

Factbook Education System: Cuba

CES Chair of Education Systems

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List of Abbreviations

GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
MES	Ministry of Higher Education of the Republic of Cuba
MINED	Ministry of Education of the Republic of Cuba
OECD	Organisation for Economic Co-operation and Development
ONEI	National Statistical Office and Information of Cuba
PET	Professional Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VPETA	Vocational and Professional Education and Training Act
WEF	World Economic Forum
YLMI	Youth Labour Market Index

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Foreword

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises in 2008/9 have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policy-makers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020 (European Commission, 2010). In addition, a growing number of US states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labour-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labour market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labour market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labour market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labour market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborate and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labour market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

Though not many countries have VPET systems that are comparable to Switzerland’s in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the CES Education System Factbook Series¹ is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the CES Factbook Education Systems: Cuba, we describe Cuba’s vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

The factbook is structured as follows: First, we provide an overview of Cuba’s economy, labour market, and political system. The second part is dedicated to the description of the formal education system.

¹ From 2013 to 2019, the factbooks were produced within the framework of the Education Systems research division at the KOF Swiss Economic Institute. From 2020 on, they will be produced by the Chair of Education Systems (CES) group.

The third section explains Cuba's vocational education system. The last section offers a perspective on Cuba's recent education reforms and challenges to be faced in the future.

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The Education System Factbooks have to be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

Contact: factbook@ethz.ch

1 Cuba's Economy and Political System

Table 1. Key Statistics and Information about Cuba

Category	Outcome
Population	11,333,000
Area	109,884 km ²
Location	Caribbean
Capital City	Havana
Government	Unitary socialist republic
Official Language	Spanish
National Currency	Cuban peso (CUB) (Cuban convertible peso or CUC until 2021)

Source: own table based on the World Bank (2021) and Britannica (2020).

One of the main purposes of an education system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors determining the current and future demand for skills. Therefore, these are briefly described in the first chapter of this factbook. In addition, this chapter provides an overview of Cuba's political system with an emphasis on the description of the education politics. Table 1 reports key statistics and information about Cuba, which are further discussed in this chapter.

1.1 Cuba's Economy

According to the World Bank (2021), Cuba is an upper middle-income country.² However, Cuba has used two currencies until the end of 2020: the original currency *peso Cubano*, or CUP, and the *peso Cubano convertible*, or CUC. While wages and prices were set in CUP, the CUC was a convertible currency tied to the US-Dollar and was used for import or higher services (Schmieg, 2017). As of January 1, 2021, monetary unification took place, leaving the CUP to be the only accepted currency (Handelsblatt, 2020). One US-Dollar equals 24 CUP (as of May 5, 2021).

The income and population size is comparable to the neighbouring Dominican Republic. Between 1990 (gross domestic product [GDP]: 28.65 billion USD) and 2018 (GDP: 100.02 billion USD), Cuba more than tripled their GDP (World Bank, 2018). A total population of 11.34 million (2018) means a GDP per capita of \$8,821.8 (2018), which also more than tripled between 1990 and 2018.

² Upper middle-income economies, those with a GNI per capita between \$3,956 and \$12,235.

Internet usage went from 0% in 1990 to 57.1% in 2018 (World Bank, 2018). With a Human Development Index of 0.778 compared to the world average of 0.731, Cuba ranks 72nd of 189 countries (United Nations, 2018). Therefore, Cuba belongs to the high human development countries. In 2018, approximately 77% of the population lived in urban areas, which has remained steady over the last decade. Compared to the other countries of the Latin America and the Caribbean (LAC) region, Cuba has the highest tax revenue at 41.7% of the GDP (LAC average 22.7%). With these taxes, improvements in public services and functioning institutions are possible (OECD, 2019).

Fidel Castro took over the government of Dictator Fulgencio Batista in 1959, and two years later, Cuba became economically isolated due to close links to the Soviet Union. In the early 1990s, the Soviet Union collapsed, which led to shortages and financial uncertainties in Cuba. The early years of the 21st century brought less restrictive economic and social policies. In December 2014 under the Obama administration, an announcement was made that the US and Cuba would resume diplomatic relations (Britannica, 2020). Other changes included the rescission of Cuba's designation as a state sponsor of international terrorism and an increase in travel and information flow. In 2017, the Trump administration increased sanctions and reversed certain aspects of the Obama administration's policies. These include reduction in embassy personnel and restrictions on transactions with over 200 entities which are tied to or controlled by the Cuban military (Congressional Research Service, 2021).

In terms of employment by sector, Cuba's economic structure is skewed towards the tertiary sector (65.2%). This is comparable to the tendency seen within EU-28 statistics (73.4%). On the other hand, more Cubans (18.3%) are employed in the agricultural sector compared to the EU-28 average (4.2%). It can therefore be said that the primary sector has a more important role in terms of employment and value added for the Cuban economy compared to the EU.

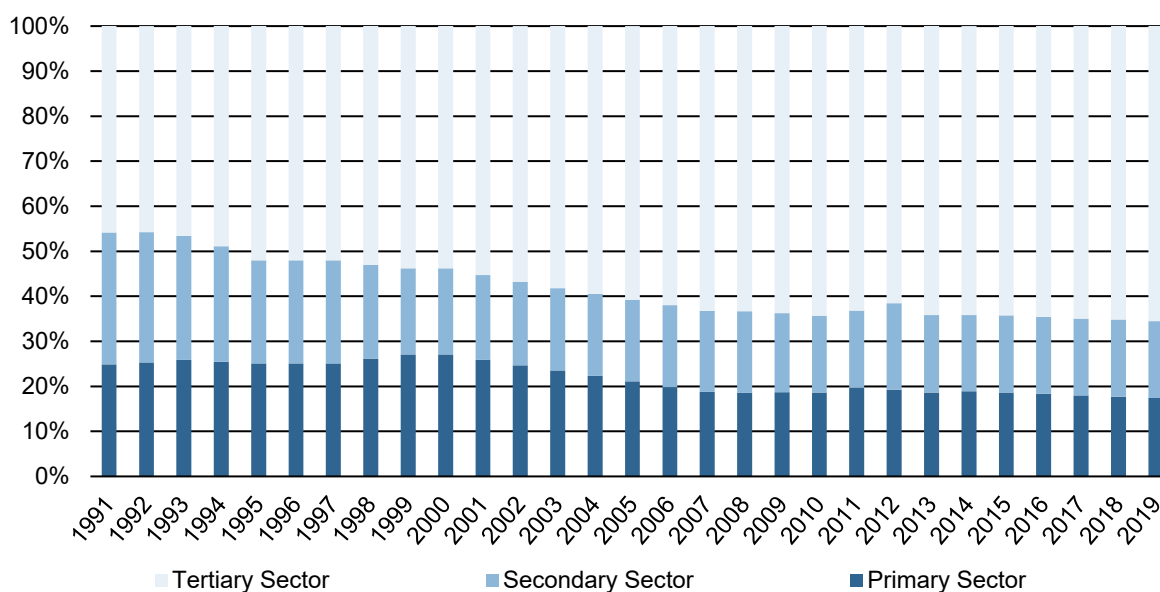
Table 2: Value Added and Employment by Sector: Cuba (2016) and the EU-28 (2019)

Sector	Cuba: Value Added (%)	EU-28: Value Added (%)	Cuba: Employment (%)	EU-28: Employment (%)
Primary sector	3.8	1.6	18.3	4.2
Agriculture, hunting and forestry, fishing	3.8	1.6	18.3	4.2
Secondary sector	22.4	24.6	16.5	21.8
Manufacturing, mining and quarrying, other industrial activities	n/a	19.1	16.5	15.5
Of which: manufacturing	14.2	16.0	n/a	13.9
Construction	n/a	5.5	n/a	6.3
Tertiary sector	n/a	73.8	65.2	73.4
Wholesale and retail trade, repairs, hotels and restaurants, transport, information and communication	n/a	24.2	n/a	27.6
Financial intermediation; real estate, renting and business activities	n/a	27.6	n/a	16.1
Public administration, defence, education, health, other service activities	n/a	22.0	n/a	29.7

Source: own table based on Eurostat (2019).

As shown in Figure 1, the proportions of the individual economic sectors have changed year by year since 1990. Employment in agriculture and industry has declined, leading to an increase in employment in the services sector.

Figure 1: Employment by Sector (as a Percentage of Total Employment), 1991–2019



Source: own figure based on World Bank (2021).

In 2019, 65.5% of Cuban people worked in the services sector, which is a 19.7% increase from 45.8% in 1991. This growth is due to the decline of the industry sector from 29.3% (1991) to 17.1% (2019). In addition, the share of the agriculture sector declined from 24.9% (1991) to 17.4% (2019).

1.2 The Labour Market

In the first part of this section, we describe the general situation of Cuba's labour market. In the second part, we focus on the youth labour market in particular.

1.2.1 Overview of the Cuban Labour Market

Since Raul Castro took over the presidency, several policies have been initiated to broaden opportunities for self-employment. These new policies authorised the founding of small businesses. With the new policies, Raul Castro also reduced the number of workers on government payroll. It is difficult to analyse the Cuban labour market due to inconsistent data and since the unemployment rate is measured with a tendency to overestimate employment. Perez-Lopez (2012, p. 406) highlights specific issues like the municipal job placement office only counting a person as unemployed if the worker seeks assistance, though few inform the office due to the risk of being assigned a job in agriculture.

Table 3 shows that employment in the state and mixed sectors shrunk, while the private (non-state) sector has created new jobs and attracted new employees, hence the positive variation. According to statistics, the state provided employment to 84% of the labour force in 2009. This share decreased to 71% in 2016. Within the non-state sector, self-employment and private businesses in particular gained importance with more than three times as many employed workers in 2016 compared to 2009. Additionally, the absolute number of employees of cooperatives and farms increased to almost 800,000 (Vidal, 2018). In summary, the Cubans are caught in a rather complicated market with low wages. In addition, the market is described as having low efficiency and productivity, which also slows down the small and medium sized enterprises (SME) sector (Bahamonde, 2018, p. 5).

Table 3: Redistribution of Employment (in Thousands of Workers) in Cuba

	2009	2016	Variation
Total employees	5,072.4	4,591.1	-481.3
State and mixed sector	4,249.5	3,250.7	-998.8
Non-state sector	822.9	1,340.4	517.5
<i>Self-employed and private businesses</i>	143.8	540.8	397.0
<i>Cooperatives and farmers</i>	679.1	799.6	120.5

Source: own table based on Vidal (2018).

Of the 5,235,377 people who are categorised as labour force in the country, 64.3% were actively participating in the labour market in 2019. Unemployment in the same year amounted to approximately 1.7%, but due to different ways of measuring unemployment as described above, it is difficult to make a sound comparison between the Organisation for Economic Co-operation and Development (OECD) average and the Cuban labour force.

