

DOMINICAN REPUBLIC



National Institute of Technical
Professional Training

CORE SKILLS IN DOMINICAN REPUBLIC

Case Study: INFOTEP

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“This document -in extensive form- was sent to the ILO (India) to serve as the basis, without the Annexes, for a series of Booklets that they are preparing for some Countries. This document -in its enlarged size- is being disseminated for use within INFOTEP”

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INTRODUCTION

The country's economic development demands renewing, updating, and strengthening the training and preparation systems of leadership and workforce, equipping them with the necessary skills and competencies to guarantee the productivity of the Industries 4.0 which change constantly.

On this matter, one of today's greatest challenges is to train people in skills and abilities that differentiate them from machines and that respond to technical and professional profiles production processes to immediately capitalize this new Industrial Revolution 4.0.

This is where the **Core Skills** come in and INFOTEP's responsibility to include and guarantee its development in all services offered to the country's productive sectors. These technological changes that we are living could become a problem if people are not trained, given that they can take years to develop new skills and take on new tasks.

This challenge lies directly on the INFOTEP (National Institution of Technical-Professional Training) as the National System of Technical Training's governing body to answer productive sectors that require qualified and updated human resources for the appropriate performance of the positions that emerge in the labor market, and that way enhancing the Dominican Republic's economy and development.

The development of the **Core Skills** seeks to prepare students, professors, facilitators, collaborators, managers and business leaders as well as recycle and update them with skills that equip them with the necessary competencies to face the work challenges in the Industry 4.0. It also considers the inclusion in curriculums and formative action, as well as the resources for learning support in an innovative environment.

In the Dominican case, its development coincides with the establishment of the **National Frame of Qualifications**, which establishes that the formative offers shall favor the acquisition of capacities in a training process throughout life.

For the economies and organizations in the world to successfully face the challenges of the Industry 4.0, it is necessary to train and educate people to take on new roles that the industrial revolution brings along. To achieve this, it is essential to develop competencies and skills both specific to the job and **Core Skills**. The people's adaptation in new workspaces is emphasized, where they will have a human-machine interaction.

Core Skills in the Dominican Republic's INFOTEP

Generally, Core Skills are applied to **four broad categories**:

1. **Ways of working:** They should be based in good communication and collaboration.
2. **Ways of thinking:** It seeks to emphasize critical thinking, creativity, innovation, and problem solving and learning to learn skills.
3. **Ways to live in the world:** Implies internalizing concepts of global citizenship, civic responsibility, and cultural competence and knowledge.
4. **Tools for work:** Includes the efficient use of current tools as well as digital literacy, and handling information and communication technologies. ("Core skills: a requirement for the professional of the future." CIO Draft. Mexico 2019).

However, we have added four additional categories and application fields of the Core Skills:

Tools to survive: Refers especially (but not solely to) skills used in underprivileged populations that the human being needs to survive in a complex world.

- Survival skills in underprivileged environments.
- Survival skills in environments of assault.
- Survival skills in violent environments.
- Survival skills for informal jobs in the streets.

Skills to live in underprivileged environments refers to skills that we need to develop as human beings to coexist, such as:

- Skills to live with the minimum (housing, food, clothing, health, extreme poverty income, lack of electricity, water, and bathrooms).
- Skills to live with one head of household. Father, mother, or grandparents. Usually single mothers.
- Skills to face aggressiveness, verbal and physical bullying in a group environment, such as schools, churches, sport teams, cultural groups.
- Skills to live in the streets and with those also living in the streets.

Skills to survive climate change effects.

- Skills to survive floods caused by rains, rivers, and high tides.
- Skills to survive during hurricane season.
- Skills to survive tsunamis.
- Skills to survive volcanic activity (lava, ashes).

Skills to survive in a working environment of the primary sector of the economy.

Skills to work and produce in single family environments, usually a woman being the head of the household, with a small terrain or riverside fishing.

- Skills to be aware of the contaminations of pesticides, chemical fertilizers, rodents, snakes, exc.
- Skills to produce in artisanal fishing and aquaculture, as well as conservation of the environment.
- Employ technological skills for a healthy lifestyle and to have a more effective production.

I. BRIEF BACKGROUND ON THE DOMINICAN REPUBLIC.

The Dominican Republic is in the Caribbean. It was discovered by Christopher Columbus in 1492, a time where the area was inhabited by the indigenous peoples known as Taínos who lived there since the seventh century. It was the first Spanish settlement in America, called Santo Domingo de Guzman and it became America's Prime City, where the first university of the continent was founded in October of 1538, as well as the first cathedral.

Next, four contextual aspects to situate the reality of this Core Skills document in the Dominican Republic.

General Characteristics.

Official name: Dominican Republic.

Demonym: Dominican.

Capital: Santo Domingo.

Total area: 48,311 km².

Borders: North with the Atlantic Ocean, south with the Caribbean Sea or Antilles Sea, east with the Mona Passage, which separates them from Puerto Rico, and west with Haiti.

Official Language: Spanish.

Currency: Dominican Peso.

Phone Dialing Code: +1(829), +1(849), +1(809).

Religion: 65% Catholic, 18% Evangelicals, 12% non-religious, and 5% other.

Government: Republic Unitary State.

Social Indicators.

Total population projected for 2022: 10,847,904

Annual population growth (%) 1.23% (2015)

Fertility rate: 2.30 (2020)

Life expectancy 74.08 years (2019)

Net reproduction rate 1.11 number (2020)

Number of births 204.49 thousand (2020)

Average reproductive age 25.81 years (2020)

Human Development Index HDI 0.756 ((2018)

Number 89 on the world classification of human development (2018)

Monetary poverty rate 23.4% (2020)

Gini index 0.405 (2020)

Mortality rate 25.9 deaths per 100 thousand inhabitants (2020)

Economic growth to 2021: 4.7%

Sources: World Bank, International Monetary Fund, World Atlas, CIA

5. Employment Data.

INDICATORS	2019	2020	2021
Unemployment rate (annual average). • Open (seeks a job but doesn't find one).	5.9%	7.4%	7.1%
• Broadened (Unemployed and those within the potential workforce).	10.4%	11.2%	11.0%
• Employment Informality.	54,8%	56,8%	58.13%
• General Poverty.	20.91%	23.36%	23.85%
• Inflation.	1.81%	3.78%	8.24%

Sources: Central Bank of the Dominican Republic and the Department of Economy, Planning, and Development (2022)

The Dominican Education System.

The Dominican Republic's education sector has 3 subsections: a- The Department of Education of the Dominican Republic (K-12) (MINERD); b- The Department of Higher Education, Science and Technology (MESCyT), (university and non-university higher education, public and private). And C- National Institution of Technical-Professional Training (INFOTEP).

The Department of Education (MINERD) is responsible for formal education since early

childhood, going through basic modality, secondary, technical, and adult education.

The Department of Higher Education, Science and Technology (MESCyT) regulates university and non-university higher education, manages the budget assigned to innovation and presides the National Council of Higher Education, Science and Technology.

The National Institution of Technical-Professional Training (INFOTEP) is a tripartite entity focused on creating employment.

INFOTEP in 2022

The National Institution of Technical-Professional Training was created by the Law 116-80 with the purpose of “**organizing and governing a National System of Professional Training**, which with the collaboration from the state, workers, and employers, focuses on the full development of human capital and the productivity increase of businesses in all economic sector activity, as well as boosting social promotion of the workers through its integral training.”

It is ruled by a Board of Directors made up by representatives of the business sector, union sector, and government. It is managed by the General Department, who is responsible for the fulfillment of objectives, its mission, vision, and institutional values.

INFOTEP in the provinces

The institution has 6 Regional Chapters:

Santo Domingo (Metropolitan Regional Chapter)

Santo Domingo Este (Oriental Regional Chapter)

La Romana (Eastern Regional Chapter)

Santiago (Cibao Norte Regional Chapter)

San Francisco de Macorís (Cibao Sur Regional Chapter)

Azua (Southern Regional Chapter)

It has offices in Barahona and Bárbaro, as well as one office with a Training Center in Higüey and two other experimental centers: Ambar Center in El Valle and Larimar Center in Barahona. Additionally, the Josefa Brea Training Center was recently inaugurated (May 2022) in Santo Domingo.

