

QUALITY ASSURANCE AND QUALITY DEVELOPMENT AMONG VOCATIONAL EDUCATION PROVIDERS IN SUB-SAHARAN AFRICA

A review of quality assurance systems
and an assessment of the quality of provision
in selected vocational schools and centres



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Report drafted by Bert Hofma for the European Training Foundation, with assistance from Rogier van 't Rood.

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EXECUTIVE SUMMARY

In 2020, youth between ages 15 and 24 constituted 20% (226 million) of sub-Saharan Africa's total population (1.13 billion). The youth population in sub-Saharan Africa is projected to rise to 293 million in 2030 and to reach 413 million in 2050.¹ Many of the youth are not in education, employment or training. Their socioeconomic integration into rapidly changing societies is one of the biggest challenges on the African continent.

This study assesses the scope and quality of educational and training services provided by a sample of 'high-quality' vocational schools in sub-Saharan Africa. It gives a snapshot of good practice, which should help to inform the development and planning of schools and education and training systems. The research also describes the immediate, medium-term and long-term plans of these schools, to reveal their priorities and prospects for future development. Lastly, it identifies barriers and enablers that explain the schools' level of development and shape how they develop.

The study includes a survey that was completed from May to August 2021 by 26 vocational schools from 14 sub-Saharan African countries. This self-assessment tool has seven dimensions that were judged relevant by between 69 to 100% of the schools:

- A. Education–business collaboration and cooperation (relevant for 100% of the schools)
- B. Pedagogy and professional development (relevant for 100% of the schools)
- C. Autonomy, institutional improvement and resources (relevant for 96% of the schools)
- D. Lifelong learning in VET (relevant for 69% of the schools)
- E. Skills for smart specialisation – mobilising innovation, ecosystems and SMEs (relevant for 88% of the schools)
- F. Industry 4.0 and digitalisation (relevant for 77% of the schools)
- G. Going green – supporting sustainable goals (relevant for 88% of the schools).

The survey revealed that schools perform best in relation to Dimension B - Pedagogy and Professional development, closely followed by Dimension C – Autonomy, institutional improvement and resources, and Dimension A – Education-business collaboration. The level of development is much lower in Dimension F - Industry 4.0 and digitalisation. Not surprisingly, many vocational schools want to improve in this area. Therefore, industry 4.0 and digitalisation is an attractive area for national or international development bodies to support in the future.

The study concludes with the following five recommendations for policymakers that indicate how high-quality vocational education can be propagated and transmitted throughout sub-Saharan Africa:

Recommendation 1

Encourage and support schools to disseminate excellence. Many schools reported a remarkable level of development, for instance in the areas of pedagogy and professional development or in education–business collaboration. It is crucial that smaller or weaker schools, businesses and other organisations also benefit from these encouraging developments. The transmission of excellence can happen in many ways: through collaboration; local or regional coordination; sharing of resources such as teachers, trainers and equipment; demonstration projects; and networks at local, regional, national

¹ World Bank data, population estimates and projections. Please see the annex for more information.

or international level.² Greater autonomy for leading schools and incentives for effective transmission of excellence may be worth considering.

Recommendation 2

Help to establish leading schools for the digitalisation of vocational education and training. At 33%, the average total score for Dimension F (Digitalisation and Industry 4.0) was by far the lowest of all seven dimensions. The 26 schools from sub-Saharan Africa scored considerably lower in this dimension than schools in the EU and ETF partner countries (where the average score was 68%). However, one of the key findings of this study was that schools in sub-Saharan Africa want to improve in this dimension. When schools were asked about their short-term and medium to long-term plans, 18 of the top 20 priorities were related to digitalisation and industry 4.0. Digitalisation and industry 4.0 are global phenomena and many products and processes are standardised. Therefore, the potential for international collaboration and cooperation in this area seems enormous. In any case, further investments in hardware for digital infrastructure and equipment are urgently needed, in particular in rural areas.

Recommendation 3

Help to strengthen collaboration and cooperation with industry and new businesses. Many schools reported that they have links with employers that already work well. For example, 96% of the schools said that all learners have work placements in industry. However, schools could improve collaboration with businesses in areas such as adult education, placements for teachers, green skills and regional coordination for regional economic development. Twenty-seven per cent of the schools' plan to collaborate with industry to create new training programmes that address innovation (for example, adoption of new technologies), in line with the regional strategy. A total of 36% of schools aim to provide incubation services, that is, support for new business start-ups, such as accommodation, mentoring or loans. In general, schools highlighted the importance of entrepreneurship training. They also need access to analysis on the sectors with the greatest potential for job creation.