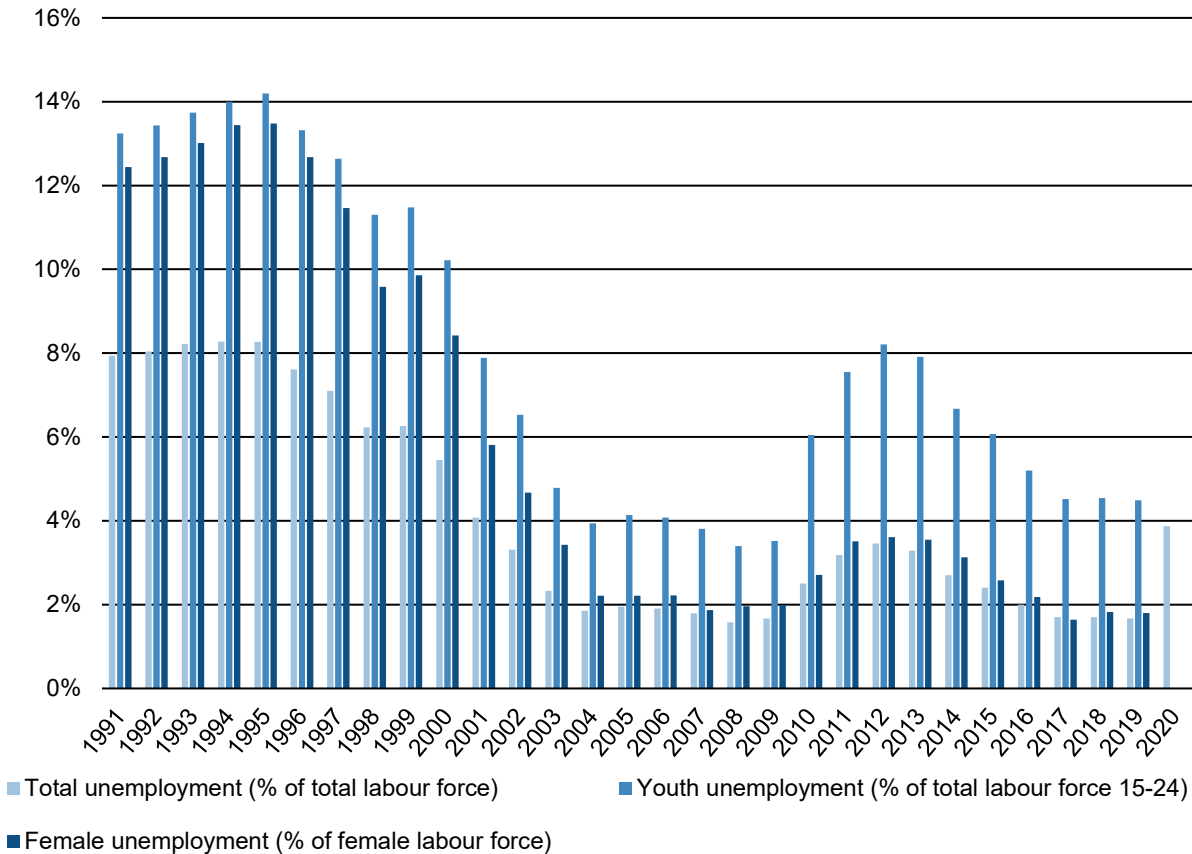
Table 4: Labour Force Participation Rate and Unemployment Rate by Age in 2019

Age Group	Labour Force Participation Rate		Unemployment Rate	
	Cuba	OECD Average	Cuba	OECD Average
Total (15–64 years)	64.3	72.4	1.7	5.5
Youth (15–24 years)	35.8	47.5	4.2	11.1
Adults (25–64 years)	n/a	78.1	n/a	4.7

Source: own table based on the World Bank (2019) and Statista (2021).

Figure 2 shows the unemployment rate between 1991 and 2020 with a steep decline after 2000 and the female unemployment rate reducing the most. Following the financial crisis in 2008, the unemployment rate increased again for all three categories. However, youths have been most impacted by this trend, reaching an unemployment rate of over 8% again in 2012. In 2021, the rates fell again for all displayed categories.

Figure 2: 2016 Labour Force Participation Rate and Unemployment Rate (in Progress)



Source: own figure based on World Bank (2020).

1.2.2 The KOF Youth Labour Market

Index

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (YLMI) to compare the youth labour market situation across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the widely used youth unemployment rate, does not suffice to describe the youth labour market situation adequately or provide enough information for a comprehensive cross-country analysis. To increase the amount of information considered and to foster a multi-dimensional perspective, the KOF YLMI considers 12 indicators grouped into four dimensions (see the information box to the right).

The first dimension is the **Activity State**. It includes three indicators and captures to what extent the youth (i.e., all individuals aged 15 to 24) are active. The indicators are unemployment rate, relaxed unemployment rate and NEET rate. The second dimension called

Working Conditions consists of five indicators that capture the quality of employment. These are the temporary worker rate, the involuntary part-time worker rate, the atypical working hours rate, the in work at risk of poverty rate and the vulnerable employment rate. **Education**, the third dimension, aims to capture the quantity and quality of education and training via two indicators: the formal education and training rate and the skills mismatch rate. Finally, the fifth dimension called **Transition Smoothness** describes the dynamics of the process of transition between school and work. The indicators relative unemployment ratio and long-term unemployment rate comprise this dimension.

Before the indicators are aggregated into a single index, each indicator value is rescaled into an indicator score that takes values between 1 and 7, where higher scores suggest more desirable outcomes. The data for the indicators are collected from different international institutions and cover up to 178 countries from 1991 onward. Unfortunately, data are not available for all countries every year, so one of the major limitations of the KOF YLMI is data availability. When data is lacking, a dimension can occasionally be based on a single indicator or must be omitted entirely when no indicator for that category has data available. A lack of indicators can make comparisons across countries or groups of countries problematic and sometimes even impossible.

Dimensions and Corresponding Indicators of the KOF YLMI
Activity State <ul style="list-style-type: none"> - Unemployment rate - Relaxed unemployment rate³ - Not in employment, education or training (NEET) rate
Working Conditions <ul style="list-style-type: none"> - Temporary worker rate - Involuntary part-time worker rate - Atypical working hours rate - In work at risk of poverty rate⁴ - Vulnerable employment rate⁵
Education <ul style="list-style-type: none"> - Formal education and training rate - Skills mismatch rate
Transition Smoothness <ul style="list-style-type: none"> - Relative unemployment ratio⁶ - Long-term unemployment rate⁷
Source: Renold et al. (2014).

³ Is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: "involuntary inactive").

⁴ Those who cannot make a decent living out their earnings. It is calculated as the number of youth at work but earning less than 60% of the median national income as a percentage of the total working population.

⁵ Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.

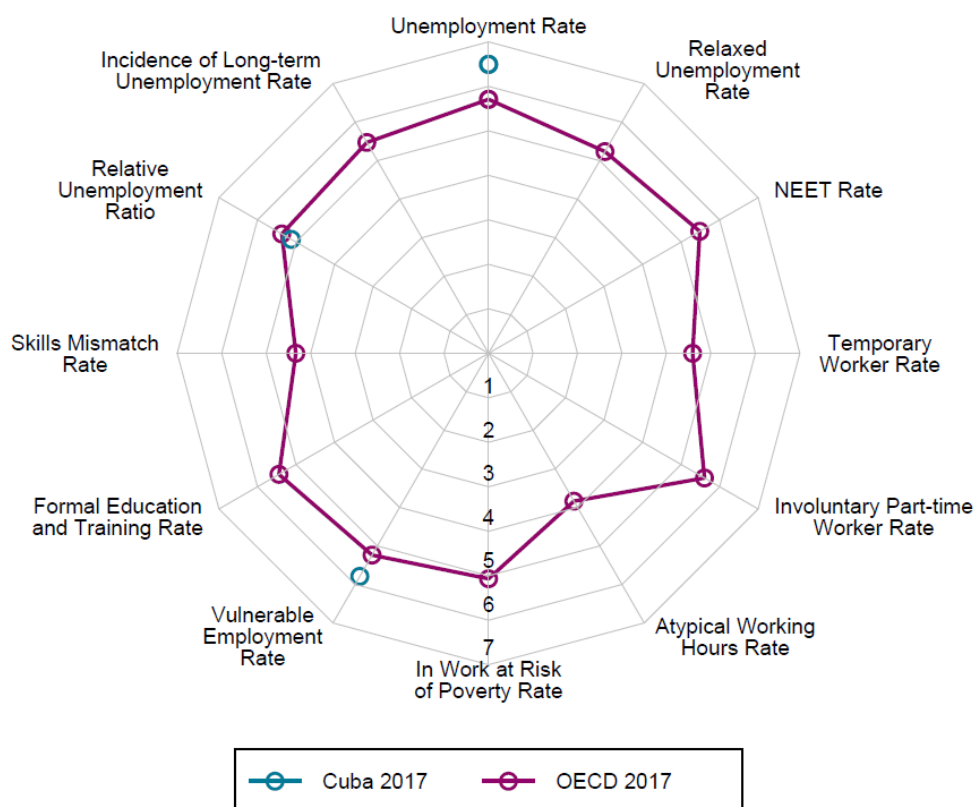
⁶ Is defined as the youth unemployment rate (15-24 years) divided by the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be larger than one.

⁷ Those unemployed for more than one year (52 weeks) as a share of the total number of unemployed (according to the ILO definition).

1.2.3 The KOF YLMI for Cuba

Figure 3 shows the different dimensions of the KOF YLMI for Cuba and the OECD average for 2020 in a spider web. Unfortunately, there are only three indicators available for Cuba for 2017. This makes a comparison between the labour market of Cuba and the OECD less representative. Still, it is still possible to draw a certain conclusion. The relative unemployment ratios and unemployment rates of both comparison groups (Cuba and the OECD average) are in line with each other and rather favourable. The vulnerable employment rate also received a high rating. However, these results for Cuba must be taken with caution due to the less concise tracking of the unemployment, as described in Section 1.2.1.

Figure 3: Youth Labour Market Index Scoreboard: Cuba versus the Organisation for Economic Co-operation and Development Average, 2017



Source: own figure based on the KOF (2020).

Figure 4 shows the evolution of the aggregated YLMI for Cuba and the OECD average over time (2000–2017). An insightful cross-country comparison is nearly impossible due to the lack of indicators describing the Cuban youth labour market. Nevertheless, the KOF YLMI shows that on aggregate, the Cuban youth labour market lags behind that of OECD countries.

Figure 4: Youth Labour Market Index of Cuba versus the OECD, 2000–2017



Note: index based on common indicators available for the whole period considered.

Source: own figure based on KOF (2020).

1.3 Cuba’s Political System

Understanding the basics of a country’s political system and the political goals with respect to its education system are crucial points for understanding the education system in a broader sense. Therefore, in Section 1.3.1, we begin by presenting Cuba’s political system in general. Then, in Section 1.3.2, we focus on the politics and goals of the education system.

1.3.1 Overview of the Cuban Political System

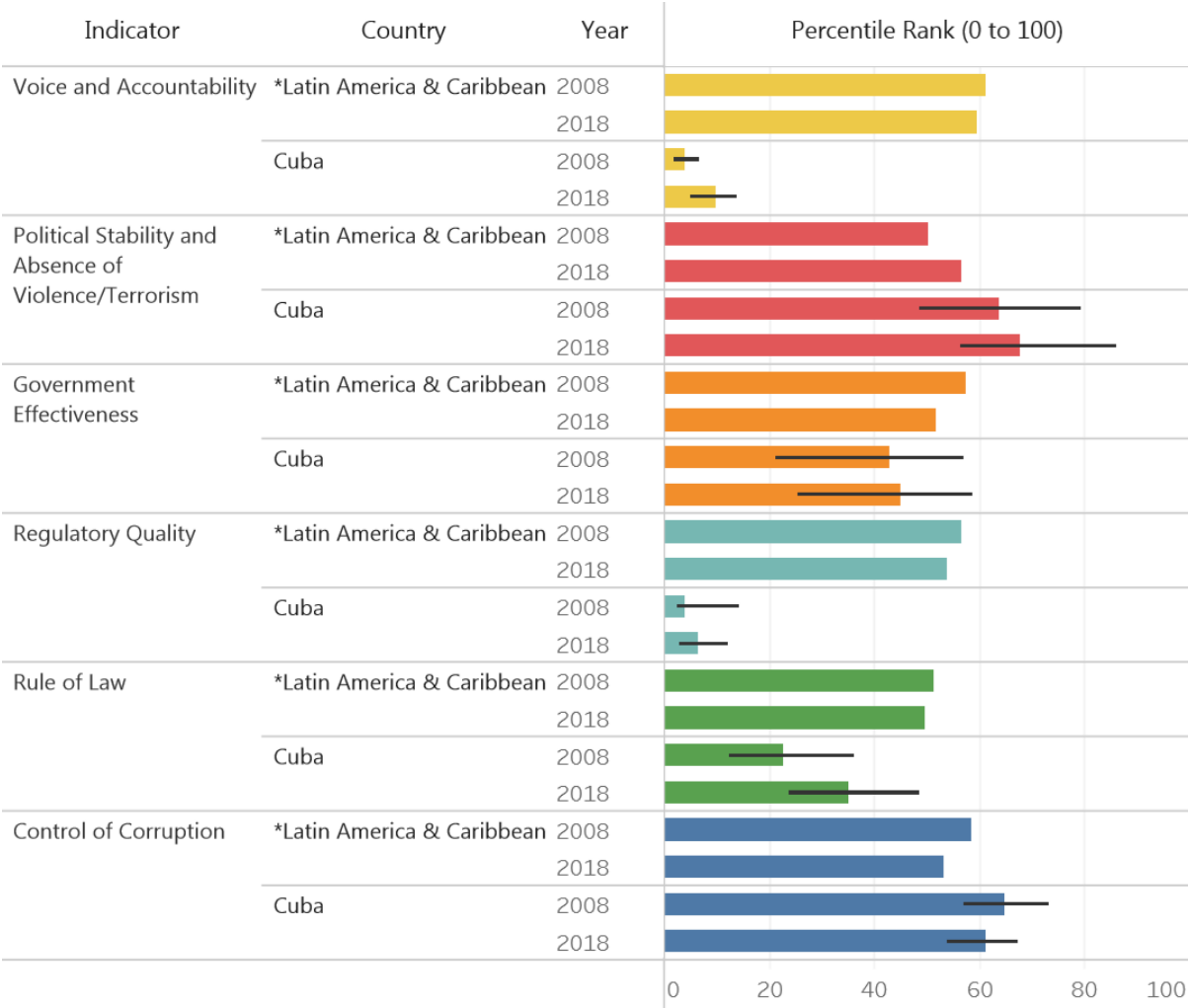
Latin America is one of the most democratic regions of the developing world due to strong democratic fundamentals, which include a high-scoring electoral process and pluralism as well as civil liberties, but further advancements are held back by issues of political effectiveness and culture (The Economist Intelligence Unit, 2019). In contrast, Cuba’s political system is the only one in Latin America categorised as an authoritarian regime,⁸ placing Cuba at rank 143 on the democracy index alongside Cameroon and Afghanistan. The democracy index is based on five categories: electoral process and pluralism, civil liberties, functioning of the government, political participation and political culture.