El INFOTEP and the attention to demand.

The institution has six **Technological Centers** located in the Metropolitan Regional Chapter, National District; Cibao Norte Regional Chapter in Santiago; Eastern Regional Chapter in La Romana; South Regional Chapter in Azua and San Juan de la Maguana; and the School of Hospitality, Gastronomy and Pastry in Higüey.

In addition, it has **56 mobile workshops** to take training to remote places where there are no system operating centers to meet the training needs of the population in vulnerable conditions.

To expand the Technical Training service to the entire population, INFOTEP works hand in hand with the **System Operational Centers (COS)**. As of May 2022, there were a total of 247 COS accredited by

INFOTEP at a national level. These centers provide technical training in different areas, complying with the requirements established by INFOTEP.

Education and training services are also offered through community programs, government institutions, businesses, and enterprise zones.

The institution develops, in coordination with the companies, the dual training program, through which the theoretical part is taught in its own centers and the students carry out the internships in the companies. For this, a group of companies that support this type of training have been identified.

INFOTEP, in more than 40 years of its creation (1982 to May 2022) has certified a total of 9,410,785 million in different occupations, of which 45.4% belong to the industrial sector; 27.16%, to the service sector; 18%, to commerce and 7%, to the hotel industry. Of the total number of trained participants, 53.2% are women and 46.8% are men.

In its training offer, INFOTEP has designed training programs to train vulnerable groups, young people who have dropped out of formal education for different reasons, people with low incomes, people with disabilities, prisoners, women heads of household, the "Ninias", young people who do not work or study, among others.

For these groups, the institution has a flexible offer, which enables them to enter the labor market or develop a business, which allows them to generate income and improve their quality of life. In 2021, **100,447 certificates were delivered** nationwide to participants from vulnerable groups.

Through business services, **2,990 companies** from different economic branches were assisted in 2021, and 679 participants were trained in entrepreneurship skills at the national level.

In addition to these sectors, INFOTEP currently helps new sectors, such as the agricultural sector, small and medium-sized enterprises, MSMEs, prisoners, young people who do not have an education, women heads of household and in poverty, the diaspora, entrepreneurs, the municipal sector, the transport sector, the mining sector, and others. Focusing on new careers and occupations linked to the needs of technological transformation and those detected through the Great National Consultation on the Future of Technical-Professional Training held in July 2021, in which the **Core Skills** would be included in its curriculum.

II. THE GREAT NATIONAL CONSULTATION ABOUT THE FUTURE OF PROFESSIONAL TRAINING (CORE SKILLS INCLUDED).

In 2021, INFOTEP carried out an original and innovative National Consultation process on the Future of Professional Training. This considered the problems derived from the pandemic, the Industrial Revolution 4.0., the Technological Revolution,

concerns over climate change, demographic changes in the world, and globalization. With this National Consultation, the goal was to initiate a process to prepare INFOTEP for the new reality of employment (and unemployment) in the coming years.

1. Why was the National Consultation carried out?

The National Consultation sought to promote the participation of the Dominican society in defining the future of professional training, participation of society as a whole and especially the Employer Sector, the Labor Sector, the State, INFOTEP students and staff, the Academic and Technical Sector, the Social Sector, the Productive Sector, the Political Sector and of the Collective Communication Media, in order to have trend elements to define the future of the professional training of the Dominican society.

More specifically, we looked to:

Investigate the companies' plans to modernize their production in the context of the Fourth Industrial Revolution and the possible demand for training to adapt to the 4.0 revolution.\

Identify the jobs that allow INFOTEP's training offer to be adjusted in accordance with the needs of industry 4.0

Identify the basic and diverse competencies and skills required by current and future workers, so training should incorporate the topic of Basic Competencies

Identify the skills required of educators in accordance with digitalization processes.

Identify linking elements of the Dominican education system according to the National Qualifications Framework

Have a consulted and consensual base to update and modernize the offer of INFOTEP courses.

2. Five different converging consultations

The Great National Consultation was structured in five types of interdependent, complementary Consultations, through which it was sought to have different angles, perspectives and visions on the future of professional training: a- Internal Consultation; b- Tripartite Consultation; c- Open Consultation; d- Regional Consultation and e- External, Academic/ Technical Consultation.

The Tripartite Consultation was organized around the three constitutive axes of INFOTEP: the Business Sector, the Labor Sector, and the State

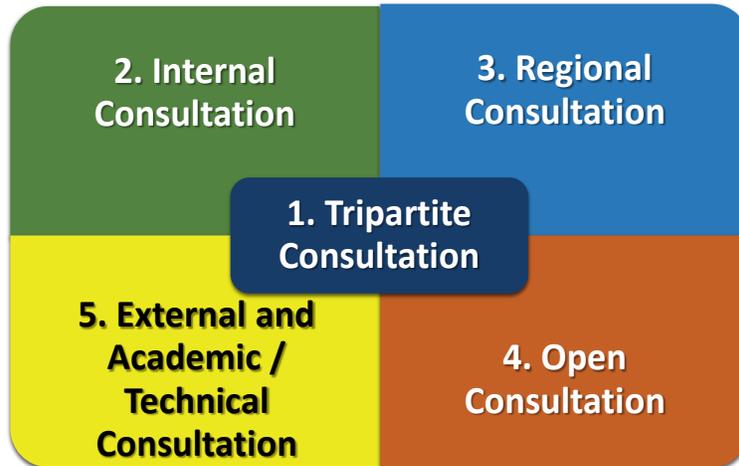
In turn, the **Regional Consultation** was divided into four consultations, one for each INFOTEP Regional Management (North Regional Management, South Regional Management, Eastern Regional Management and Central Regional Management).

In the case of the **External, Academic/Technical Consultation**, three sub-consultations were developed: a- International Organizations Modality; b- Research Organizations and Professional Associations Modality; c- Diaspora Specialists Modality (Dominicans living abroad).

The Open Consultation had four modalities: a- Media; b- Political Organizations; c- Religious Organizations; d- Community Organizations.

The following diagram illustrates the five types of consultation that made up the National Consultation

National Consultation on the Future of Vocational Training



3. National Consultation Methodology

The used methodology -with multiple technical instruments applied in in-person, hybrid, and/or virtual meetings- had the following characteristics:

- Highly participatory
- Highly consensual
- Highly inclusive

Highly equitable

Highly prospective, creating models of future scenarios.

Highly decentralized (applied throughout the entire country);

Highly communicative, extensively used media, newspapers, radio, television, social networks.

Data about the participation in the National Consultation about Professional Training:

Activity	Data
Direct participation in the 5 consultations (several months).	5,211
Participation in the inaugural session of the National Congress.	<ul style="list-style-type: none"> 1,300 people in-person Online via YouTube: 4,320 people. 928,355 other people saw one of the diverse contents in different social media.
Participation in the closing session of the National Congress.	<ul style="list-style-type: none"> 800 in-person 3,265,233 people accessed different content in social media.
Technical interviews during the Consultations (1 hour per interviewee on average).	5,887

III. CORE SKILLS ACCORDING TO ILO.

The International Labor Organization developed and published an interesting book titled, Global framework on Core Skills for life and work in the 21st century, published in 2021, which proposes 19 Core Skills grouped in four major categories.

The entire document is very interesting and visionary, especially Tables 4 and 5, which are very useful for

institutions like INFOTEP

Besides recommending reading said document, in the **Appendix 1** we present a functional summary of Tables 3 and 4, leaving out two columns. We also recommend reviewing the original tables, rich in justifications (Rational) and in definitions (Definition).

IV. CORE SKILLS IN DOMINICAN REPUBLIC. QUESTIONS TOR (TERMS OF REFERENCE).

The ILO sent the Terms of Reference, which we present in the Appendix 2 of this document. From

these Terms of Reference, we answer to the next 7 questions.

1. How are Core Skills defined in Dominican Republic? (Please provide a detailed definition and description of each skill being considered as Core Skills in the national context):

As a product of the National Consultation on the Future of Technical Professional Training, INFOTEP agreed on a set of skills necessary for present and future workers, so its offer would have to incorporate said skills (either in Training Courses, Training in service, updating, or improvement) Based on the

opinions of entrepreneurs, workers and unions; State; civil society, Academia and organized groups, as a result of these consultations regarding Core Skills, the following table of Core Skills was developed, which the author of this study complemented with his own contributions.

