideo: OIT/Cinterfor.

Barretto, H. (2015b): “Marco jurídico de la formación profesional y el aprendizaje para jóvenes en América Latina y el Caribe”. Montevideo: OIT/Cinterfor.

BID (2016): “Empleos para crecer”. Verónica Alaimo, Mariano Bosch, David Kaplan, Carmen Pagés, Laura Ripani

Callisaya, A. (2013): “Contexto de la Educación Técnica en Bolivia”. Cooperación Suiza en Bolivia.

Campos, M. (2010) “Economía Verde”. CEGESTI. Nro. 151.

CEB. Junta de Jefes Ejecutivos para la Coordinación del Sistema de Naciones Unidas. (2008) “Guía práctica para la incorporación sistemática del empleo y el trabajo decente”.

CEPAL. (2015): “Panorama Social de América Latina”. Documento Informativo. División de Desarrollo Social y la División de Estadísticas de la CEPAL.

Cinterfor/OIT (1990): “La Formación Profesional en el umbral de los 90. Un estudio de los cambios e innovaciones en las instituciones especializadas de América Latina”. Montevideo.

De Hoyos, R., Halsey, R., y Székely, M. (2016): “Ninis en América Latina: 20 millones de jóvenes en busca de oportunidades”. Washington D.C.

De Moura Castro, C., Carnoy, M., y Wolff, L. (2000): “Secondary schools and the transition to work in Latin America and the Caribbean”. Development Technical Paper. Washington D.C.

Díaz, Juan J.; Chacaltana, Juan y Rosas, David (2015): “Hacia un Sistema de Formación Continua en el Perú”. BID-OIT. Perú.

Dutra Guillermo – Sladogna Mónica (2015): “La formación continua: componente estratégico de la Protección Social para superar la “trampa de ingreso medio” en América Latina (AL)”. BID.CISS.

Dutra Guillermo (2016): “Es el rugido de la ASEAN”. Artículo de Economía & Mercado de El País de Uruguay.

Hanushek, & Woessmann. (2008): “The Role of Cognitive Skills in Economic Development”. Journal of Economic Literature. Vol. 46(3), 607-668.

- Jacinto, C.** (2013): *“Incluir a los jóvenes. Retos para la educación terciaria técnica en América Latina”*. Paris: UNESCO-IIEP.
- Llisterri, J., Gligo, N., Homs, O., & Ruíz-Devesa, D.** (2014): *“Educación técnica y formación profesional en América Latina. El reto de la productividad”*. Serie Políticas Públicas y Transformación Productiva, 13. CAF. Banco de Desarrollo de América Latina.
- Marope, P.T.M.; Chakroun, B.; Holmes, K. P.** (2015): *“Unleashing the potential: transforming technical and vocational education and training; Education on the move”*. Paris: UNESCO.
- Martínez, J., y Orrego, C.** (2016): *“Nuevas tendencias y dinámicas migratorias en América Latina y el Caribe”*. Serie Población y Desarrollo, 114. CEPAL.
- MINEDUC-Chile.** (2011): *“Educación Técnico Profesional en Chile. Antecedentes y claves de diagnóstico”*. Centro de Estudios, Ministerio de Educación de Chile.
- MINEDUC-Ecuador** (2015): *“Informe comparativo de perfiles de salida de bachillerato técnico productivo y de formación técnica tecnológica”*. Ministerio Coordinador de Ciencia y Talento Humano, Ecuador.
- MCKINSERY&COMPANY** (2016): *“Education to employment: Designing a system that Works”*. Mona Mourshed, Diana Farrell, Dominic Barton.
- NACIONES UNIDAS** (2012): *“La sostenibilidad del desarrollo a 20 años de la cumbre para la tierra. Avances, brechas y lineamientos estratégicos para América Latina y el Caribe”*.
- NACIONES UNIDAS** (2009): *“Transversalizar Empleo y Trabajo Decente para alcanzar los ODMs en un contexto de crisis”*.
- NACIONES UNIDAS** (2014): *“Desarrollo Sostenible en América Latina y el Caribe. Seguimiento de la Agenda de las Naciones Unidas para el desarrollo Post -2015 y Río +20”*.
- OEA.** (2000): *“La Formación Profesional en América Latina y el Caribe y sus avances en el Enfoque de Competencias Laborales”*. Guillermo Dutra. Washington D.C
- OECD** (2012): *“Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies”*. OECD Publishing.
- OECD** (2014): *“Perspectivas económicas de América Latina 2015 Educación, competencias e innovación para el desarrollo”*. OECD Publishing.
- OIT** (2012): *“El desafío de la promoción de Empresas Sostenibles en América Latina y el Caribe: un análisis regional comparativo”*.
- OIT** (2012): *“Promover la salud y la Seguridad en una Economía Verde”*. Suiza.
- OIT** (2013): *“Trabajo Decente y Juventud en América Latina. Políticas para la Acción”*.
- OIT** (2015): *“¿Qué sabemos sobre los Programas y Políticas de Primero Empleo en América Latina?”*. Guillermo Dema, Díaz y Juan Chacaltana.
- OIT** (2015): *“Panorama Laboral de América Latina y el Caribe”*.
- OIT** (2015): *“Panorama Temático Laboral Pequeñas empresas, grandes brechas Empleo y condiciones de trabajo en las MYPE de América Latina y el Caribe”*.
- OIT** (2015): *“Promoción de la Iniciativa Empresarial y el Empleo Independiente de los Jóvenes”*. Jorge Illinworth, Guillermo Dema.
- Pagés, Carmen** (2010): *“La era de la Productividad como transformar la economía desde sus cimientos”*. BID

Ramirez, J. (2002): “El financiamiento de la formación profesional en América Latina y el Caribe”. Boletín Cinterfor No. 153. Montevideo.

Székely, M. (2015): “Tendencias educativas en América Latina. Segundo estudio suplementario del Plan de Aprendizaje para el Programa “Nuevos Empleos y Oportunidades” (NEO)”. Ciudad de México.

Trucco, D. y Ullmann, H. (2015): “Juventud: realidades y retos para un desarrollo con igualdad”. Libros de la CEPAL, N° 137. Santiago: Comisión Económica para América Latina y el Caribe.

UNESCO (2012): “Los jóvenes y las competencias. Trabajar con la educación”.

UNESCO (2013): “Revisión de políticas en educación y formación técnica y profesional de EL Salvador”.

UNESCO (2014): “Primera entrega de resultados. Tercer Estudio Regional Comparativo y Explicativo”. TERCE.

UNESCO (2015a): “Education for all 2015” National Review. UNESCO.

UNESCO (2015b): “Panorama regional: América Latina y el Caribe”. Informe Mundial de Seguimiento de la EPT 2015.

UNESCO (2015): “Consenso de Shangai. Transformar la ETEP. Forjar competencias para el Trabajo y la vida”.

UNESCO (2015c): “Unesco Science Report. Towards 2030”. Luxembourg.



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