One indicator of authoritarianism is the Worldwide Governance Indicators. This index aggregates governance indicators in six dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption.

⁸ Authoritarian regimes: *In these states, state political pluralism is absent or heavily circumscribed. Many countries in this category are outright dictatorships. Some formal institutions of democracy may exist, but these have little substance. Elections, if they do occur, are not free and fair. There is disregard for abuses and infringements of civil liberties. Media are typically state-owned or controlled by groups connected to the ruling regime. There is repression of criticism of the government and pervasive censorship. There is no independent judiciary.* **Invalid source specified.**

Voice and accountability describe the ability of the country’s citizens to select their government, and freedoms of expression, association and media are considered. Political stability and absence of violence and terrorism present the perception of the country’s political stability as well as politically motivated violence and terrorism. Government effectiveness describes the perception of the quality of public, civil services; the degree of independence from political pressure; the quality of policy formulation and implementation and the government’s commitment to such policies. The regulatory quality indicates the government’s ability to formulate and implement sound policies as well as regulations that permit and promote private sector development. Rule of law measures the perception of how agents have confidence in and abide by rules of society, in particular considering the quality of contract enforcement, property rights, the police, courts and the likelihood of crime or violence. The control of corruption measurement describes the perception of how much public power is used for private gain, which consists of both petty and grand forms of corruption, as well as the undermining of the government by elites and private interests.

Figure 5: Worldwide Governance Indicators (Latin America and Cuba)



Source: World Bank (2020).

Figure 5 clearly shows large deficits in two areas for Cuba. Voice and accountability show that the citizens have almost no ability to choose their government. This is also reflected in the low ranking on the democracy index. Another deficit is present in the regulatory quality of the country, with its deficit in the development of the private sector.

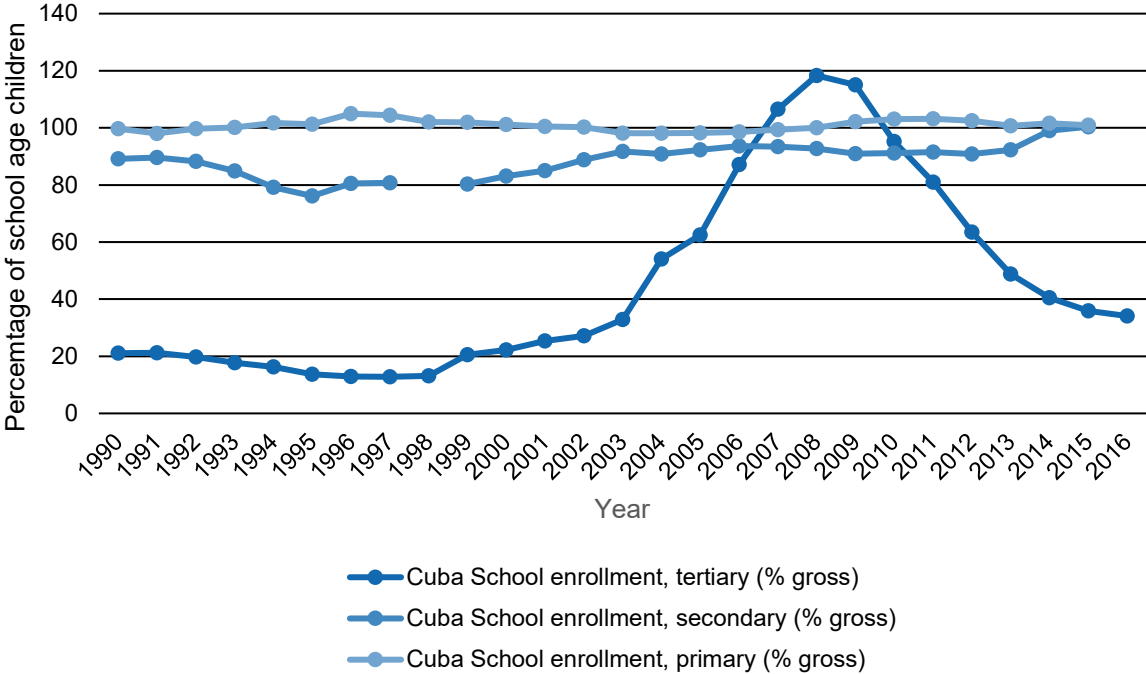
The corruption perception index ranks countries and territories based on how corrupt their public sector is perceived to be. A country or territory’s score indicates the perceived level of public sector corruption

on a scale of 0 (highly corrupt) to 100 (very clean). A country or territory's rank indicates its position relative to the other countries and territories in the index. This year's index includes 175 countries and territories. Cuba ranks 64th, giving the country a score of 46 in 2014 up from a score of 48 in 2012 (Transparency International, 2014).

1.3.2 Politics and Goals of the Education System

Cuba's education system is regularly listed among the top-performing school systems in Latin America (Bruns et al., 2014, p. 11). The table below clearly shows high participation in the education system, which is also said to lead to the highest reported literacy in Latin America. Since 1961, the Cuban education system has been state run, and all institutions are nationalised. One of the hallmarks of the Cuban system that is often praised is teacher education. Aspiring teachers get hands-on experience early in their training. This system is reported to encourage teachers to exchange ideas and promote practical, teacher-led research on how to improve teaching (Bruns et al., 2014, pp. 226-239). For more information on the school system, see Chapter 2. Section 2.6 discusses teacher education in more detail.

Figure 6: School Enrolment Rate



Source: own figure based on World Bank (2020).

Gasparini (2000) has reported on upcoming challenges for the Cuban education system. He notes that the education system will undergo certain difficulties when people's mobility increases. Teachers will be able to earn more outside the system. The government will have to face certain challenges such as maintaining its monopoly on education and keeping well-educated people in the education system to maintain that system's current high standards.

2. Formal System of Education

The Cuban education system can be divided into pre-primary, primary, lower secondary, upper secondary and tertiary levels (Unesco-IBE, 2010, pp. 6-7). Primary education takes six years, lower secondary three years, upper secondary two to four years and tertiary a minimum of four years.

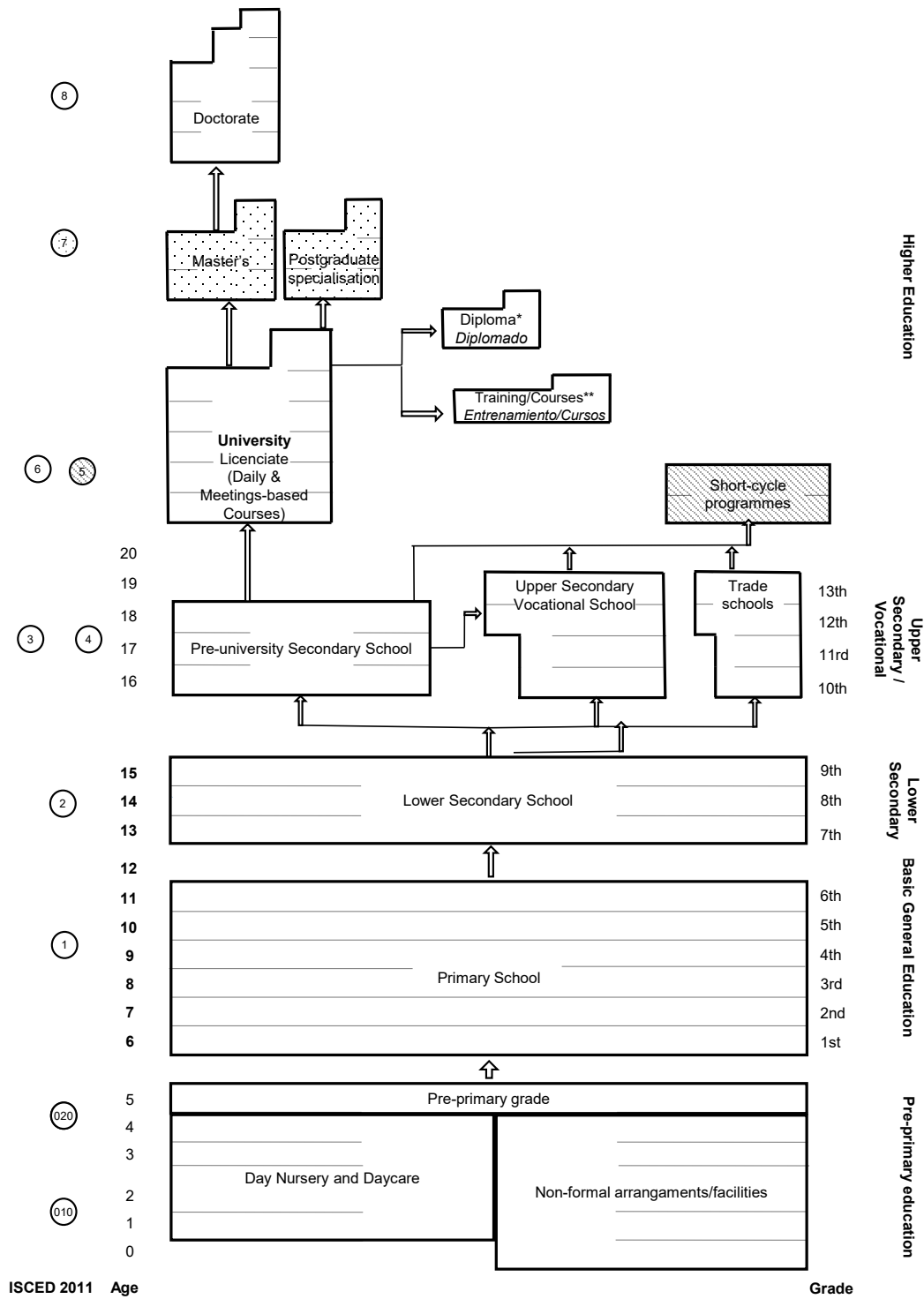
Compulsory education begins at age 6 and comprises primary and lower secondary education for a total of nine years (Unesco-IBE, 2010, p. 6).

Education in Cuba is entirely financed by the state and organised and administered by the Ministry of Education (MINED), with the exception of institutions of higher and tertiary education, which are subordinate to the Ministry of Higher Education (MES; (Unesco-IBE, 2010, pp. 4-5). All education, including university, is free of charge for Cuban citizens (Unesco-IBE, 2010, pp. 2, 6-7). Although there are no private schools that constitute an alternative to the public school system, the recent decade has seen an increase in private education providers that fill perceived gaps in the official curricula, mainly servicing middle- and upper-class families (VOA, 2016).

Mostly for historical reasons, education institutions are classified into 'urban' (Span. *urbano*) and 'countryside' (Span. *en el campo*), the main difference now being the number of agricultural activities included in the curricula (Unesco-IBE, 2010, pp. 24-25).

There has been a remarkable lack of publicly available information and independent reports on the state of Cuban education since 2010, which coincides with the undertaking of several reforms in these areas (López Quintero, 2011, pp. 64, 67).

Figure 7: The Cuban Education System



* Varying length. Minimum of 15 credits, spread over 6 months (art. 24.2 of MES Res. 140/2019).

** Varying length. Minimum of 1 credit (30 hours) (art. 14.1 of MES Res. 140/2019).

Source: own illustration, based on (Unesco-IBE, 2010; UNESCO-UIS, 2007; UH, 2019a; 2019b; 2019c; UCLV, 2020).