Definition of Core Skills in the Dominican Republic

In INFOTEP we define Basic Skills as those skills necessary as a human being to prepare for work or to be trained in service when already working. These are skills that could be taught through learning processes of education or training for work, updating services processes, knowledge and skills refreshers, or daily life.

These skills, framed according to the following categories:

- Basic life skills.
- Basic work skills
- Basic skills to face the future
- Academic, cognitive, metacognitive, and technical skills
- Skills to survive
- Life skills.
- Skills to survive in the face of climate change effects
- Skills to survive in the work environment of the primary sector of the economy.

The following chart shows the basic skills considered:

**Chart 1:
INFOTEP.**

BASIC SKILLS OBTAINED FROM THE NATIONAL CONSULTATION ON THE FUTURE OF THE TECHNICAL-PROFESSIONAL TRAINING, CARRIED OUT IN 2021 AND COMPLEMENTED BY L. GUADAMUZ IN THE LAST 4 CATEGORIES.

BASIC LIFE SKILLS

- Basic digital skills.
- Basic language skills.
- Basic technological skills.
- Responsibility.
- Seriousness.
- Self-trust.
- Self-esteem.
- Ethics.
- Ability to cope with stress.
- Entrepreneurship.
- Personal presentation.
- Ability to communicate ideas.
- Interpersonal skills.

BASIC SKILLS TO COEXIST WITH THE FUTURE

- Basic skills to understand and learn to live with the Fourth Industrial Revolution.
- Basic skills to cope with climate change.
- Basic skills to cope with uncertainty.
- Basic skills to cope with change.
- Basic skills to cope with innovation and technology.

SURVIVAL SKILLS

- Survival skills in environments lacking resources.
- Survival skills facing assault.
- Survival skills in violent environments.
- Survival skills for informal labor in the streets.
- Skills to cope with early age (underage) pregnancy and motherhood.
- Skills to live with disabilities after a special education.
- Skills to live and survive as a young person.
- Skills to live and survive as an elderly person.
- Skills to work independently in jobs such as Uber.
- Remote working skills.
- Skills to avoid vices such as alcoholism, smoking, and other harmful drugs.

BASIC WORK SKILLS

- Problem solving.
- Teamwork.
- Decision making.
- Critical thinking.
- Leadership.
- Conflict resolution.
- Ability to work under pressure.
- Positive attitude towards work.
- Initiative and entrepreneurship.
- Physical and manual skills.
- Basic skills required for the job.
- Ways of working: communication, collaboration.
- Responsibility.
- Health and safety on the job.
- Skills to look for a job and stay in it.

ACADEMIC, COGNITIVE, METACOGNITIVE, AND TECHNICAL SKILLS

- Learn to learn and relearn.
- Strategic thinking.
- Basic cognitive skills.
- Ways of thinking: creativity, curiosity, innovation, reasoning.
- Creative thinking.
- Passion for lifelong learning.
- Thinking skills.
- Virtual learning skills. (synchronous/asynchronous), remote, in-person, and hybrid learning.

SKILLS TO LIVE

- Skills to live with the minimum (housing, food, clothing, health, income).
- Skills to live alone with a head of household. Father, mother, grandparents, or abandoned.
 - Skills to face aggressiveness, verbal and physical bullying in a group environment, such as schools, churches, sport teams, cultural groups.
 - Skills to live in the streets.

SKILLS TO SURVIVE CLIMATE CHANGE EFFECTS

- Skills to survive floods caused by rains, rivers, and high tides.
- Skills to survive during hurricane season.
- Skills to survive tsunamis.
- Skills to survive volcanic activity (lava, ashes).

SKILLS TO SURVIVE IN A WORKING ENVIRONMENT OF THE PRIMARY SECTOR OF THE ECONOMY

- Skills to work and produce in single family environments, usually a woman being the head of the household, with a small terrain or riverside fishing.
- Skills to be aware of the contaminations of pesticides, chemical fertilizers, rodents, exc.
- Skills to produce in artisanal fishing and aquaculture, as well as conservation of the environment.
- Employ technological skills for a healthy lifestyle and to have a more effective production.

Source: Lorenzo Guadamuz Sandoval, Ph.D. May 2022

Areas of Core Skills' impact in INFOTEP.

The above basic skills have a direct impact on the training processes, especially in the following areas.

Curricular design and Training Actions. Inclusion of the development of Core Skills in programs, contents, guides, internships, and learning support resources for workshops and training actions offered to sectors linked to INFOTEP. INFOTEP currently has 8,620 training offers.

Career Training Project 4.0: "Training the Generation of the Future" Led by INFOTEP 's Professional Training Division, which has more than 120 new careers classified in groups by industrial sectors, related to the demands and needs of the Fourth Industrial Revolution, with an impact on 100,000 people trained per year in careers for Industry 4.0, at the end of the project implementation.

Educator Transformation Program 4.0. Led by the Division of Innovation and Development and which, in turn, impacts the training and updating of facilitators, teachers and professional educators. With a population of nearly 4,000 classroom teachers, training advisors, business advisors, educator training professionals, and educator advisors.

Participating population. The **Core Skills** will significantly impact the training and graduation profiles of the participants and their qualifications to be more competitive in the labor market. INFOTEP currently has about 160,000 participants in 8,620 training and 456,106 hours of instruction.

Training of youth without and education and unemployed outside the educational system and the labor market. They are part of the population segment that is known internationally as "Ninis". Ninis are referred to as Sin-Sin (coming from the Spanish phrase "sin estudio-sin trabajo," or "no study-no work"), in reference to people without the

skills required by the labor market, and without opportunities to access a decent and prosperous life. They represent 20% of young Dominicans between 15 and 29 years old. This phenomenon affects women to a greater extent, who have a proportion of "Sin-Sin" and "Ni-Nis" youths more than double that of men, that is, 27% compared to 12%. (EDUCA. 2019. "The Dominican Youth: those unknown").

The process of adapting INFOTEP's training offers to the National Qualifications Framework.

An instrument for classifying qualifications based on a set of criteria corresponding to certain levels of learning, which coordinates and integrates the country's education and training systems. Of the almost 1,000 training offers provided by the National Institute of Technical Professional Training; INFOTEP, 452 will go to the National Qualifications Framework, MNC. (Draft Bill MNC).

Capacity building program for local government public servants.

INFOTEP, in coordination with the Dominican Municipal League (LMD), the Dominican Federation of Municipalities (FEDOMU), and the Dominican Federation of Municipal Districts (FEDODIM), is developing the National Municipal Training Plan 2022 in order to increase the capacities of public servants of local governments that cover 158 municipalities and 232 municipal districts in the country.

Community outreach programs through the Marketing and Corporate Social Responsibility Division.

Its fundamental objective is to develop cultural, sports, social and community bonding actions with the purpose of raising awareness among Dominicans about caring for the environment and non-renewable resources, in the face of the challenges faced by modern society in the framework of the Sustainable Development Goals.

INFOTEP Pedagogical Model. Core skills will constitute another of the strategic thematic axes of

the Pedagogical Model of Technical Professional Training: Curriculum Management, Educator Training, Learning Assessment, the Learning Environment, Participant Management, Business Linkage and Supervision and Educator Support.

Technical-Professional Training Market Observatory. It collects updated information to plan accordingly with the needs of the labor market. The Core Skills allow a better use of the Dual Training, strengthening skills, practical learning, and direct student-business relationship.

2. How does national policies and frameworks on education and TVET address the issue of Core Skills integration and development?

The National Qualifications Framework's approach in the Dominican Republic come from the decisions of public policies expressed in the National Development Strategy 2030, the National Pact of Dominican Education:

“To develop, in a joint and coordinated manner between the Ministry of Higher Education, Science and Technology, the Ministry of Education, the Institute of Technical Professional Training and the business and labor sectors, the necessary instruments so that the nation has an integrated offer and articulated technical education and technical-professional training at the different educational levels in order to ensure quality, facilitate the transition of graduates from one level to another and respond to the requirements of the labor market, in accordance with the strategic objectives of the country and based on the prospective studies carried out.” (Social Economic Council, 2014).