Recommendation 4

Help to build capacities for successful devolution of VET governance. The survey shows that most schools already enjoy a remarkable degree of autonomy. For instance, 80% of the schools said that they have the authority to make external contracts, 84% said that they may earn and retain income, 80% claimed that they have the authority to appoint fixed-term staff, and 80% reported that they plan and monitor their own budget. However, schools find it hard to take advantage of these freedoms because they lack the necessary human and financial resources or because central VET authorities are too bureaucratic. For successful devolution of VET governance, capacities must be built in schools and at regional or central government level. The goals and processes of devolution need to be clearly communicated and understood by all actors.

Recommendation 5

Provide training and support to help schools become green. Green schools support sustainable development goals. Interestingly, 88% of the schools in sub-Saharan Africa said that going green is relevant for them. This is six percentage points more than schools that participated in the ENE2020

² For more information see: Centres of Vocational Excellence - An engine for vocational education and training development. An international study. Chapter 4: The transmission of excellence, pp 126ff.

survey (82% said it is relevant for them). Schools are already addressing issues related to sustainability, but they want to do more. Many survey respondents said that they want to work at institutional level over the next few years, for instance they plan to reduce their school's carbon footprint. Schools also claimed to have plans for new programmes for green occupations and training for adults on green skills and technologies. The right level of provision and support should be provided to help them to develop such programmes and to establish or reinforce collaboration between schools and green companies.

1. INTRODUCTION TO THE SURVEY

The European Commission's Directorate General for International Partnerships (DG INTPA) initiated this research to identify factors underpinning the development of high-quality vocational schools/centres in sub-Saharan Africa. DG INTPA believes that a shared understanding of how schools and centres become excellent will help cooperation within and between countries across the world to achieve sustainable development. It should also inform the EU's own international and development policy.

The **main aims** of the study were to develop and pilot an assessment process that could characterise, analyse and evaluate the dimensions of high-quality vocational provision. This tool would be used to assess the level of development of a sample of sub-Saharan providers, which would help these providers and DG INTPA. Finally, the study sought to identify, so far as possible, enablers and barriers that could explain any differences in development. In the light of the findings, recommendations could be made to help national policymakers and partners support improvements for an increasing number of providers.

Methodology

The study included three processes:

- a documentary review of current regulations and practices on the quality of vocational provision in selected sub-Saharan countries
- a self-assessment exercise for participating schools/centres
- follow up interviews.

Desk review of factors supporting high-quality vocational schools/centres in sub-Saharan Africa

The desk review examined legislation, practices and guidance relating to quality in the provision of vocational education across all 14 countries with a particular focus on a core group of 4 countries. It focused on accreditation systems, especially where they include explicit recognition of high-quality provision, for example, as a centre of vocational excellence. In addition, the review examined processes, such as external and internal evaluation, that are designed to support school development or improvement.

Self-assessment

A total of 26 schools in sub-Saharan Africa participated in a self-assessment exercise in which they were supported to assess their level of performance and their planning across seven dimensions. The ETF's Network for Excellence Self-Assessment Tool (ENESAT) was used. This is a self-assessment tool that has been developed, tested and widely used by ETF for its network of Centres of Vocational Excellence.

The 26 schools that participated were from 14 countries in sub-Saharan Africa, namely:

1	Angola	Polytechnic School Caxito
2	Angola	Polytechnic School Cuanza Norte
3	Burkina Faso	Ecole Supérieure Polytechnique de la Jeunesse (ESUP JEUNESSE)
4	Burkina Faso	Institut Supérieur de Technologies
5	Côte d'Ivoire	Ecole de Formation Professionnelle Yarani
6	Côte d'Ivoire	ARSTM
7	Democratic Republic of the Congo	Centre de Ressources Haut-Katanga
8	Democratic Republic of the Congo	ITPRO Mazzarello
9	Guinea-Bissau	Vocational School in Bissau
10	Guinea-Bissau	Instituto de Profissões e Tecnologias (IPT)
11	Kenya	Nyeri National Polytechnic
12	Kenya	Meru National Polytechnic
13	Malawi	DAPP Mikolongwe Vocational School
14	Mozambique	Instituto Politécnico Nhamatanda
15	Mozambique	Instituto Politécnico Nacala
16	Namibia	DAPP Vocational Training School
17	Niger	Institut Pratique de Santé Publique (IPSP)
18	Senegal	Centre de Formation et d'Appui aux Métiers (CFP/CEFAM) de Louga
19	Senegal	Centre Sectoriel de Formation Professionnelle aux Métiers de la Mécanique et des Engins Motorisés (CSFP MEM)
20	Senegal	Centre de Formation aux Métiers Portuaires et à la Logistique (CFMPL)
21	Senegal	Centre de Formation Professionnelle et Technique (CFPT) Senegal-Japon
22	South Africa	Kwa-Zulu Natal Experimental College
23	Uganda	Kasese Youth Polytechnic
24	Uganda	Nakapiripirit Technical Institute
25	Uganda	St. Simon Peter's Vocational Institute
26	Zimbabwe	Ponesai Vanhu Technical College