Table 5: Net enrolment rate (NER) and gross enrolment rate (GER)

Education Level	ISCED 2011	Net Enrolment Rate	Gross Enrolment Rate
Early childhood education development programmes	010	n/a	n/a
Pre-primary education	020	99.6	100.6
Primary education	1	95.6	100.5
Secondary education	2–3	84.2	101.3
<i>Lower secondary education</i>	2	93.1	100.9
<i>Upper secondary education</i>	3	72.2	101.7
<i>Percentage enrolled in vocational secondary education</i>	2–3	n/a	n/a
Compulsory education age group	1–3	n/a	100.6
Post-secondary non-tertiary education	4	n/a	4.1
Tertiary education	5–8	n/a	39.9
<i>Short-cycle tertiary education</i>	5	n/a	n/a
<i>Bachelor or equivalent level</i>	6	n/a	n/a
<i>Master or equivalent level</i>	7	n/a	n/a
<i>Doctoral or equivalent level</i>	8	n/a	n/a

Source: own table based on UNESCO (2017).

2.1 Pre-Primary Education

Enrolment in pre-primary education is voluntary (Unesco-IBE, 2010, p. 6). Children aged six months to four years can attend formal day care facilities or be covered by non-formal arrangements described below (Unesco-IBE, 2010, p. 12). At the age of five, children can enrol in a one-year pre-school grade. Despite its non-compulsory nature, almost all children in the typical age range either attend formal facilities or receive pre-primary education by way of non-formal arrangements (UNESCO, 2017), which makes Cuba regionally unique in this regard (Bruns et al., 2014, p. 67).

Formal day care facilities are mainly targeted at working mothers (Unesco-IBE, 2010, p. 9), although exceptions are sometimes made (Unesco-IBE, 2006, p. 14). Until 2010, day care staff were required to either have graduated from a higher pedagogical programme comprising a five-year curriculum, or, in the case of teaching assistants, from a two-year vocational programme (Unesco-IBE, 2010, p. 12). In 2010, four-year vocational programmes were introduced (see Section 2.6).

In contrast with formal facilities, non-formal pre-primary arrangements are organised by parents and local communities (Unesco-IBE, 2010, p. 12). Non-formal pre-primary arrangements covered 69% of all pre-school age children in 2005. The reason for this wide coverage is said to be the state promotion of non-formal pre-primary education through the programme ‘Educate your Child’ starting in the 1990s (Unesco-IBE, 2010, p. 12). These arrangements include pre-school teachers and other professionals visiting the children’s families directly as well as regular gatherings (Unesco-IBE, 2010, p. 6; MINED, 2020g). Non-formal pre-primary arrangements are ubiquitous in rural areas of the country where access to a formal facility is scarce. Staff involved in non-formal arrangements may be childcare professionals or volunteers (Unesco-IBE, 2006, p. 15).

The pre-school grade is open to all children aged five (Unesco-IBE, 2010, p. 6). Classes at this level may be held at a day care facility or school.

Children with disabilities may attend special-needs facilities where they are regularly given the opportunity to interact with non-disabled children (Unesco-IBE, 2006, p. 13).

2.2 Primary and Lower Secondary Education

Primary education is compulsory for children aged 6 to 11 (Unesco-IBE, 2010, pp. 12-13). It is divided into two cycles, with the first comprising grades 1 to 4 and the second grades 5 and 6. During the first cycle, playful activities are given priority and traditional classes are kept short, whereas classes in the second cycle are more conventional in style (Unesco-IBE, 2006, p. 16). Foreign language instruction, specifically in English, begins in grade 3 (Unesco-IBE, 2010, p. 15; Pardo et al., 2020, p. 87).

Student assessment on the primary level is conducted on a school-by-school basis (Unesco-IBE, 2006, p. 17). During the first cycle, assessments take the form of qualitative descriptors ranging from 'excellent' to 'insufficient' (Unesco-IBE, 2010, p. 16). Starting in the second cycle (grades 5 and 6), assessments are given in points out of a maximum of 100. The passing grade is 60 points.

As seen at the pre-primary level, there are analogous special needs facilities and services at the primary level staffed and/or offered by education and healthcare professionals (Unesco-IBE, 2010, p. 17). According to the MINED, in 2007, almost 100% of all children who were deemed in need of such services had coverage (Unesco-IBE, 2010, p. 17).

Lower secondary education begins at age 12 (Unesco-IBE, 2010, pp. 19-20). Children automatically gain admittance to these institutions after graduating from the sixth grade. Graduation from ninth grade marks the end of compulsory education at age 15.

In addition to traditional classes including computer science, the curriculum also allocates time for various activities, including pioneer activities such as camping (MINED, 2020e; Unesco-IBE, 2010, pp. 21-26). However, since 2010 there has been a reduction of science and technical classes in the ministry-issued curriculum in favour of 'patriotic' subjects such as the history of Cuba (Unesco-IBE, 2010, p. 21; MINED, 2020h). This is in line with the general intent of the state, and the MINED in particular, to 'face and solve the problems generated by development, and to do so with strong patriotic and revolutionary convictions' (López Quintero, 2011, p. 67).

Throughout the primary and secondary levels, a great deal of time is given to physical, artistic and environmental education, as well as a subject called labour education (Span. *educación laboral*; Unesco-IBE, 2010, p. 13). Labour education has a substantial ideological underpinning comparable to that of other (former) socialist countries and includes various handicrafts and tasks such as woodwork, home economics and agricultural activities (MINED, 2020a; MINED, 2020b; World Bank, 2000, p. 17).

Despite detailed centralised curricula, teachers appear to have great freedom in how to teach subjects, as evidenced by external observations that both schools and head teachers may adjust learning goals and methods as they see fit (World Bank, 2000, p. 11; Unesco-IBE, 2010, p. 20). Furthermore, efforts are made to keep the number of children per classroom at a maximum of 20 and utilise various educational media (Unesco-IBE, 2010, p. 14).

2.3 Upper Secondary Education

The Cuban education system offers two tracks for graduates of the compulsory ninth grade: pre-university education (grades 10 to 12) and vocational education (Unesco-IBE, 2010, p. 7). Technical and vocational schools are examined in more detail in Section 3.1.

There are 410 preparatory institutions in the country, 15 of which have a STEM focus (Span. *Institutos Preuniversitarios de Ciencias Exactas*; MINED, 2020f). In addition to traditional subjects, ideological education, formerly called ‘Principles of Marxism-Leninism’, and military training are part of the official curriculum (Unesco-IBE, 2010, pp. 23-25).

By the end of grade 12, students are awarded the title *bachiller* (Unesco-IBE, 2010, p. 7). Subsequently, they may take the entrance examinations required for daily programmes or enter a meeting-based programme at universities⁹ (MES, 2019c).

Graduates of the preparatory institutions with a pedagogical focus may directly enter one of the corresponding universities (Unesco-IBE, 2010, p. 27). For more information on teacher education, see Section 2.6.

Graduates of the 12th pre-university grade who are unable to enter university due to the strict quota and/or not meeting the requirements for entering (see Section 2.4) may enter a vocational school instead (Unesco-IBE, 2010, p. 27). In these cases, the training period may be shortened to two years (Unesco-IBE, 2006, p. 22). For more information on vocational training, see Section 3.1.

2.4 Postsecondary and Higher Education

Most universities and other higher institutes are administered by the MES (MES, 2020c). In 2018, including institutions administered by other ministries, there were 240,813 undergraduate students enrolled in a total of 37 universities, two higher institutes, nine colleges and two independent faculties (MES, 2019d, pp. 6, 13). Overall, 22.2% of Cuba’s working population have a university degree (MES, 2019d, p. 10).

Admissions quotas are planned and adjusted according to the state’s needs (Unesco-IBE, 2010, p. 27). The total quota according to the 2019 state admissions plan (Table 6) is roughly 80,000 distributed across areas such as engineering, natural sciences and humanities (MES, 2019c).

Prior to the reforms of 2010–2011, the distribution of university students was skewed in favour of social sciences and humanities, with roughly one quarter of all students enrolled in a university in 2009–2010 studying a subject belonging to these categories compared to 7% studying technical sciences (Wolf et al., 2011a, p. 235). Official MES statistics report even higher ratios of humanities students to STEM students (MES, 2019d). In the following years, which also saw a significant decrease in university enrolment between 2011 and 2015, the number of humanities students dropped to less than a fifth of their former numbers, accounting for 15% of all enrolled students in 2018–2019 (MES, 2019d). Table 6 displays the number of students per field of study, according to the MES admission plans (MES, 2019c). Note that the table provided by the MES also contains students that are drafted to military service, which can happen at any time for male higher education who gained a place in a short cycle higher education programme.

⁹ See section see 2.4 for a detailed explanation of both types of programmes.

Table 6: State Admissions Plans for 2018–2019

Area of Study	Total		Normal Pro-grammes (<i>Cursos Diurnos</i>)		Meeting-Based Pro-grammes (<i>Cursos por Encuentros</i>)		Distance Pro-grammes	
	2019	2018	2019	2018	2019	2018	2019	2018
Engineering	8,883	8,421	5,863	5,496	3,020	2,925		
Natural sciences and mathematics	1,530	1,216	1,430	1,136	100	80		
Agricultural studies	5,234	5,540	1,414	1,370	3,730	3,980	90	190
Economics	7,525	7,086	1,790	1,641	3,955	3,765	1,780	1,680
Social sciences and humanities	7,072	6,502	2,252	1,782	2,580	2,480	2,240	2,240
International rela-tions	35	35	35	35				
Health	15,336	17,235	11,533	14,113	3,803	3,122		
Education	24,186	24,706	8,474	7,769	15,627	16,852	85	85
Arts	512	207	190	178	322	29		
Sports	5,263	4,897	1,503	1,705	3,760	3,192		
Minfar (military ser-vice for male stu-dents)	1,916	1,429	1,916	1,429				
Minint (military ser-vice for male stu-dents)	1,363	1,169	1,363	1,169				
Foreign languages	610	610	610	610				
Total	79,465	79,053	38,373	38,433	36,897	36,425	4,195	4,195

Source: Cuban Ministry of Higher Education (MES, 2019c).

Higher education in Cuba has undergone a number of changes in the last two decades. Between 1999 and 2010, restrictions were loosened to allow for greater access to higher education (Unesco-IBE, 2010, pp. 22-23; Breidlid, 2007, pp. 623-624). In 2010, entrance examinations were reintroduced (Wolf et al., 2011a, p. 228). The results thereof account for half of the admission assessment, with the other half being the mean of the student's grades during all three years of pre-university education (Unesco-IBE, 2010, p. 27).

Whereas the 2010 reforms intended to reduce university enrolment, in 2015, non-traditional programmes for part-time students were re-introduced with the intention of widening access to tertiary education again (Juventud Rebelde, 2016). Even though officially available information on these programmes is scarce, they appear to be an integral part of the state admissions plan (MES, 2019c) and may have a high impact in the area of teacher education, currently accounting for two thirds of planned enrolments (see Section 2.6). The most prominent change is the introduction of meeting-based programmes (Span. *cursos por encuentros*, *CPE*; Juventud Rebelde, 2016). During these four- or five-year programmes, students meet with instructors up to once per week to further self-study plans. Notably,

there is no requirement for institutions to hold entrance examinations, although stricter admissions criteria may be applied when there are too many applicants.

In the 2020–2021 school year, the MES enrolment plan allocated resources for a total of 91,609 students, 38,666 of whom were to be educated in traditional university programmes, 38,802 in meeting-based programmes, 4,405 in distance-learning programmes and 10,736 in short-cycle programmes (see Section 3.2; Escambray, 2020).

2.5 Continuing Education (Adult Education)

Different arrangements and stipulations are in place for members of the workforce who either left the school system early or wish to continue their studies in general education (MINED, 2019). These options can be divided into four categories: worker-peasant education (Span. *educación obrera campesina*), secondary worker-peasant education (Span. *secundaria obrera y campesina*), worker-peasant college (Span. *facultad obrera y campesina*) and foreign language schools (López Quintero, 2011, p. 63; MINED, 2019). The first two correspond to elementary and secondary levels of the general education system, while the third is intended for workers who wish to attend a tertiary education institution and therefore need to earn a *bachillerado* (Wolf S. , Hernández Penton, Beltrán Marin, & Romero, 2011b, p. 33). The modalities of said worker-peasant college range from evening courses to more intense programmes.

Until 2014, workers were guaranteed 45 additional days off work to pursue continuing education (Wolf et al., 2011a). This specific provision has since been repealed, although article 40 of the new Labour Code reiterates workers' right to additional time off work for continuing education.

2.6 Teacher Education

In the past, international observers praised the Cuban model of teacher education (World Bank, 2000, p. 9; Bruns et al., 2014, p. 11). However, a teacher shortage which has been an ongoing problem in the past two decades (BBC Mundo, 2012; IWPR, 2015; Breidlid, 2007, p. 623) and recent changes in the structure and organisation of the training of new educators necessitates a thorough re-evaluation of the system as a whole.