The ILO's recommendation 195 encourages countries to develop National Qualifications Framework, the Quality of Education's initiative, strategic institution planning, among others.

Based on these elements, the executive branch issues the Decree 173-16 which creates the National Commission, as a consultative body responsible for proposing preparation and implementation of the NQF, made up of high-level decision-making officials of the State, a technical committee and an operational unit with the responsibilities of: Establishing the objectives and scope of the National Qualifications Framework; design its internal structure, expressing levels and descriptors; carry out a piloting of the designed NQF; define quality assurance mechanisms; design the institutional structure for the implementation of the Framework; promote the official adoption of the NQF.

As a result of this interinstitutional effort, the following products have been developed:

Consulting and technical assistance to businesses. The **Core Skills** would strengthen the INFOTEP Consulting and Technical Assistance Service for Companies, aimed at identifying and implementing strategies that allow them to analyze and solve problems through the training of human talent with technical and socio-emotional skills for the work environment of the 4RI in the country.

The Appendix 3 shows some charts and diagrams about the National Qualification Framework, which proposes several basic competencies.

A bill regarding the National Qualifications Framework which is being discussed in the Dominican Republic's National Congress

Studies of professional profiles of families regarding health and wellness (HW) Hospitality and Tourism (HOYT). As a result of these studies, 21 profiles of the HW family and 21 of HOYT were identified, by qualification levels.

These initiatives seek to portray the basic skills between the Training and Education Systems.

National Classification of Occupations of the Dominican Republic (CNO-2019).

Adapted from the International Standard Classification of Occupations (ISCO-08) of the International Labor Organization (ILO), it is a technical instrument of an indicative nature that describes the occupational structure of the country.

National Classification of Education and Training of the Dominican Republic (CNEF-2019).

It is an international reference system that allows reporting in a standardized manner on various educational statistics useful for policymaking in accordance with a set of universal definitions and concepts, which makes it easier to compare the indicators obtained in different countries, therefore the Dominican Republic's adaptation is essential.

Professional Families Project.

This project grouped together the set of qualifications whose professional profiles and occupations have affinity in their professional competence, and their corresponding education or training programs are similar in their knowledge and skills. They are related to the fields of education and training of the International Standard Classification of Education (ISCED-F). This project resulted in 22 Professional Families, both for Education and Training.

Studies of professional profiles of families regarding health and wellness (HW) Hospitality and Tourism (HOYT).

As a result of these studies, 21 profiles of the HW family and 21 of HOYT were identified, by qualification levels. These initiatives seek to portray the basic skills between the Training and Education Systems.

3. How are Core Skills integrated into education and TVET curricula; (Technical and Vocational Education and Training).

The training program will adopt the basic skills that appear in the sample professional qualification, they can be quickly integrated by collecting them in modules for this purpose or they can also be integrated into the technical or specific modules depending on their pedagogical suitability.

Each module shows the contents of knowing to be and knowing to do:

Contents of knowledge (knowledge). Facts that refer to concrete entities, concepts and ideas that refer to abstractions and the principles and laws that refer to a structured set of concepts.

The basic competencies are a combination of knowledge, abilities, skills and attitudes that allow to behave actively and responsibly in different areas. They are independent of a job, and they are the basis/foundation for the acquisition of other competencies and are applied to adapt to different social contexts. Basic competences are linked to qualification levels

4. What methodologies are used to deliver Core Skills in schools, TVET institutes and workplace as part of apprenticeships?

To achieve integration of basic skills, INFOTEP gives educators a module on development of socio-emotional skills in their Training Process. Educators are expected to promote socio-emotional skills in learning environments, such as:

Complex problem solving, critical and investigative thinking, creativity, initiative, communication, collaboration, persistence, decision making, leadership, cognitive flexibility, resilience, negotiation, ethics, emotion managements, conflict management, values, empowerment, value of life.

The methodologies for students to develop basic skills are

Project-based learning, challenge-based learning

Learning situations, case studies, community learning, group projects, collaborations.

¿What do we teach in the “knowing to be” and how?

It is the learning which its essential function is to develop abilities and human value to achieve critical

since they share the progressive nature.

Contents of “knowing to do” (cognitive and practical skills). They are the rules of action when following a procedure. They are techniques for resolving specific situations through linked procedures.

Contents of “knowing how to be” (behavioral skills). They are the competencies of human training and to the attitudinal objectives of personal and social reference.

Contents of knowledge (knowledge). Facts that refer to concrete entities, concepts and ideas that refer to abstractions and the principles and laws that refer to a structured set of concepts.

Appendix 3 shows diagrams about basic competencies.

Appendices 4-6 show examples of Non-conventional Projects, where we emphasize the Core Skills

mass in the transformation of social life. This is linked to the interpersonal and intrapersonal skills, which promote attitudes and values that will guarantee the integral aspect of the training.

¿What do we teach?

Here, we teach: Attitudes, values, personal development, Coexistence, and others.

¿How do we teach it?

We can use strategies and resources such as: murals, reflexive diaries, puzzles, videos, life planning, socio-drama, storytelling, case studies, exc.

To “know to be” can be approached by many ways, methodologically speaking, during the learning process. These include: (INFOTEP uses both)

Develop it as content which requires planification of the number of hours, and didactic resources.

Work the integrated knowledge to develop themes. Carry out activities and exercises and then reflect on these.

5. ¿How are Core Skills progressively developed among students through early childhood education, general education and TVET?

Initially, the work is pedagogical support, designing adequate educational spaces, carrying out daily supervised activities, observing performance. Likewise, psychomotor activity, cognitive reflection, as well as cognitive development in interaction with their environment are encouraged.

In this stage, the participants are encouraged to strengthen their skills and apply different knowledge to new situations, applying it to the understanding

of their social and natural environment through problem solving. Likewise, they are encouraged to develop their ability to determine the function of each of the pieces of the puzzle, understanding their relationship with each other and with the bigger picture as a whole.

In TVET, teaching and learning strategies are applied, which promote constructivist learning, which will then be applied in the workplace.

6. ¿How are Core Skills assessed and certified in TVET?

The basic competencies are evaluated and certified comprehensively, they must be observable and measurable during the teaching-learning process of the person in relation to the development of technical skills.

Participants must show evidence of their performance in the following fields: Cognitive (knowing), emotional (being), and psychomotor (doing)

The emotional field of learning is related to the attitudes, beliefs, feelings, and values of the participants. The evidence of attitude for the case

at hand will be assessed through the evidence of product, knowledge, performance and will not require a specific evaluation instrument.

The basic competencies must be evidenced through the different strategies such as the rubric, case studies, the different objective tests, observation guides, estimative scale, evidence portfolios, interviews, exc.

All evaluations must be monitored and supported by a facilitator, who will guide the students.

7. ¿How are Core Skills developed as part of reskilling/upskilling programmes for adults? (Especially social, emotional, and cognitive skills).

Assuming that a skill is the potential that a person possesses to acquire and manage new knowledge and experiences, programs to update or improve basic skills must consider the following:

Explore what the adult knows in terms of cognitive, social, and affective skills and, I would add, physical skills as well.

Design workshops or simulation projects for the adult to demonstrate their abilities, obtain achievements; recognize their weaknesses and mainly enhance their personal development.

Technology is an excellent tool, not only to learn about digital skills but also to interact with others, share, play and why not take advantage of the cognitive skills they possess to prepare for short courses that allow them to generate income. For example, as a retired math teacher, one could take a short course about Big Data and get certified in it, which would raise one's self-esteem and one would also have the possibility of getting a job after retiring or keeping up to date and diversifying her learning options.

Cognitive skills can also be strengthened by playing memory games, doing puzzles, sudoku, among others. The important thing for the adult is to feel free without schooling, to challenge oneself and the training in cognitive skills could be channeled in activities of oratory, storytelling, poetry, annotated reading, math games, games downloadable from smartphones such as chess, soups letters and more.

In relation to social skills, today more than ever they must be strengthened in adults and can be worked on through workshops, dancing, singing, writing poetry, having and caring for a garden, a pet, and others. Therefore, programs for adults must have fun and enjoyment as their fundamental objective, since it is not about being experts, but about achieving successes, for example, to be able to go to a dance and not remain seated, or to be able to beat the fear to sing until participating in a karaoke. These spaces for personal growth are playful, the adult explores their strengths and decides what they want to learn.