The documentary review of factors for high-quality vocational providers in sub-Saharan Africa confirmed that the seven dimensions and the indicators that comprise ENESAT were relevant for providers in the region, although some additional indicators were proposed. ENESAT is an established international tool. Therefore, comparisons could be made between providers in sub-Saharan Africa and those elsewhere in the world.³

ENESAT contains the following dimensions:

- A.** Education–business collaboration and cooperation
- B.** Pedagogy and professional development
- C.** Autonomy, institutional improvement, and resources
- D.** Lifelong learning in VET
- E.** Skills for smart specialisation – mobilising innovation, ecosystems, and SMEs
- F.** Industry 4.0 and digitalisation
- G.** Going green – supporting sustainable goals

³ In Section 3.4 of this report, the responses from the 26 schools in sub-Saharan Africa are compared with the responses from the first wave of ENESAT launched in October 2020, which included 72 centres of vocational excellence in 11 ETF partner countries and 5 EU Member States.

Each dimension is composed of a set of indicators. These are simple, unambiguous statements that indicate services or processes that show development in that dimension. Within each dimension, the indicators are grouped into **three levels of development** according to the level of challenge or the cost required to achieve them.



An additional section within each dimension addresses **leadership and coordination** and the transmission and sharing of excellence. The section is made up of a group of indicators that address the way the school or centre works with other educational organisations, businesses and public-sector organisations and provides a measure of the extent to which the school or centre has taken on a leadership or coordination role.

For each indicator, the **evaluation scale** is:

- a. Yes (i.e. we do it already)
- b. To some degree (i.e. we do it only partially)
- c. No (i.e. we don't do it)
- d. Not relevant
- e. Don't know

If the respondent selects 'No', they are then invited to choose between three further options, to clarify their potential plan:

- C1. We will do it within two years.
- C2. We will do it in more than two years.
- C3. We are not planning to do it.

The self-assessment tool (see annex for the English version) was offered online in English and French.⁴

Schools and centres were supported to complete the self-assessment through guidance and six online meetings: three for English speaking and three for French speaking participants.⁵

Focus groups

Online meetings with school management, employers and learners were organised to discuss and, where possible, validate the responses given in the self-assessment exercise. These meetings were also an opportunity to explore the enablers and barriers that underpin performance and development. Representatives from seven schools in Kenya, Mozambique, Angola, Malawi, Côte d'Ivoire and Senegal participated. The complete list of participants and the semi-structured interview template can be found in the annex.

⁴ The tool can be viewed at: <https://survey.alchemer.com/s3/6024312/ENESurvey-Link>

⁵ See the annex for the agenda and materials.

2. REVIEW OF QUALITY ASSURANCE SYSTEMS FOR VOCATIONAL EDUCATION PROVIDERS IN SUB-SAHARAN AFRICA

In this chapter, we report on the findings of a desk review to describe the regulatory frameworks, the processes and the instruments used to ensure minimum standards of quality in VET provision. We also describe additional mechanisms, where they exist, to improve quality and recognise high-quality provision.

In most sub-Saharan African countries, training providers, schools or training centres need national accreditation to start operation. Quality standards are included in the accreditation criteria. To illustrate the similarities and differences in these arrangements, detailed descriptions are provided for three countries: Malawi, Namibia and Kenya.

Malawi

The regulatory authority for technical and vocational education and training (TVET) in Malawi, the Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA), defines accreditation requirements and requires regular self-evaluation for all TVET institutes. Accreditation criteria address:

- legal status
- the quality management system (reflecting International Organization for Standardization [ISO] requirements for quality management policies and procedures) for the process and outputs
- the development, delivery, assessment and evaluation of learning programmes
- resources, including staff
- guidance and counselling for learners.

In addition, there is an external evaluation ('inspection') system, which includes assessment criteria grouped under the following headings:

- governance
- education equipment
- accessibility
- health and safety
- recreation
- boarding facilities
- sustainability.

Namibia

Namibia operates a system of licensing for VET providers and offers detailed criteria and guidance:

- The Namibia Training Authority (NTA) Manual for Registration of Vocational Education and Training Providers defines legal aspects, the applicant's tasks and duties, and related procedures.
- The Namibia Qualifications Authority (NQA) checklist for application for accreditation and expansion of scope defines the required documents including those on business organisation (governance and management), course materials, staffing, learner entry, facilities, franchising relationships and assessment.

These regulations do not refer to high quality or excellence. However, GIZ is currently supporting the NTA to establish three TVET Hubs that will each have a specialisation and responsibility for leadership and coordination for a sector and/or a region.