Until 2010, teacher education had been under the purview of the MINED (Unesco-IBE, 2010, p. 31). There were 16 higher institutes of educational sciences (Span. *universidades pedagógicas*) separate from other universities, with one for each province in the country and two in Havana. These institutions offered five-year programmes for teachers in all areas of education from pre-school to upper secondary education and award the title (Span. *título*) *Licenciado en Educación*. In addition to the universities, future teachers receive part of their practical training in nearby schools (Unesco-IBE, 2010, p. 31; López Quintero, 2011, p. 66). There, experienced teachers served as mentors (Bruns et al., 2014, pp. 154, 229). Independent reports state that under these curricula, 72% of prospective teachers' total course work was completed in schools (Bruns et al., 2014, pp. 27-28).

In 2015, several changes were made to the overall system of teacher education, most likely to address the aforementioned shortages. As such, the relevance of previous reports is questionable. Nonetheless, reports covering the period before 2015 are cited when information that is more recent is unavailable.

There has been a slow transition from the five-year MINED programmes outlined above to a multi-track system. Some upper-secondary schools provide pedagogical programmes that train licensed teachers

(Span. *maestros/-as*) for the pre-school, primary and special education levels, including English language classes at the primary level (MINED, 2020c). These programmes take four years to complete and include up to 25% practical training according to official curricula (MINED, 2020d).

Many of the higher institutes for educational sciences mentioned in the 2010 and 2014 reports by Unesco-IBE (2010) and the World Bank (2014), respectively, have been integrated into regular universities, which are under the responsibility of the MES (MES, 2020a). This institutional transformation has been gradual, as evidenced by MES statistics (MES, 2019d). The corresponding faculties continue to offer five-year programmes for aspiring teachers with a total of 24 specialisations (MES, 2019a), including university-level tracks for teaching positions in vocational schools (MES, 2016). However, the focus of the state has shifted from the traditional programmes to meeting-based programmes (CPE), as outlined in Section 2.4. As opposed to roughly 8,500 for traditional programmes, 15,600 students were expected to enrol in CPE programmes for teacher education in 2019 as per state planning (MES, 2019c). There are both four- and five-year CPE education programmes (MES, 2016). Another recent innovation in the tertiary education sector which also affects teacher education is the addition of short-cycle programmes (Span. *ciclo corto*), which are discussed in more detail in Section 3.2.

There are other characteristics that previous reports stressed as uniquely Cuban. Among those were, for instance, teacher learning groups (Span. *colectivo pedagógico*) for every discipline at each school (Bruns et al., 2014, p. 226; World Bank, 2000, p. 9) as well as the imperative that teachers conduct independent research (Bruns et al., 2014, p. 229). Furthermore, there are reportedly promotional tracks for educators leading up to management positions in municipal education (Bruns et al., 2014, p. 229), regular evaluations of teachers' and students' performance, the possibility of dismissal in case of poor results (Bruns et al., 2014, pp. 226, 230, 235) and high teacher salaries (Bruns et al., 2014, p. 229).

Despite Cuba's aging population (Mesa-Lago, 2017, pp. 1-2), Cuban schools have reportedly struggled to fill teacher vacancies. Official numbers of unfilled positions range from approximately 4 to 6% (Havana Times, 2012; IWPR, 2015). While untrained staff are being used as a short-term solution, teaching institutes appear to produce too few teachers, with yearly state admissions quotas unmet (BBC Mundo, 2012). This is partly corroborated by MES statistics (MES, 2019d, pp. 52, 60).

In addition to an insufficient flow of aspiring teachers into the education system, a great number of veteran teachers have left the profession in the past two decades (BBC Mundo, 2012). The main reason given for this exodus of educators is the opening of the tourism sector by the state as a means to recuperate economic losses sustained after the fall of the Soviet Union (Breidlid, 2007, pp. 622-623). In the face of mounting living costs, many teachers were reportedly drawn to the private sector, choosing self-employment, for example, because salaries for education staff were not competitive (BBC Mundo, 2012; Breidlid, 2007, p. 623). This is in stark contrast to reports indicating a high salary level for teaching staff (Bruns et al., 2014, p. 229). Recent reports suggest that countermeasures such as wage increases are being taken (OnCubaNews, 2019; El Economista, 2015), although similar measures have yielded meagre results in the past (Breidlid, 2007, p. 623).

3. The System of Vocational and Professional Education and Training

This section of the factbook describes the vocational education and training (VET) system at the upper secondary level and the professional education and training (PET) at the tertiary level in more detail. Thereby, the term vocational and professional education and training (VPET) refers to both the VET and PET systems.

This chapter is mainly based on information about the Cuban VPET system up until 2010. As of 2018, two major legislative reforms had been introduced: decree-law (Span. *Decreto-Ley*) № 350/17 of the state council, promulgated in 2018, and decree (Span. *Decreto*) № 364 of the council of ministers, promulgated in 2020. Both pieces of legislation reiterate and refine many elements present in reports on VPET from the time period up to 2010 while reforming others or introducing new ones. However, the implications of this new legislation are still unknown. As such, Section 4.1 explores these issues in more detail, while Section 3.5 contains an overview of all newly established institutions involved in the curriculum value chain.

3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

Vocational upper secondary education concludes with one of two certificates: the diploma for skilled workers (Span. *obrero calificado, calificación obrero*) or the title (Span. *título*)¹⁰ intermediate technician (Span. *técnico medio*; Wolf et al., 2011a, p. 233). The former normally takes two years and the latter three or four years depending on the profession (Unesco-IBE, 2010, p. 7).

Similarly, there are two different institutions for VET in Cuba: trade schools (Span. *escuelas de oficios* or *escuelas taller*, lit. ‘workshop schools’; Ecured, 2019), which mostly cover construction professions, and the much more common polytechnic schools (Span. *centros politécnicos*; Unesco-IBE, 2010, pp. 6, 28). Both institutions confer one of the two qualifications mentioned above (Wolf et al., 2011a, p. 233; Ecured, 2019). In 2008, there were reported to be 150 trade schools, or institutions for basic qualifications, and 325 polytechnic schools (Wolf et al., 2011a, p. 233). The most recent government statistics indicate a total of 410 VPET institutions, of which 361 are run by the MINED, with the rest being administered by other unspecified organisations (ONEI, 2020).

Polytechnic schools require a ninth grade certificate of graduation for enrolment (Unesco-IBE, 2010, p. 28), whereas trade schools require none and, in some cases, allow enrolment from as low as the sixth grade (UNICEF, 2020). Entrants from pre-university institutions who have been unable to enter a university due to quota restrictions, however, may enrol in an intermediate technician programme and complete it in two or up to two and a half years (Unesco-IBE, 2010, p. 22).

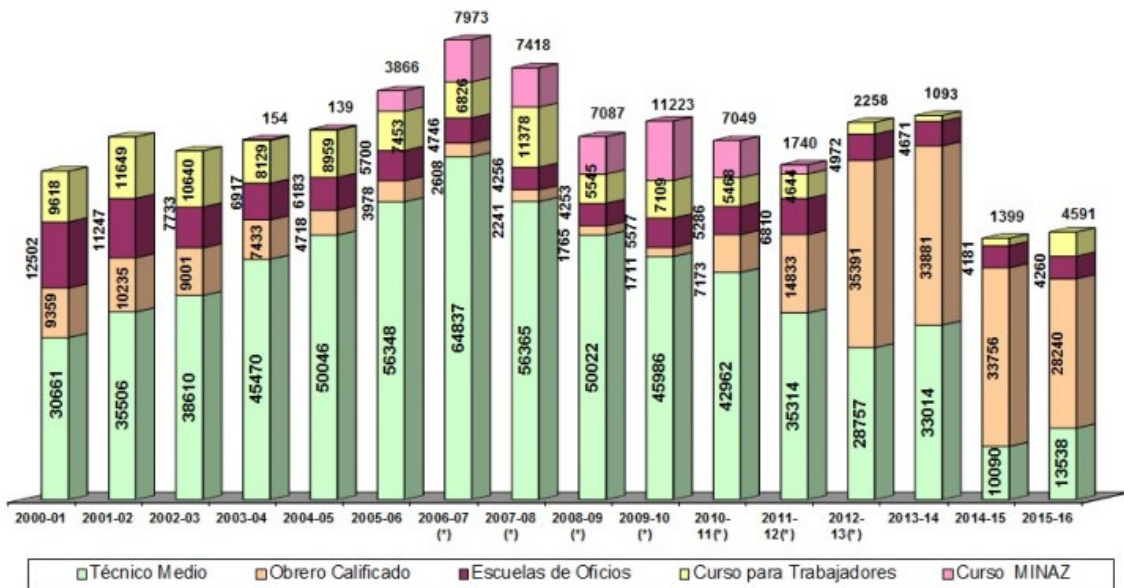
According to independent figures, in 2000–2001, over 60% of lower secondary school graduates embarked on a VET track (Wolf et al., 2011a, p. 233). Official numbers from the 2008–2009 school year

¹⁰ Which makes it – at least in terms of the nomenclature in Cuban education – comparable to a high school degree (Span. *bachillerado*).

are around 58% (Unesco-IBE, 2010, p. 29). Official statistics and recent articles from Cuban state media report similar numbers (Juventud Rebelde, 2019; ONEI, 2020). According to figures from 2018, out of all the students enrolled in VET, 46% were enrolled in a skilled worker programme, whereas 54% were training to be intermediate technicians (ONEI, 2020).

According to MINED data, Cuba has seen a dramatic increase in graduates from diploma tracks (i.e., qualified workers) since 2010. The numbers have increased from roughly 7,000 in 2010 to a peak of 33,800 in 2013 (MINED, 2020i). The number of graduates of intermediate level VET courses, on the other hand, has decreased by 80% in the same time period. However, statistics from the National Statistics Bureau ONEI (2020) indicate different total graduate and program-level graduate numbers.

Figure 8: Absolute Number of Graduates from Different Vocational Education and Training Tracks



Source: MINED (2020i).

According to the most recent pre-reform ministerial resolution defining VET programmes, there are 36 intermediate technician professions in 10 families (MINED Res. 81/2006).¹¹ A 2019 state media report indicates that there are 52 skilled worker types and 54 intermediate technician specialisations (Juventud Rebelde, 2019). The Cuban system of vocational and professional training originally borrowed heavily from the Soviet model characterised by an emphasis on activities in schools, with on-the-job training being of secondary concern (Wolf et al., 2011a, p. 235). As such, a significant part of the training is conducted in school (Wolf et al., 2011a, p. 234), albeit with a focus on practical activities (Unesco-IBE, 2010, p. 28). Nevertheless, it is reported that teachers choose to move the classroom activities elsewhere when deemed appropriate (Sabir & Ottenbrei-Leftwich, 2014, S. 259-260). Ongoing structural changes since 2010 have added the concept of adjacent training facilities in polytechnic institutes, where specialists train and supervise students in practice¹² (López Quintero, 2011, p. 68).

Within the pre-reform¹³ system, curricula are defined in ministerial resolutions (e.g., MINED Res. 81/06). Reports on intermediate technician programmes suggest that the first year consists of eight hours per week of activities in workshops as well as six hours per week of so-called workshop studies (Span. *teórica de la taller*), all of which are conducted in schools (Wolf et al., 2011a, p. 234; 2011b). In the

¹¹ See Appendix 1 for an overview of the legislative documents referenced here.

¹² These 'aulas anexas' are also referenced in decree 364/2020, specifically articles 74-77 of the accompanying MINED resolution. See 4.1 for a discussion of these reforms.

¹³ See section 4.1

second year, the curriculum has a more practical focus with the possibility of an early internship depending on the enterprise involved (Wolf et al., 2011b, p. 35). An internship during the third year, however, is mandatory. Finally, a full-time work placement where the student is still supervised is mandated for the second half of the fourth year.

3.2 Professional Education and Training (PET; Post-Secondary Level)

There is a lack of systematic evidence suggesting the large-scale deployment of a formally codified PET system prior to 2018. However, recurring references to two different PET pathways can be found in reports and legislation, although the pervasiveness of these pathways and the extent to which they play a role in worker training is unknown.

Previously, article 2 of decree-law 45/81 of 1981 explicitly referenced training centres belonging to state entities and others¹⁴ (*centros de capacitación técnica de los organismos y órganos del Estado* [...]). In addition, both the old Labour Code of 1984 as well as the Labour Code of 2014 state that it is employers' responsibility to ensure and arrange technical training (Acevedo et al., 2019, p. 179). These Codes may have provided a legal basis for in-house training, though there is little information available regarding whether this is formal PET. For instance, Acevedo et al. (2019, p. 179) state that the Ministry of Transport is the main provider of PET for the field of logistics. It may therefore be safe to assume that similar arrangements have been and continue to be the pillar of PET in Cuba.