Regarding emotional skills, they are those that we build throughout our lives and have to do with lived experiences in terms of affection, achievement,

satisfaction, anger, frustration, motivation, and others. Therefore, in training programs for adults, the objective must be to promote self-awareness, that is, to understand what we feel and why, to later motivate ourselves, set goals, overcome obstacles and, above all, learn to manage stress. Activities such as writing a story from a given sentence, for example: "Currently I feel..." Also, games to express feelings, activities to combat stress, such as yoga, rhythm exercise, dance, meditation. The fundamental thing is to control emotions and recognize oneself as a person with capacities and needs; accepting and understanding the environment is vital for the adult.

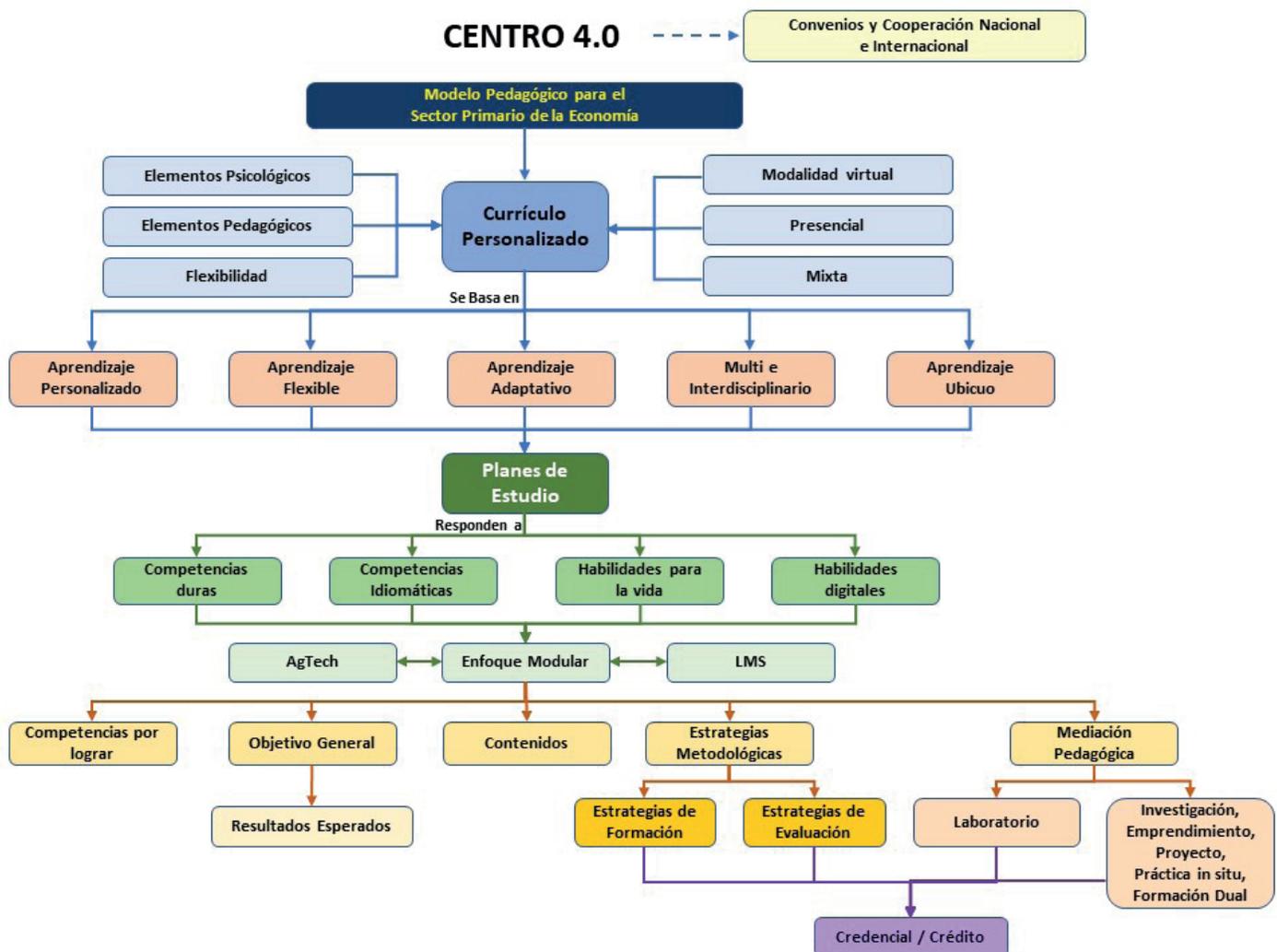
Regarding physical activities, it is very important that adults carry out activities to avoid a sedentary lifestyle, such as walking, jogging, swimming, cycling and others. The programs must stimulate the

formation of teams to walk with family, friends, visit places using a bike, compete walking, and have a healthy diet.

The most important thing that cannot be lost in the training of adults is that they are the center of any action or project, to enjoy, demonstrate skills while feeling motivated and happy, even if the adult chooses systematized training, the process must be contextualized and energized so that it shows results and demonstrates their skills to become certified.

It is not about acting like children; it's about learning to enjoy as when we were children.

The following diagram shows how basic skills integrate to academic process, taking the Center 4.0 as an example to the economy's primary sector.



V. DIGITAL TOOLKIT FOR CORE SKILLS: INTEGRATION OF CORE SKILLS DEVELOPMENT IN NATIONAL EDUCATION AND TRAINING SYSTEMS.

It is important to accept the existence of basic skills, they are necessary in the professional training and labor market of the future. But it is also important to conceptualize these basic skills, operationalize them in academic and technical terms, disseminate them through various means and for various populations, and of course, all of this involves developing tools that support this process of information, dissemination, training, and effective mastery of basic skills.

In the Dominican Republic, we have thought about development in the following:

Multimedia materials.

Development of classes using Learning Management System (LMS) and Learning.

Content Management System (LCMS).

Record micro-audios (between 1- and 3-minutes max).

Making of content videos (max 3 minutes, min 1 minute).

Preparing tear-off type texts.

Preparing materials for radio and television.

Social media content.

Core Skills content for the Metaverse.

Materials for desktop screensavers.

Materials for WhatsApp plus (WhatsApp Mod is a modification of the WhatsApp app, it includes extra personalized functions for communications. Using AI, it assigns messages to send audios, videos, and texts.

Gaming with Core Skills simulations.

Augmented reality with SMEs scenarios to teach and apply skills.

Non-uniform Tool Kits, instead, divided according to different populations' needs. For example:

Materials, Tool Kits, about Core Skills for unemployed

Materials, Tool Kits, about Core Skills for employees.

Materials, Tool Kits, about Core Skills for fully employed employees.

Materials, Tool Kits, about Core Skills to people working informal jobs.

Materials, Tool Kits, about Core Skills to self-employed people.

Materials, Tool Kits, about Core Skills to independent employees working Jobs such as with Uber.

Materials, Tool Kits, about Core Skills for MSMEs.

Materials, Tool Kits, about Core Skills for workers (mostly self-employed in a single-family unit) in the primary sector of the economy (agriculture, fishing, silviculture, environment care, aquaculture, exc.).

Materials, Tool Kits, about Core Skills for the secondary sector of the economy.

Materials, Tool Kits, about Core Skills for workers of the tertiary sector of the economy.

Materials, Tool Kits, about Core Skills for underprivileged populations (the poor among the poor) to help them prepare for a job to earn a living and to keep climbing according to their effort and the offer.

Materials, Tool Kits about Core Skills for INFOTEP's students of different majors.

Materials, Tool Kits, about Core Skills, for INFOTEP's Training Courses for Tutors, Experts, and Professors.

Materials, Tool Kits, about Core Skills, for the general public.

APPENDICES.

APPENDIX 1.

Summary of tables 3 and 4 of the ILO Document

FRAMEWORK NAME
Developing Social-Emotional Skills for the Labor Market: The PRACTICE Model (Guerra et al. 2014 for World Bank) Noncognitive skills (soft skills/socioemotional skills) MAIN CATEGORIES OF CORE SKILLS • Problem-solving • Resilience • Achievement motivation • Control • Teamwork • Initiative • Confidence • Ethics.
Enhancing Youth Employability: What? Why? and How? – Guide to Core Work Skills (Brewer 2013 for ILO) Core work skills/Core Skills for employability Main Categories of Core Skills Learning to learn • Communication • Teamwork • Problem-solving
Key Competences for Lifelong Learning: European Reference Framework (EU 2007) Key competencies Main Categories of Core Skills Communication in the mother tongue; Communication in a foreign language; • Mathematical competence; Basic competences in science and technology; Digital competence; • Learning to learn; Social and civic competences; Sense of initiative and entrepreneurship; Cultural awareness and expression.
New Vision for Education: Unlocking the Potential of Technology (WEF 2015) 21st century skill Main Categories of Core Skills Foundational literacies; Competencies; Character qualities-
Portability of Skills (ILO 2007) Life skills Main Categories of Core Skills Learning; Employability; Personal empowerment; Active citizenship:
Skill Shift: Automation and the Future of the Workforce (MGI 2018) Workforce skills Main Categories of Core Skills Physical and manual skills • Basic cognitive skills • Higher cognitive skills • Social and emotional skills • Technological skills.
Skills for a Greener Future: A Global View – Based on 32 country studies (ILO 2019b) Core/soft skills Main Categories of Core Skills Core skills required across the labor force • Core skills required by the medium- to high skilled population.
The Assessment and Teaching of 21st Century Skills (ATCS) (University of Melbourne, Cisco, Intel and Microsoft 2009) 21st-century skills Main Categories of Core Skills Ways of thinking (creativity and innovation, problem solving, learning to learn) • Ways of working (communication, co-laboration) • Tools for working (information literacy, ICT literacy) • Living in the world (local and global citizenship, life and career, personal and social responsibility)
The Definition and Selection of Key Competencies (OECD 1999) Key Competencies Main Categories of Core Skills Using tools interactively; Interact in heterogeneous groups; Act autonomously.

FRAMEWORK NAME
Transferable Skills in Technical and Vocational Education and Training (TVET): Policy Implications (UNESCO 2014) Transferable skills Main Categories of Core Skills Critical and innovative thinking; Interpersonal skills; Intrapersonal skills; • Global citizenship; Media and information literacy.
Women and the Future of Soft Skills Training (ILO 2017b)(c) Soft skills Main Categories of Core Skills Vision setting and professional development; Creative thinking; Problem-solving; Teamwork; Reaching consensus; Interpersonal communication; Public speaking; Critical thinking and reasoning; Time management and self-organization; Starting to manage; Leadership; Personal awareness; Working across cultures; Managing upwards.

X Table 4. Summary of national Core Skills frameworks

FRAMEWORK NAME
Fundación Chile (Chile) Employability competencies Main Categories of Core Skills Communication; Initiative and entrepreneurship; Learning to learn; Personal effectiveness; Problem-solving; Project planning and management; • Teamwork; Use of ICT.
India Employability skills, soft skills for employability Main Categories of Core Skills Ability to cope with stress; Ability to plan, organize and coordinate; Communication; English language; Entrepreneurship; Leadership; Negotiation; Occupational safety and health; Presentation. Self-management.
Generic Skills (Key Competencies) in Australia: The Way of the Future or a Track into the Never Never? (Australia, 1992) (Reynolds and Mackay 1997) Generic skills/ Mayer Key Competencies Main Categories of Core Skills Collecting, analyzing and organizing information; Communicating ideas and information; Planning and organizing activities; Solving problems; Using mathematical ideas and techniques; Using technology; Working with others and in team.
Jamaica Core skills for employment Main Categories of Core Skills Collecting, analyzing and organizing information; Communicating ideas and information; Planning and organizing activities; Solving problems; Using mathematical ideas and techniques; Using technology; Working with others in a team.
Philippines Main Categories of Core Skills Communication; Health; • Planning; Problem-solving; Safety and sustainable development; Teamwork
What Work Requires of Schools: A SCANS Report for America 2000 (United States, 1991) (U.S. Department of Labor 1991) Main Categories of Core Skills SCANS identifies five competencies and a three-part foundation of skills and personal qualities that lie at the heart of job performance. Five competencies: Information; Interpersonal skills; Resources; Systems. Technology A three-part foundation: • Basic skills; Personal qualities; Thinking skills.

APPENDIX 2:

Terms of Reference

Case study on Core Skills Implementation in Dominican Republic

Skills and Employability Branch, Employment Policy Department

1. Background

As the world of work is undergoing an unprecedented transformation, most countries are confronted by the challenge of growing skills mismatch. As articulated by the ILO Global Commission on the Future of Work,¹ the key global drivers of transformative change in the world of work, such as technology, globalisation, the transition to the green economy and demographic shifts are changing job and skills profiles, creating new jobs as well as rendering many existing jobs obsolete. More recently, the COVID-19 pandemic has fast-tracked and accentuated the challenges posed by these global drivers, whilst causing worldwide health, education and economic crises.

Apart from the changes in the technical skills required, there is a growing recognition that Core Skills will be an increasingly important catalyst for workers to adapt to and thrive amidst the uncertainties and disruption caused by global megatrends and the pandemic.² However, it can be argued that many existing Core Skills frameworks do not adequately and comprehensively cover the characteristics of the emerging world of work. Therefore, the ILO has developed a new framework of Core Skills – Global framework on Core Skills for life and work in the 21st century – which proposes 19 Core Skills grouped in four major categories.

To support the implementation of this framework to improve the quality and relevance of Core Skills training, retraining, recognition of skills and qualifications, a digital toolkit for Core Skills is being developed. As the toolkit aims to provide guidance and examples of good practices for the successful integration of Core Skills development in national education and training systems, it is proposed to develop several in-depth case studies on several countries (including Dominican Republic) to be included in the toolkit.

2. Objectives

The main objective of developing a case study on Dominican Republic is to offer examples of good practices for the successful integration of Core Skills development in national education and training systems to improve the quality and relevance of training, retraining, recognition of skills and qualifications. The case study is expected to examine Core Skills implementation by addressing the following list of issues:

1. How are Core Skills defined in Dominican Republic? (Please provide a detailed definition and description of each skill being considered as Core Skills in the national context).
2. How does national policies and frameworks on education and TVET address the issue of Core Skills integration and development;
3. How are Core Skills integrated into education and TVET curricula;?
4. What methodologies are used to deliver Core Skills in schools, TVET institutes and workplace as part of apprenticeships.
5. How are Core Skills progressively developed among students through early childhood education, general education and TVET;
6. How Core Skills are assessed and certified in TVET;

1 The ILO Global Commission on the Future of Work aims to examine all aspects of the future of work, identifying key challenges, opportunities and recommendations for action by all stakeholders, including governments, employers' and workers' organizations.

2 There is no standard terminology used universally for Core Skills. Other terms used include: soft skills, life skills, transferable skills, employability skills, core competences, portable competences, etc. This paper will use the term 'Core Skills'.

7. How are Core Skills developed as part of reskilling/upskilling programmed for adults (especially social, emotional, and cognitive skills).

The case study should provide examples of good practices of Core Skills implementation and delivery in different curriculum areas and different institutional settings supplemented by links to a wide range of resource materials on delivering and assessing Core Skills available in the public domain for teachers/trainers and on acquiring Core Skills by individual learners by self-directed learning or other means.

APPENDIX 3.

Obtained from the National Qualifications Framework of Qualifications

BASIC COMPETENCE	GENERIC STATEMENT OF THE COMPETITION (WITHOUT LEVELING)
Communicative competence in own language Speak, read and write in language 1.	Understand and express oral and written information, to exchange ideas, messages or instructions regarding the activities and tasks to be carried out in their personal, social and professional environment.
Multilingual communication Speak, read and write in language 2.	Understand and express oral and written information in a foreign language, to exchange ideas, messages or instructions related to the activities and tasks to be carried out in their personal, social and professional environment.
Scientific and technological competence understand and use mathematics, science and technology.	Apply calculation and mathematical reasoning, the methods of scientific rationality, as well as technological skills and their tools, to describe, interpret, predict, discover, design and produce knowledge and products applicable to development and social welfare.
Digital competence. Understand and use digital tools.	Use, configure and manage computer equipment and systems, to obtain information, produce content and share it on networks, using the established publication protocols and with the appropriate security measures.