Another form of PET may be found in postgraduate specialisations (Span. *especialidades de posgrado*), training programmes (Span. *entrenamiento*) and diploma courses (Span. *diplomados*; UH, 2019a; UH, 2019b; UH, 2019c; Unesco-IBE, 2010, p. 7). This track, also called *superación profesional de posgrado* in official documents, was introduced in 2004 and received an update in 2019 (see Appendix 1). Specialisations are two- to three-year courses offered by universities to licentiate graduates and are tailored to a specific position or area of expertise. Recent examples for specialisations from various areas include fruticulture, accounting, hospitality management, IT security, management of educational institutions, public administration, tourism marketing and museology (MES, 2019b). Diploma courses, on the other hand, are similar programmes with shorter curricula, ranging from 6 to 18 months (Unesco-IBE, 2010, p. 7). Finally, training programmes are short-term educational modules of a minimum length of 30 hours of course work,¹⁵ which may also be part of the aforementioned diploma courses. Applicants to these PET programmes must, as per the relevant MES resolution (art. 11 of № 140/2019), be graduates of tertiary education institutions.

2018 saw the introduction of ISCED-5-equivalent short-cycle technical programmes (MES, 2019d, p. 5; Gaceta Oficial, 2018). These short-cycle programmes are meant to be a middle ground between VET qualifications and university degrees (Juventud Rebelde, 2018a) and are supposed to guarantee graduates access to the labour market (Gaceta Oficial, 2018). Both urban and municipal universities are offering this type of programme as per the relevant MES resolution (Gaceta Oficial, 2018).

With this new addition, the Cuban government intends to address the decrease in tertiary education enrolment in recent years and modernise professional education as a means of responding to economic and demographic changes (Juventud Rebelde, 2018a).

Enrolment requires applicants to be below the age of 25 (Juventud Rebelde, 2018b) and hold an upper secondary diploma or be a pre-university or four-year intermediate technician (MES, 2020b). Youth who have failed a university entrance examination or failed to complete a university programme are also

¹⁴ The role of these training centres is described in more detail in the new decree-law 350/17 of 2017 (Chap. 3, Articles 12-21). See section 4.1 for more information on the recent reforms.

¹⁵ Based on article 14.1 of MES resolution 140/2019. Previously 48 hours according to article 15 of MES resolution 132/2004.

explicitly allowed to enter (Juventud Rebelde, 2018a). As with meeting-based programmes (see Section 2.4), there is no state provision requiring entrance examinations, though universities may introduce appropriate measures when there are too many applicants. State media, citing MES officials, report that there is an age limitation of 25 (Juventud Rebelde, 2018a).

As of 2020, prospective students were able to choose from 32 programmes, of which nine are secondary teacher programmes and 17 are health-related higher technician programmes (MES, 2020b). Some examples of these programmes are logistics, sustainable commerce, sustainable tourism, network administration and IT security. Apart from a few exceptions, graduates of non-education short-cycle programmes receive the title of higher technician (Span. *técnico superior*), whereas education majors are awarded the appropriate teaching titles (Juventud Rebelde, 2018b).

As of 2018, there were no plans to introduce higher PET programmes as a continuation of the aforementioned short-cycle programmes (Juventud Rebelde, 2018a), although graduates of these programmes are allowed to enter university if they meet the admission criteria (Gaceta Oficial, 2018).

The MES resolution 98/2018 constitutes the legal basis for short-cycle programs (Juventud Rebelde, 2018b).

According to official documents, curricula consist of 20% practical training as well as between 9 and 13% ideological education for three- and two-year programmes, respectively (Gaceta Oficial, 2018).

According to official MES figures, there were 3,371 students enrolled in short-cycle programmes in the 2018–2019 school year (MES, 2019d, p. 10). The 2020 MES enrolment plan allocated resources for 10,736 prospective students in these programmes (Escambray, 2020).

As a fresh addition and a first for the Cuban system, the introduction of these short-cycle programmes is being conducted in a gradual manner (Juventud Rebelde, 2018a; Escambray, 2020).

3.3 Regulatory and Institutional Framework of the VPET System

Due to unreliable access to Cuban legal texts – a problem likewise observed by Grant et al. (2017, p. 81) – many of the documents mentioned in this section were not available at the time of writing. Therefore, the following discussion of the legislative and administrative basis for VPET in Cuba may not be exhaustive.

Appendix 1 contains an exhaustive overview of all major legislative acts pertaining to VPET from 1974 to 2020, including documents which were not available at the time of writing. All references to legislative documents made hereafter refer to entries in this table.

3.3.1 Central Elements of VPET Legislation

The parts of the Cuban legislative system that are relevant to this discussion of the VPET system are laws passed by the National Assembly of People's Power, decree-laws (Span. *decretos-leys*) promulgated by the State Council outside of parliamentary sessions,¹⁶ decrees declared by the Council of Ministers¹⁷, and ministerial resolutions which regulate state business in more detail (Grant, et al., 2017,

¹⁶ Grant et al. (2017, pp. 99-100) state, quoting Correa (2004), that decree-laws have 'similar effects' as laws passed by the National Assembly. In fact, all of the legislative instruments mentioned above are 'of a general character and scope' (Grant, et al., 2017, p. 107).

¹⁷ The Council of Ministers is somewhat similar to, for example, a cabinet in a Westminster system, in that it is tasked with the implementation of laws and decree-laws (Grant, et al., 2017, pp. 101-102).

pp. 88, 102, 107-108). It is of note that according to a review of Cuban legal literature by Grant et al. (2017, p. 108), there appears to be no agreement as to whether these legislative documents relate to each other in a hierarchical manner.

The legislative framework for VPET in Cuba has largely been the same since 1980 and possibly even since 1974. Law № 1272 of 1974,¹⁸ which appears to still be in force (ILO, 2020), declares that there is a unified state policy on VPET and that the MINED is responsible for its organisation and implementation (UFDC, 2020).

Decree-law № 45/81 of 1981 titled 'On the technical training of workers' (Span. *De la Capacitación Técnica de los Trabajadores*) defines the overall structure and aims of VPET and the competencies of organisations within the system (Wolf et al., 2011a, p. 234). Next, there appear to have been two decrees from 1980 and 1984 detailing practical and technical training.¹⁹

Detailed provisions for actors involved in VPET as well as the status of state-certified professions and curricula are regulated in resolutions of the respective ministry (Grant, et al., 2017, p. 102; Unesco-IBE, 2010, p. 3). The latest pre-reform MINED resolution (№ 81/06 of 2006) contains descriptions and curricula for 38 intermediate technician qualifications. The legislative framework for university-track PET (Span. *superación profesional*) is established in MES resolution 132/2004, which has been replaced by MES resolution 140/2019.²⁰ Furthermore, MES resolution № 98/2018 constitutes the legal basis for the short-cycle programs described in Section 3.2 (Juventud Rebelde, 2018b).

Until 2013, the legal framework for employment contracts in VPET contexts was provided by the Labour Code (Span. *código de trabajo*), specifically law № 49 of 1984, which has since been repealed by law № 116 of 2013 (Grant, et al., 2017, p. 113).

As for academic-track PET (see Section 3.2), MES Resolution №/2004 contains regulations regarding postgraduate courses and trainings. This pathway has been updated in MES Resolution № 140/2019. However, most of the modalities and stipulations have ostensibly stayed the same.

As of 2020, there have been two major rewrites that either replace or modify the legislation listed above or clarify practices. These are examined in more detail in Section 4.1.

3.3.2 Key Actors

a) Vocational Education and Training

Government

According to legislation in force until 2020, the MINED is responsible for overall VPET, and VET in particular (Wolf et al., 2011b, p. 234). According to article 4 of the relevant decree-law № 45/81 of 1981, the MINED has the competency to determine norms regarding VPET, establish guidelines for qualifications, oversee and evaluate all actors involved in VPET, issue methodological guidelines and ultimately determine the contents of study plans for all actors involved.

Accordingly, ministerial resolutions promulgated by the MINED define occupations or specialisations and the corresponding curricula. As an example of this, the latest pre-reform resolution of this nature (№ 81/06 of 2006) defines 38 intermediate technician qualifications.

¹⁸ The full text was not available at the time of writing.

¹⁹ The decrees mentioned are decree № 63 of 1980 and decree № 122 of 1984. Full texts were not available at the time of writing.

²⁰ See section 4.1 for more information.

Representation and Advisory Bodies

As far as can be determined through documents available at the time of writing, prior to the reforms of 2020 there were no VPET-specific representative or advisory bodies, although article 5 of decree-law № 45/81 states that the Workers' Central of Cuba (Span. *Central de Trabajadores de Cuba*) and trade unions are to be involved in a coordinative function of some kind. However, it is unclear how this may have been implemented in practice. There are no further references to representative or advisory bodies prior to the 2020 reforms.

Education and Training Providers

Article two of the relevant decree-law № 45/81 states that work-related training activities are to be conducted in the national education system as well as training centres.

As outlined in Section 3.1, in practice, the main providers of VET are trade schools and polytechnic schools (Unesco-IBE, 2010, p. 6). Work-based training is provided by but not limited to state enterprises in the form of short-term internships and work placements (Wolf et al., 2011b, p. 35). As of 2020, this holds true even after the expected implementation of the reforms of the same year. However, the legislative basis under which these institutions operate remains unclear.

b) Professional Education and Training

Government

The MES appears to have assumed the role of the top-level body for PET, though information on the preceding legislative framework is unavailable at the time of writing. In recent reforms, the ministry has been tasked with regulating PET centres and short-cycle programmes (see Sections 4.1 and 3.2, respectively).

Representation and Advisory Bodies

Nothing can be said about representation and/or advisory bodies in general PET due to a complete lack of information on this topic. The latest reform of postgraduate specialisation tracks (MES Res. № 140/2019), however, introduced two new top-level advisory bodies that are to monitor ministerial and institutional activities in the relevant fields. See Sections 3.5.2 and 4.1 for more information.

Education and Training Providers

As already stated in Section a), article 2 of decree-law № 45/81 mentions 'training centres' (Span. *centros de capacitación*). Due to a lack of detailed documentation on these institutions, it is not possible to make precise statements on this topic. What can be inferred from various sources, such as the Labour Code and Acevedo et al. (2019, p. 179), is that employers are responsible for further professional training and education, and various ministries have training centres of their own.

In the case of postgraduate professional training (Span. *superación profesional de posgrado*), both old and new MES resolutions (art. 20 of № 132/04 & art. 21 of № 140/2019) designate tertiary education institutes as providers of postgraduate PET. However, the new resolution leaves some room for a diversification of PET providers, with article 21 specifically mentioning '[education] centres authorised by the MES to carry out professional postgraduate training'. Further stipulations regarding the certification process of these types of institutions are laid out in articles 76–81 of the resolution. Article 76 specifically lists 'branch schools', 'training centers' and 'entities of science, technology and innovation' (Span. *ECTI, entidades de la ciencia, tecnología y innovación*) as well as 'other centres that are compliant with established regulations'.

3.4 Educational Finance of the VPET System

3.4.1 Educational Finance of the VET system

Little information regarding financing of the VET system is available. Various sources indicate that education in general is free of charge (López Quintero, 2011). Thus, the available information points to a mainly state-funded system prior to 2018, with the 2020 reforms leaving some room for licensing of non-state actors and thus privately funded VPET (see Section 4.1). Before 2018, a strong link existed between state-owned organisations and the VET system since experts from these organisations taught many labour-based courses (López Quintero, 2011). For instance, the 2006 UNESCO-IBE report (p. 9) states that all educational services and investments therein, which implicitly includes the VET sub-system, are funded by the state budget as approved by the National Assembly, with separate funds at the MINED's disposal. This information is missing from the more recent 2010 UNESCO-IBE report.

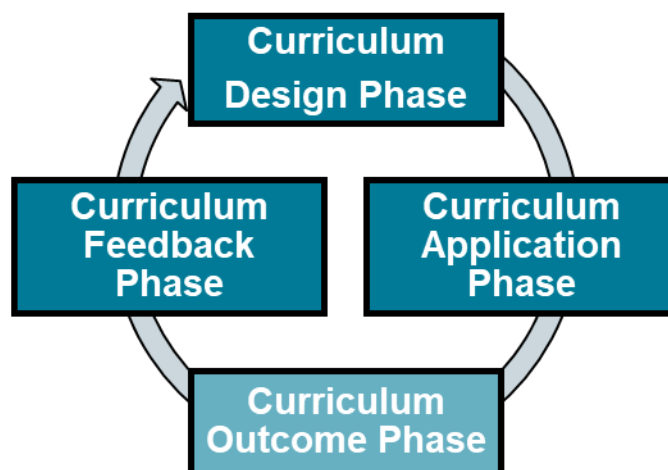
3.4.2 Educational Finance of the PET System

As with the VET system (see Section 3.4.1), there are no detailed reports on PET finance. Acevedo et al. (2019) reference foreign-based private-sector firms providing further PET in logistics, which might be an indication that in a few sectors of the economy, private companies provide PET internally.