Basic and transversal skills for Human, Ethical, Social and Civic training.



Developing skills for success in life and work.

- Oral and written communication.
- Languages.
- Digital tools.
- Customer service.
- Creativity and innovation.
- Adaptability to change.
- Stress management.
- Neurolinguistics.
- Leadership.
- Self-management.
- Conflict management.
- Decision making. Entrepreneurship.
- Teamwork.
- Effective time management.
- Financial education.
- Remote work.
- Personal and professional organization.



Development of social skills

- Emotional intelligence.
- Human and labor rights, moral and civic.
- Human relations (resilience).
- Tolerance.
- Personal resilience.
- Empathy.
- Effective communication.
- Critical thinking.
- Solidarity.
- Gender equality.
- National values.
- Provision of services in centers for special people.

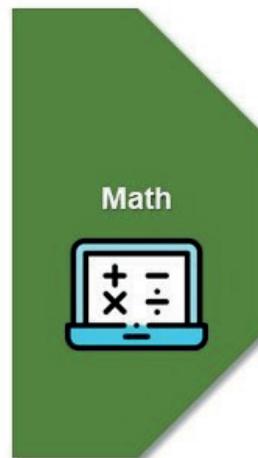


Environmental Protection

- Waste management, including non-biodegradable.
- Climate change management (renewable energy).
- Responsible use of water.

Core Competencies HOYT

- It allows you to act actively and responsibly in different areas.
- They are **INDEPENDENT OF A PROFESSION** and the basis or foundation for the acquisition of other skills and are applied to adapt to different social contexts.



Those that are common to a set of qualifications can be interpersonal or systemic, characteristics of a professional family.

Transversal Competences HOYT



APPENDIX 4.

INNOVATIVE PROJECTS IN WHICH THE CORE SKILLS ARE INCORPORATED AS KEY ELEMENTS OF THE NEW OFFER.

TRAINING CENTER 4.0 FOR THE PRIMARY SECTOR OF THE ECONOMY

The creation of a Technical Professional Training Center 4.0 for the Primary Sector of the Economy in the Dominican Republic, that is, in agricultural processes (livestock and agriculture); fishing (fish farming, aquaculture, fishing), forestry, environment and aquaponics, is a challenge in the face of the vertiginous advance of technology and its impact on human beings and things. This Educational Project will have state-of-the-art technology, which enables a greater insertion of young people, adults and women heads of household, single-family businesses, micro-businesses, and various sectors of the Dominican economy in virtual, in-person, or hybrid modality, which will allow for the opening of greater possibilities to provide a quality service or product, according to current and future standards. This will contribute to improving the quality of life of the people of the Dominican Republic, being consistent with the human right to guarantee a proper nourishment to have a healthy life.

The Technical Professional Training Center 4.0 for the primary sector of the economy is based on a conceptual framework, which constitutes the theoretical basis of the modular, personalized, multi and interdisciplinary, flexible, dynamic, and immersive pedagogical model in technologies, such as the Internet of things, biotechnology, Big Data, robots, drones, artificial intelligence, and others; which places the student at the center of the educational process and makes them responsible for their own learning process.

For the Center 4.0, the purpose of the educational process is self-realization, given the uncertainty that global society is experiencing and the management of obsolescence, the means to stay permanently updated, as well as mastery of the digital and basic language skills that will be strengthened in all courses and curricula. To achieve this, thinking must be taught, to learn to learn, which will constitute an essential skill to anticipate events, propose solutions and, using AgTech, build bridges of knowledge, emphasizing the participation of women heads of household, single-family businesses, or micro-businesses, in such a way as to reduce the gender gap and access to productive resources, which will directly affect the family and/or the business.

The pedagogical model, in addition to being based on a personalized approach, integrates multiple intelligences, so that the student can select the themes and strategies that correspond to their strengths. It also considers metacognition as the ability of learning to learn and access information, according to previous knowledge and the zone of proximal development, to then apply knowledge in simulations, demonstrations, in situ applications in plots of lands or farms, research, design of products, services and others.

It also considers the development of life skills and abilities; therefore, the student must demonstrate, apply, create, and carry out actions to transform the primary sector of the economy, applying the digital, language, and technical skills that allow them to master technology and transfer knowledge. A table has been developed that includes 4 categories with their respective competencies, so that every facilitator must keep in mind where the training efforts of human talent in the Center are directed, clarifying that it must be reviewed and updated each year.

Finally, the Center 4.0 offers the following training technical professional opportunities:

- **Training for entrepreneurs, a challenge for Center 4.0**

The 4.0 Center will give priority to innovation and entrepreneurship as bases that give meaning to the development of skills and are reflected in the levels of achievement through the development of entrepreneurship; it will be a learning strategy which includes innovation and research as fundamental components in the search for solutions, generation of ideas and products, and the development of processes; all this with immersion in technology to improve the quality of entrepreneurship and the profitability of the agricultural activity or activities carried out by students in said Center 4.0.

Under any type of modality, in-person, virtual, hybrid, all students must master not only the theory related to entrepreneurship and innovation, but also be able to apply and demonstrate their skills, be it their own enterprise or as support to the agricultural, industrial sector and tourism, with products, services, processes that significantly improve businesses in these sectors.

The 4.0 Center will boost the entrepreneurship as a project for the application and acquisition of skills, to promote micro-enterprises, single-family businesses and accompany women heads of household in learning and using AgTech, through the loan or rental of technological equipment, converting plots of land and properties into learning spaces. Research and use the of technology in the agricultural sector.

- **Technology and Research as Learning Skills**

The use of Artificial Intelligence and research are a challenge for the Center 4.0, which must provide each student, anywhere in the world, access to high-quality, personalized and ubiquitous lifelong learning (formal, informal, and non-formal), therefore, technology and research go hand in hand in the search for solutions or improvements to agriculture, aquaponics, fishing, marine farming, environmental sustainability, among others. "The future of agriculture points to robots, biological engineering and Artificial Intelligence. Advances such as GPS, soil scanning or the Internet of things are put at the service of local farmers to optimize their production and make it more sustainable" Guadamuz L. (2022)

- **Dual Technical Professional Training**

Dual training will be promoted as an alternative that integrates and applies specific skills, life skills, language, and digital skills, as well as the experiences obtained both in the Center 4.0 and in the company through research, innovation, entrepreneurship, use of technologies in the search for solutions or proposals for improvement to a need or problem of the company.

APPENDIX 5

INNOVATIVE PROJECTS IN WHICH THE CORE SKILLS ARE INCORPORATED AS KEY ELEMENTS OF THE NEW OFFER.

SUMMARY OF THE CENTER 4.0 PEDAGOGICAL MODEL

FOR THE PRIMARY SECTOR OF THE ECONOMY

The impact of the Technical Professional Training Centers 4.0 in the production of the Dominican Republic's Primary Sector could be very big, not only with the courses, but also by sharing technologies, mobile labs, innovative agricultural culture and its modern marketing and efficient logistics.

The new generation of Technical Professional Training Centers 4.0 for the Primary Sector will have advanced simulation and experimentation labs and workshops, which offer teaching in accordance with the latest advances in all sciences, obviously including those of the Agricultural Sector. They will intensively use Technologies at the service of a precise and innovative Agriculture. In addition, they will have an academic offer that is constantly being renewed and updated, because the world will change faster than we prepare for it.

The educational model [of the Center 4.0] that the Center 4.0 will use will be the personalized educational offer, which according to Lorenzo Guadamuz, consists of providing the student with an individualized modular offer, which responds to individual differences and the different types of intelligences (spiritual, social, multiple, emotional). In addition, it includes hard skills, digital skills, language skills and life skills.

In the Center 4.0, the curriculum is assumed as a set of actions, aimed at the transformation and construction of knowledge, skills, and abilities that through a personalized approach, ensure the comprehensive development and self-realization of the participants through curriculum, programs, methodologies, and evaluation. In addition, the curriculum as such must be flexible, changing maximum every 3 years and its contents updated annually in a non-graduate, personalized and individualized education. In addition, open education courses, continuing education, should be offered to farmers, small producers, women heads of families, entrepreneurs, and businesses." Guadamuz L. (2022)

The teaching-learning process is designed based on the modular system, by competencies and expected results. It responds to the personalized approach in virtual, in-person or hybrid modalities.