3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system because it defines the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with curriculum design, curriculum application and curriculum feedback phases. This theoretical concept is called the curriculum value chain and is depicted in Figure 6 (for more details, see Renold et al. 2015; Rageth & Renold, 2019).

Figure 9: Curriculum Value Chain



Source: Renold et al. (2015) and Rageth & Renold (2019).

In the curriculum design phase, the relevant actors decide upon VET curriculum content and qualification standards. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation concerning curriculum design in Cuba. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ substantially across countries, especially with respect to the prevalence of workplace learning, the curriculum application phase subchapter in this factbook focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. This evaluation process is important because it may render a more refined curriculum design than was possible in the first place.

3.5.1 Curriculum Design Phase

The design phase is crucial for the whole curriculum process. To ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning content of the curricula.

It is unclear how curricula were developed prior to the reforms that began in 2018. The reason for this is the scarcity of reports on VPET in Cuba as well as a lack of access to legislative documents through the internet. The only verifiable fact is the state's, especially the MINED's, heavy involvement in these processes. As such, the mechanisms that yielded the VPET sub-systems described in Sections 3.1 and 3.2 remain largely unknown.

Fortunately, due to increased access to Cuban legislative documents on the internet, it is possible to review the institutional framework set out through the latest reforms. In this context, decree № 364/2020 '*De la formación y desarrollo de la fuerza de trabajo calificada*' and its accompanying MINED and MES resolutions contain detailed provisions pertaining to the curriculum development process.²¹ For a general discussion of the reforms, see Section 4.1.

The new decree and its accompanying MINED and MES resolutions stipulate the formation of two types of inter-sectorial institutions involved in the curriculum design process. The National Specialist Committees (Span. *comisiones nacional de especialistas*) and the National VPET Committee (Span. *comisión nacional de formación vocacional y orientación profesional*; articles 21/22 of decree № 364/2020 and

²¹ See Appendix 1 for an overview of VPET legislation.

70 of the accompanying MINED resolution) are the two institutions involved in the curriculum design process.

Individual National Specialist Committees are created based on 'specialties, groups or branches within production and services' (*por especialidades, grupos o ramas de producción y los servicios*; MINED Res. 289/2019 Art. 70.1). These committees staffed by MINED officials, representatives of businesses and training centres and senior VPET teaching staff are tasked with developing curricula and regularly adjusting these curricula according to the results of surveys from provincial specialist committees (MINED Res. 289/2019 Art. 70.2).

The function of the National VPET Committee, on the other hand, is to act as the top-level oversight body, establishing a national strategy for VPET and evaluating the work of all the other actors involved, including the MINED and MES (Decree 364/2020 Art. 21-23). Two functionaries of the MINED and MES each act as chairpersons of the national committee, while a relevant article of the decree states that representatives from 'organisations of the central state administration and national entities using a qualified workforce' may participate.

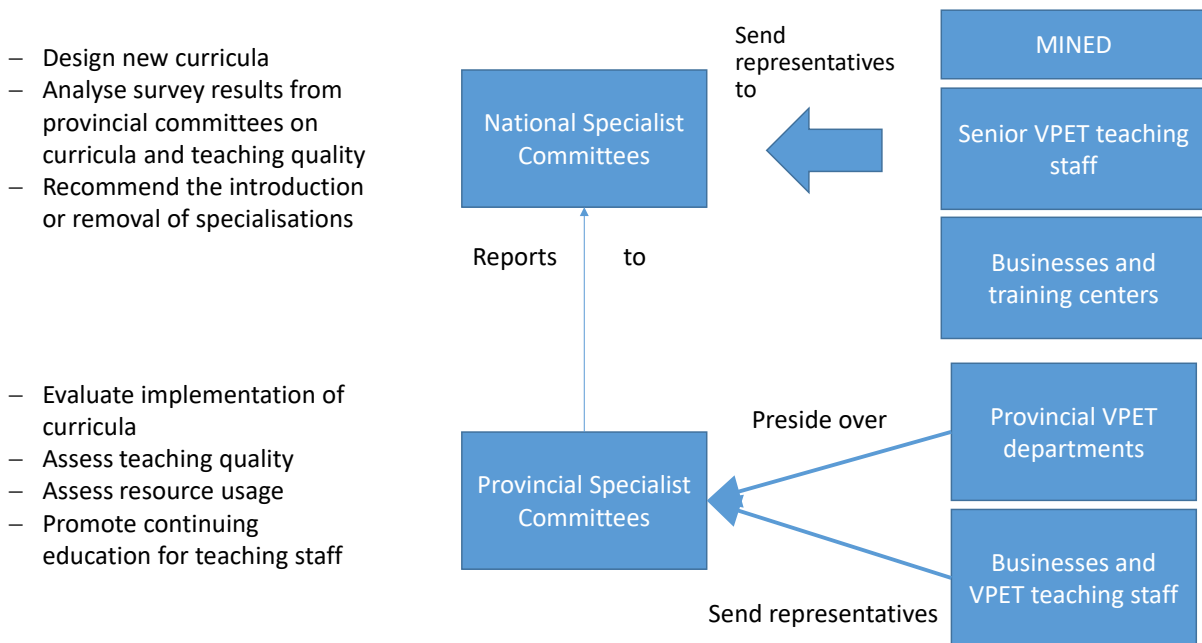
The curriculum design process may begin with a petition to the MINED for the introduction of a new specialisation. Article 66 of the MINED resolution authorises central state administration bodies, national entities and businesses to file such a petition. National specialist committees may also recommend the introduction of specialisations. In the case of existing specialisations, the relevant specialist committee will revise the curriculum. The MINED may then approve or deny new specialisations based on the national economic plan.²² As Figure 10 shows, curricula are designed and revised based on survey results from provincial specialist committees.

As for curricula of short-cycle programmes, top-level curricula design is conducted by individual career committees for VPET (*comisiones nacionales de carreras*;²³ MES Res. 98/2018 Appendix 1). A standing committee is formed when there is no equivalent committee for the programme proposed. Groups consisting of academic staff and experts from the relevant field are then tasked to make a selection of teaching materials. However, the MES prescribes that implementation of different subjects still be flexible enough to accommodate the needs of different students as well as local businesses.

²² Quotas for individual specialisations are set by provincial and municipal administrations, as per article 18.1a of the decree No 364/2020.

²³ It is feasible that these may be replaced by the specialist committees described in the 2020 decree.

Figure 10: Overview of the Specialist Committees



Source: own figure.

As for postgraduate specialisations and similar short-term PET programmes (see Section 3.2), design and monitoring duties are completed by individual ‘academic committees’ (Span. *comité académicos*) staffed by at least five experts designated by the dean of the faculty involved or the president of the institution (art. 36 & 73 of MES Res. № 140/2019). Articles 66 and 68 of the relevant 2019 resolution stipulate the formation or involvement of two top-level advisory bodies in this context: the MES Directorate of Postgraduate PET (Span. *Dirección de Educación de Posgrado del Ministerio de Educación Superior*) and the Advisory Commission for Postgraduate Education (Span. *Comisión Asesora para la Educación de Posgrado*). The former is tasked with strategy and monitoring on a national level, including recommendation of specialisations; the latter is to monitor the quality of and compliance with national policies.

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented, especially with respect to learning environments, is important to achieve the intended learning outcome.

The VPET reforms as formulated in decree-law № 350/17 and decree № 364/2020, while constituting somewhat of a departure from an entirely centrally planned VPET system, do not fundamentally change the modalities described in Sections 3.1 and 3.2. Since neither contain any evidence that suggests otherwise, it is safe to assume that VET is still mainly delivered through schooling. For PET, on the other hand, attempts at codification²⁴ are apparent, with the decree-law introducing a certification framework for training centres and the MES Res. № 140/2019 further opening the scope of academic-track PET. In other words, PET is most likely to be delivered in training centres belonging to business groups or ministries, or in the case of postgraduate specialisations and similar programmes, in tertiary education institutions. Finally, MES resolution № 359/18 introduces ISCED-6-equivalent short-cycle programmes to be offered by universities. The decree and its accompanying resolutions introduce regulations regarding the relationship between businesses and educational institutions as well as a set of quality assurance

²⁴ As mentioned in 3.2, the extents to which PET overall is or has been codified are unknown.

measures. These stipulations influence both the workplace and cost-sharing sub-dimensions within the curriculum application phase.

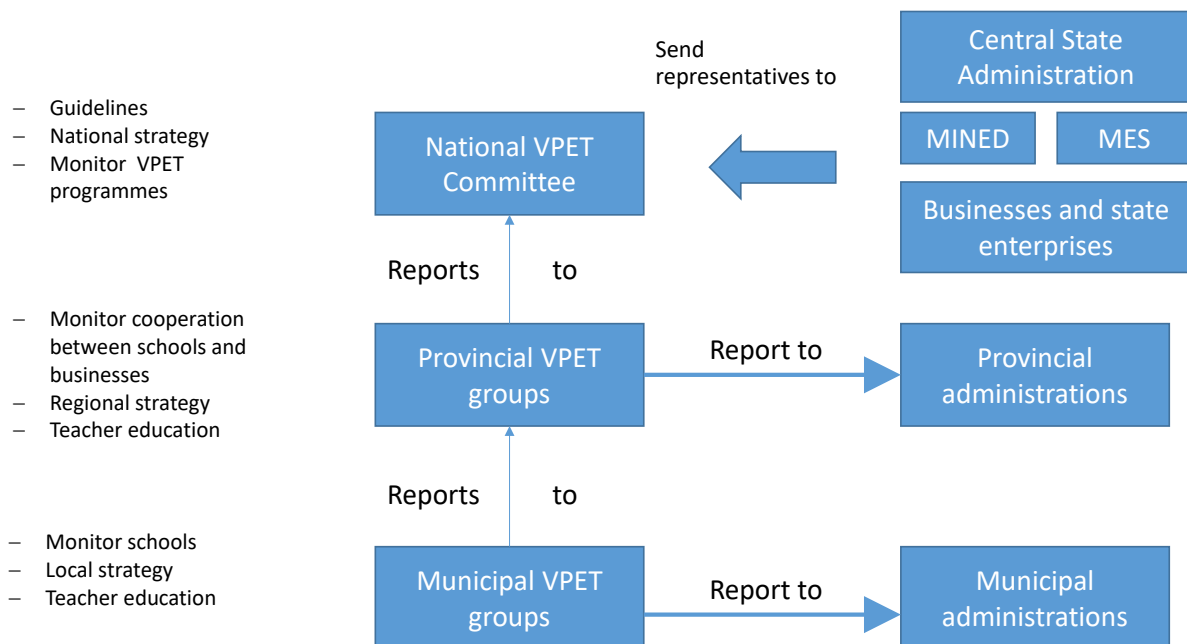
Work-study agreements between employers and educational institutions govern the contents and modalities of work placements (MINED Res. 289/2019 Art. 113-116). These agreements are subject to audits by provincial VPET groups, which are the provincial equivalent to the National VPET Committee (see Figure 5). For more information about these agreements, see Section 4.1.

Additionally, provincial specialist committees are tasked with evaluating curriculum implementation, teaching quality and resource usage (MINED Res. 289/2019 Art. 72). Furthermore, municipal VPET groups monitor educational institutions (Decree 364/2020 Art. 27). The provincial and/or municipal VPET group of the area (Decree 364/2020 Art. 25) approves study plans for work placements.

Provincial and municipal VPET groups are chaired by the vice-president of the respective administration's council, with representatives of businesses participating in sessions (Decree 364/2020 Art. 24). Similarly, a representative of the provincial administration presides over provincial specialist committees while VPET teaching staff and specialists from local businesses act as representatives (MINED Res. 289/2019 Art. 72.1).

While it does not contain explicit references to modalities and curriculum contents, such as length of work placements and graduation requirements, article 14.3c of decree № 364/2020 clearly states that it is the employers' responsibility to ensure students' preparedness for employment. Moreover, according to article 15.1 of the decree, businesses are to provide the necessary resources for these work placements.

Figure 11: Overview of the VPET Oversight Bodies



Source: own figure.

Despite the lack of data regarding the flow of information, potential pathways can be inferred from the paragraphs regarding the makeup and hierarchy of the specialist committees. As Figure 10 shows, specialist committees are staffed by representatives from businesses and educational institutions. As such, the impetus to introduce new technology and/or knowledge may propagate from the business or education side through the hierarchical chain of committees, eventually resulting in changes to the application and/or design of curricula.

As for final examinations, new legislation stipulates that there be examination committees in which representatives from businesses in the relevant field are required to participate (MINED Res. 289/2019 Art. 79e-f). Neither the decree nor the relevant ministerial resolutions contain any specifications of the modalities of these examinations. Wolf et al. (2011a, p. 234) report that prior to the reforms, examinations had both written and verbal segments, with the latter conducted in front of the examination committee.

With regards to the recently introduced short-cycle programmes, the relevant MES resolution (№ 359/18) stipulates that faculties offering short-cycle programmes be staffed by both academic teaching staff as well as experienced specialists from the field in question.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase addresses the questions of whether and how educational outcomes are analysed. Based on this, the curriculum could be reworked and improved.

It is particularly difficult to make statements about processes that belong to the feedback phase. Previous legislation contains a vague reference to system-wide evaluation (decree-law 45/1981 art. 4f). It is unclear how this practice was conducted and whether this practice continues. There are however several institutional mechanisms within the new legislation that may be categorised as curriculum feedback processes. Article 18.1a of decree № 364/2020 states that provincial and municipal administration determine the demand for individual specialisations in the form of quotas similar to the national admissions quotas for universities, as described in Section 2.4. Consequently, quotas set by regional administrations factor into analyses of educational outcomes and design decisions. In the context of short-cycle programmes, regional authorities and other relevant organisations are tasked with evaluating the demand for such programmes and petitioning for the approval with the MES under the condition that they be sustainable and necessary for the regional economy (Juventud Rebelde, 2018b). This is defined in articles 2h through 2j of the relevant MES resolution (№ 359/18). In addition, the evaluation of teaching materials is to be conducted by National Specialist Committees (MINED Res. 289/2019 Art. 70.2d).

3.6 Supplying Personnel for the VPET System (Teacher Education)

There appear to be no global guidelines for VPET teaching staff. Neither official documents nor reports regarding teaching personnel were available at the time of writing. The MINED webpage showcasing different teaching majors and their enrolment requirements mentions 'polytechnic centres for teaching staff' in addition to university tracks (MINED, 2020c). However, detailed information on these centres could not be obtained at the time of writing. It is therefore unclear whether graduates of the programmes mentioned on the MINED webpage are to be involved in VET. According to the same page, the requirement for the vocational tracks is a lower secondary diploma, while the requirement for university tracks is a pre-university higher secondary *bachillerado*.

As described in Section 3.2, most if not all PET is under the purview of the MES and is implemented in tertiary education institutions or in tandem with said institutions. As such, it may be safe to assume that teaching personnel in PET are trained in universities. For instance, the decree-law № 359/2018 establishing short-cycle university-level programmes contains several references to 'qualified personnel' without elucidating the requirements for said personnel. As is the case with VET, the information available is insufficient to allow detailed statements.

In terms of personnel sourced from businesses, decree № 364 of 2020 contains several stipulations that obligate businesses to deploy specialists in VPET. Articles 78 through 84 of the accompanying MINED resolution № 289/2019 contain general provisions concerning teaching staff and tutors in practical settings. For more information on the reforms, see Section 4.1 below.

4. Major Reforms in the Past and Challenges for the Future

4.1 Major Reforms

4.1.1 Business Involvement

Whereas the old decree-law of 1981 did not single out businesses (*empresas*) as particularly important actors, the new set of laws regulates business-side involvement (*Sistema empresarial, and/or entidades de la producción y los servicios*) in more detail (Decree 364/2020 Art. 13-15). In the former, the only explicit reference to a hypothetical cooperation with businesses is in article 4f. This article defines a set of general tasks that all actors should engage in including drawing up study plans, which had to be approved by the MINED, and ensuring access to resources for VPET.²⁵

The introductory articles of the decree already contain several direct references to the role of businesses, which is an indication of the importance of businesses. Namely, articles one and four through six say that businesses are to participate at various levels of VPET. The nature of the aforementioned involvement is clarified in subsequent articles and accompanies MINED and MES resolutions.

Article 13 permits and/or obligates businesses²⁶ to participate in curriculum design, establish cooperation agreements with educational institutions, plan and conduct work placements, provide resources for said work placements, support educational institutions and participate in initial and continuing VPET teaching staff education. These stipulations can be divided into two areas: institutional participation and cooperation modalities. The passages relating to the National VPET Committee, regional VPET groups and specialist committees regulate business participation within the system of institutional oversight (see Sections 4.1.2 and 4.1.3). The modalities of the cooperation between businesses and VPET institutions are defined individually in so-called work-study agreements (Span. *Los convenios de trabajo para la formación vocacional y orientación profesional*).

Two resolutions accompanying the decree outline the basis for these agreements: MINED resolution 289/2019, articles 99–107 and MES resolution 202/2019, articles 68–75. For instance, Article 100 of the MINED resolution requires these agreements to contain the specialisations of study programmes, delineations of the parties' individual responsibilities, the involved personnel, the facilities, plans for further training of teaching staff, a list of examinations and – most importantly – a study plan. Mostly mirroring article 100, article 105 contains further stipulations for agreements in VET. Article 73 of the respective MES resolution governs the requirements for agreements between tertiary education institutions and businesses in PET, generally mirroring the MINED resolution. Article 14.3c of the decree declares that businesses are obligated to ensure their students' preparedness for employment.

Work placements, called *inserción laboral*, are an integral part of these agreements. The concept of work placement is defined in articles 85 and 86 of MINED resolution 289/2019 and can be considered a blanket term for arrangements ranging from short-term internships to long-term work placements.²⁷ Both the MINED and MES possess authority to devise relevant guidelines through article 13c of the

²⁵ In terms of real-world implementation, reports suggest that, prior to the reforms, the main form of business participation in VET was mainly as providers of internships and subsequent job placements for students (see 3.1). In regards to PET, enterprises and other large industrial organisations appear to offer in-house training in training centers (see 3.2).

²⁶ Among other actors.

²⁷ The equivalent MES resolution 202/2019 does not explicitly borrow this concept, although it does appear in article 77, in the context of certification of entities involved in PET. It is assumed that the same concept is used by the MES, nonetheless.

decree. The exact qualities of these work placements as they are defined in article 85 may vary in length and frequency in accordance with curricula, but they are to ‘complement and reinforce the professional training of the students and embed them in the work environment’. The resources an entity has to provide such work placements is an essential condition for certification.²⁸ Notably, article 116 specifically states that in non-state businesses, students embedded in the workplace can in no way be treated the same as a regular labour force. However, no such explicit provisions for state actors exist in the present resolutions.

4.1.2 Curriculum Design Processes

Previously, curricula were a central responsibility of the MINED, as evidenced by the promulgation of (add resolution), although articles 3 and 4 of the decree-law of 1981 state that a variety of actors are involved in curriculum development. However, the extents to which this may have been true cannot be determined using the sources available at the time of writing.

Articles 23 to 25 of the new decree-law of 2017 state that study plans are to be devised and examined by both state actors and businesses without specifying any provisions regarding implementation. As per article 63 of the MINED resolution, provincial and municipal groups for VPET are tasked with approving the curricula for work placements. The decree of 2020 and the accompanying MINED Resolution 289/2019 go further and outline a framework for business-centred curriculum design processes (MINED Res. 289/2019 Art. 70). The main change here is the introduction of specialist committees for individual trades and specialisations. For more information on the newly established curriculum design process, see Section 3.5.

4.1.3 Institutional Oversight

Though information on this topic is scarce, it appears that previously institutional oversight, evaluation and quality control were mostly under the purview of the MINED (see decree-law of 1981). Decree № 364/2020 contains provisions for two new types of oversight bodies: the national committee for VPET (Span. *Comisión Nacional de Formación Vocacional y Orientación Profesional*) and provincial and municipal groups for VPET (*Grupos Provinciales y Municipales de Formación Vocacional y Orientación Profesional*).

The National Committee for VPET is defined in articles 21–22 of decree № 364/2020 as an inter-institutional body tasked with top-level oversight of VPET in the country. It is presided over by one representative of the MINED and the MES each and includes representatives of ‘national organisations whose members rely on a qualified workforce’. Article 23 of the decree lists the duties of this committee. These include establishing a national VPET strategy, monitoring career guidance activities and evaluating the work of the MINED, the MES and other state bodies in VPET.

On the regional and local level, articles 24 and 26 of decree № 364/2020 stipulate that there be provincial and municipal groups for VPET. The former are tasked with, among other things, monitoring the implementation of workplace education agreements mentioned above and monitoring VPET teaching staff education. Meanwhile, the latter guide the implementation of VPET local strategies in accordance with national economic policy, review and approve work placement curricula and monitor VPET institutions. Municipal groups are to submit reports to the relevant provincial group for VPET, while provincial groups do the same to the National Committee for VPET.

Within the curriculum value chain, as the top-level oversight body for VPET, the National VPET Committee’s sphere of action lies in the curriculum design phase. Meanwhile, both the provincial and munic-

²⁸ Articles 109.2c for state actors, article 110b for non-state actors.

ipal groups fulfil functions commonly found in the curriculum application phase, such as quality assurance. See Section 3.5 for a more thorough discussion of the newly introduced processes and institutions within the curriculum value chain in Cuban VPET.

4.1.4 Miscellaneous Changes

Another novel aspect of the decree of 2020 is the introduction of detailed provisions for career guidance (articles 9-36 & 54-62). The stipulated activities are to be conducted in schools, youth centres and youth camps.

The legal basis for the newly introduced short-cycle programmes described in Section 3.2 is presented in MES resolution 98 of 2018.

MES Resolution 140/2019 represents an update of the postgraduate PET as established by MES resolution 132/04. It reiterates the fundamental elements of previous legislation while introducing new stipulations regarding oversight bodies. The two bodies tasked with monitoring this PET pathway are the MES Directorate of Postgraduate PET (Span. *Dirección de Educación de Posgrado del Ministerio de Educación Superior*) and the Advisory Commission for Postgraduate Education (Span. *Comisión Asesora para la Educación de Posgrado*). The former is tasked with strategy and monitoring on a national level, including recommendation of specialisations; the latter is to monitor quality and compliance with national policies.

4.2 Major Challenges

Though not directly related to the VPET system, reports suggest that Cuba's former style of governance, which is suffering greatly under the reintroduction of U.S. sanctions, has resulted in a state sector that is lacking the funds, technology and manpower necessary to increase productivity (LATimes, 2019; Pujol, 2011, pp. 4-5). This will influence the effect of the recent reforms greatly since updating the system will be a cost-intensive endeavour. In addition to a reported exodus of youth out of Cuba (Pujol, 2011, p. 4), data from 2004 through 2008 suggest that VET institutions exhibit significantly lower retention rates compared to pre-university institutions (Pumar, 2010, pp. 101-104). These findings may also be related to the explosion of *obrero calificado* graduates and the contraction of the number of intermediate technician graduates as shown in Figure 5. Another potential problem is the teacher shortage described in Section 2.6, which may be affecting the number and quality of VPET teaching staff. However, due to the lack of reports on this phenomenon within the context of VPET, no conclusions can be drawn at the time of writing.

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Appendix

Appendix I: Overview of the VPET system

	<p>In 2008: 15 Invalid source specified.</p> <p>According to Res. 81/2004: ?</p> <p>According to a recent newspaper article: 52 (Juventud Rebelde, 2019)</p>	<p>In 2008: 50 in a total of 8 'families' Invalid source specified.</p> <p>According to Res. 81/2004: 36 in a total of 10 'families'</p> <p>According to a recent newspaper article: 54 (Juventud Rebelde, 2019)</p>
∅ Share of time spent in workplace (vs. classroom)	Unclear.	At least 1/8, or more (i.e. at least one half year work placement at the end)
Work contract (Yes/No)		Yes? (at least until recently, VET has been done in close cooperation with state enterprises) (Wolf et al., 2011a, p. 234)
∅ Share of vocation-specific content (vs. general) in classroom education		50-60% (Unesco-IBE, 2010, p. 28)
Classroom/workplace sequencing (Alternating, Sequentially)	?	Sequentially, internships and work placements.
Frequency of workplace learning (Annually, Semi-annually, quarterly, monthly, weekly)	?	Annually or semi-annually
Programme duration (Years)	2	3 to 4 years, pre-university graduates have shortened curricula, mostly to 2 years (e.g. (Unesco-IBE, 2010, p. 19)

ETH Zürich
Chair of Education Systems
LEE F 134
Leonhardstrasse 21
8092 Zürich, Switzerland

www.ces.ethz.ch

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