Each module is independent, but coherent, in such a way that it can be integrated into a program or curriculum. It is not required to pass a module to go to the next one. The student chooses where he wants to start, considering the expected results that must be achieved in the selected module to start the process.

The modules are made up of Learning Units, which integrate the competencies specified in the conceptual framework, and the skills required to achieve effective performance, in the development of competencies, through asynchronous or synchronous learning.

When designing the Learning Units, it must be specified if it is theoretical-practical, supervised practice, laboratory or field work; consistent with the type of final activity of the module, according to the student's choice with the support of the facilitator: project, **research**, simulation, dual training, entrepreneurship, transformation of parcels or properties, and others.

Once each Learning Unit has been completed and the expected learning has been demonstrated, the student is awarded a micro-credential. When the module is completed and the level of competence achieved is demonstrated and a credential is granted, with a value in credits, which will be defined by the specialists in the various areas of knowledge.

Curricular and Pedagogical Dimension

Aspects that make the difference in the Pedagogical Curricular Dimension, for the Center 4.0:

The construction and development of the teaching and learning processes that are carried out in the Center 4.0, transforms its actions as follows:

The "what to teach," changes to "**why to learn?**" The student, with the educator's support, makes the decision of what they wish to learn.

“Who to teach” is originated in the Center 4.0, “how will we learn together,” both in the student role and the educator co-learner role. It refers to the immersion experiences in technology, which are provided to the student so that they can choose, according to the predominant multiple intelligences and prior knowledge, digital and language skills, under the personalized, ubiquitous, adaptive, active learning approach and life skills. In addition, it goes hand in hand with evaluation as a process and at the end; hence the location of the assessment at the end of the Learning Unit disappears, there will only be one assessment at the end of the module.

When to Learn. The Center 4.0 does not choose the “when” for the student; since it is them who decides when and in what place, or in what way; because learning is said to be ubiquitous, it will be at their own pace.

There is a virtual platform based on LMS, where the student, whether in the virtual, in-person, or hybrid modality, will have all the information required to achieve a successful performance.

- The contents must be comprehensive, significant, and contextualized. The facilitator should encourage the student to analyze the content and suggest some more that they would be interested in learning and integrating into their learning process.
- The methodological strategies go hand in hand with the process of evaluation. At the end of each module, the student verifies what they have learned and is awarded a credential, which means that they achieved the expected results of the competence(s) worked on.
- There is a virtual platform based on LMS, where the student, whether in the virtual, in-person, or hybrid modality, will have all the information required to achieve a successful performance.
- Pedagogical mediation is made up of:
- *At least one lab in each Learning Unit.* They should be designed so that the student discovers their previous knowledge (what they know). Then, the facilitator must provide interactive materials for the student to formulate what they want to know and choose, according to their abilities, those activities in which they feel comfortable. The third moment is the verification of what was learned (“what did I learn?”) and how it is demonstrated or applied in simulations, problem solving, demonstrations, practices, workshops and others. Finally, “how do I transfer what I learned?” Based on the results obtained in the laboratory, “how can I apply it in other scenarios?”
- *Research, Project simulation, and dual training or field work.* Each module must be approached from a project, research, development of demonstration plots, own-business or under the dual training modality (jobs linked to agricultural, fishing, rural tourism companies and others that come up). Hence, the importance of the laboratory mentioned above, as part of the Learning Units, but which will be an input for the professional technical training strategy chosen by the student.
- *Digital Didactic Materials.* They must be adapted to the particularities of the students, be significant and contextualized, therefore, in the Center 4.0 all the materials will be virtual, even when the chosen modality is in-person or hybrid. Hence, browsers, hyperlinks, internet, mobile phones, tablets, social networks, blogs, Big Data, games, and others will be used in the Center 4.0, so that the student advances at their own pace (b-learning).
- *Credits, mini-credentials, and credentials.* Given the personalized approach of the teaching-learning processes, the credits will be established according to the time limit agreed to develop each module. Each Learning Unit that makes up the module must include the evaluative action that will earn a mini credential and each module must specify the final evaluative action that will earn a credential. Therefore, the student will add mini credentials until concluding the module with the final evaluation, which accredits a credential.

In these Centers we will develop, besides other basic skills, the following specific skills for the Primary Sector Centers 4.0

SKILLS TO SURVIVE CLIMATE CHANGE EFFECTS

- Skills to survive floods caused by rains, rivers, and high tides
- Skills to survive during hurricane season
- Skills to survive tsunamis
- Skills to survive volcanic activity (lava, ashes)

SKILLS TO SURVIVE IN A WORKING ENVIRONMENT OF THE PRIMARY SECTOR OF THE ECONOMY

- Skills to work and produce in single family environments, usually a woman being the head of the household, with a small terrain or riverside fishing.
- Skills to be aware of the contaminations of pesticides, chemical fertilizers, rodents, exc.
- Skills to produce in artisanal fishing and aquaculture, as well as conservation of the environment
- Employ technological skills for a healthy lifestyle and to have a more effective production.

APPENDIX 6:

INNOVATIVE PROJECTS IN WHICH THE CORE SKILLS ARE INCORPORATED AS KEY ELEMENTS OF THE NEW OFFER.

TECHNICAL PROFESSIONAL EDUCATION AND TRAINING, AIMED AT POPULATIONS IN MARGINAL TERRITORIES AND IN VULNERABLE CONDITIONS OF EXTREME POVERTY.

The Technical Professional Training Institute (INFOTEP), as an institution dedicated to the education and training of workers and employees of the public and private sectors of the Republic in the year 2022, in addition to maintaining the grid of programs that it has traditionally been offering, the institution has decided to work with the most impoverished population, who live in the peripheral neighborhoods of the cities of the Dominican Republic, taking as a pilot model the territory of the National District and the province of Santo Domingo.

The fundamental objective is to empower the poorest among the poor populations, from the need to generate local or territorial economic development models, based on their own potentials and those of the environment in which they live in, through the implementation of specialized training programs, specific to their reality, that is, popular training.

The general objective of the project is to produce the necessary training, in a simple way, and considering the level of schooling of the population through programs, courses, and minimum financial assistance, which allows these populations to generate and increase their family income, inserting themselves in the productive chains, in necessary products and services.

The specific objectives are proposed by virtue of the productive conditions of the populations in each territory and special emphasis on Basic Capacities and Skills. This allows us several programs aimed at increasing solutions to the problem-solution relationship.

Included in these programs are those related to the recycling of solid waste, the classification of recycled waste, and making products from these recycled materials. Production of fertilizers and organic products, recycled plastics for consumption by industries, classification, and marketing of metal waste, such as iron, copper, calamine, and creation and production of small greenhouses on the banks of rivers and ravines, exc.

The results and effects of these programs should be assessed in three stages. In the short, medium, and long term.

Short term. Achieved within 12 months (a year)

- Decrease of illiteracy
- Decrease of school dropouts
- Increase of economic income for families
- Training and organization of the social sectors of the territory
- Increase of community participation and internal cooperation

Medium term. Achieved within 24 months (two years)

- Emergence of small and medium enterprises related to production
- Population's credit level improvement
- Decrease of territorial violence levels
- Increase of environmental awareness levels
- Decrease of pollution levels
- Conservation of flora and fauna

Long term. Achieved within 60 months (five years).

- Grouping of businesses in community unions.
- Increase of the community's economic level
- Increase and improvement of the land's habitat
- Collective economic capacity and people coming above the poverty line
- Disappearance of extreme poverty

Regarding Core Skills, we should include the following:

SURVIVAL SKILLS

- Survival skills in environments lacking resources.
- Survival skills facing assault
- Survival skills in violent environments.
- Survival skills for informal labor in the streets.

SKILLS TO LIVE

- Skills to live with the minimum (housing, food, clothing, health, income).
- Skills to live alone with a head of household. Father, mother, grandparents, or abandoned.
- Skills to face aggressiveness, verbal, and physical bullying in a group environment, such as schools, churches, sport teams, cultural groups.
- Skills to live in the streets.

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