Kenya

Kenya operates an accreditation system and has developed a special standard for TVET institutes seeking recognition as a Centre of Excellence. Centres of Excellence are 'institutes where the highest standards of training and innovation are maintained' (Technical and Vocational Education and Training Authority's TVET 2019 Centre of Excellence requirements, final version, July 2019). The standard reflects ISO/DIS 21001 (2018) and the criteria defined by GIZ. The accreditation requirements for Centres of Excellence are grouped under the following headings:

- results orientation
- customer/client focus
- leadership and constancy of purpose
- management by processes and evidence
- staff development and innovation
- continuous learning, innovation and improvement
- partnership development
- corporate/public social responsibility.

In addition, Centres of Excellence must have a specialised training focus area; a national and international outlook and recruitment; high levels of scientific and/or industrial connectivity; stable funding; strong partnerships; private sources of income/funding; and evidence of sound financial management based on at least **five** consecutive annual audited reports.

Existing instruments for quality improvement

The desk review showed that knowledge of international quality assurance concepts and processes, including those defined by ISO and the European Foundation for Quality Management (EFQM), is widespread in the sub-Saharan countries that were studied. In addition to the criteria mentioned in the case studies above, there are frequent references to the importance of needs assessment in relation to labour markets and learners, the competence of teachers and trainers, inclusion, learner well-being and safety, occupational standards, and qualification standards. However, the comprehensiveness of the criteria varies from country to country. In some countries, these systems are still under development or only partially implemented. Malawi and Zambia stand out as countries where systems are in place and extensively implemented.

Conclusions

The range of systems, standards and instruments that are deployed to ensure quality and bring about improvement are much the same as those used elsewhere in the world. However, in practice the main 'focus' of quality assurance in sub-Saharan African countries is licensing, that is, the initial accreditation of VET providers. In most countries, quality criteria and processes are designed to ensure that a minimum or sufficient level of performance is achieved as a precondition to operation and in some cases also for license renewal. It follows that there are no strong incentives or processes that drive improvement in the quality of provision. In most countries, with the notable exception of Kenya, there are no national standards that recognise 'excellence' or indeed any other levels of institutional development or improvement. Nevertheless, a number of initiatives, often associated with

the work of international development agencies, encourage and support the development of hubs, Centres of Excellence or Centres for Innovation.

These conclusions should be explored further. The emphasis on 'minimum standards may reflect a policy priority in education systems that are relatively underfunded and stretched. However, a 'policy opportunity' may exist, at least in some sub-Saharan countries, to develop quality assurance systems that focus more on institutional improvement than just on licensing.

3. SELF-ASSESSMENT SURVEY AND QUALITATIVE FINDINGS

3.1 Overall results

The following analysis was conducted on the 26 responses collected in 2021.

Schools in sub-Saharan Africa that self-assessed on all seven proposed dimensions for excellence considered that the most relevant dimensions were A (Education–business collaboration), B (Pedagogy and professional development) and C (Autonomy, institutional improvement and resources).

Dimensions E (Skills for smart specialisation) and G (Going green) were judged to be relevant by almost 90% of respondents (Figure 1). Around three out of five schools self-assessed in Dimension F (Industry 4.0 and digitalisation) and only two out of three in Dimension D (Lifelong learning in VET).

Figure 1: Relevance of dimensions (N. 26)



Data source: ETF, ENE Self-Assessment Survey 2021, 1st round

On completion of the self-assessment, each school automatically receives a set of **scores** for each dimension:⁶ the **development score**, measuring the overall level of development in relation to all the indicators that describe a particular dimension; the **leadership score**, measuring developments in the way schools work and cooperate with other schools or training centres; and a **total score**, calculated as the sum of the previous two.

⁶ The dimension score is calculated as the sum of answers to each indicator within the dimension: 1 if the answer is 'Yes, we do it already', 0.5 if the answer is 'We do it only partially' and 0 if the answer is 'We don't do it'.

Table 1: Average scores by dimension

	TOTAL score			Development score		Leadership score	
	N.	Avg.	%*	Avg.	%*	Avg.	%*
A. Education–business collaboration and cooperation	26	9.4/14	67%	8.0/11	72%	1.4/3	48%
B. Pedagogy and professional development	26	14.7/19	77%	11.9/15	79%	2.8/4	70%
C. Autonomy, institutional improvement and resources	25	12.7/18	70%	10.5/14	75%	2.2/4	54%
D. Lifelong learning in VET	18	10.6/18	59%	9.3/15	62%	1.4/3	45%
E. Skills for smart specialisation – mobilising innovation, ecosystems and SMEs	23	9.5/15	63%	7.8/12	65%	1.7/3	58%
F. Industry 4.0 and digitalisation	20	6.9/21	33%	5.5/16	34%	1.4/5	28%
G. Going green – supporting sustainable goals	23	8.7/15	58%	6.9/11	62%	1.8/4	45%

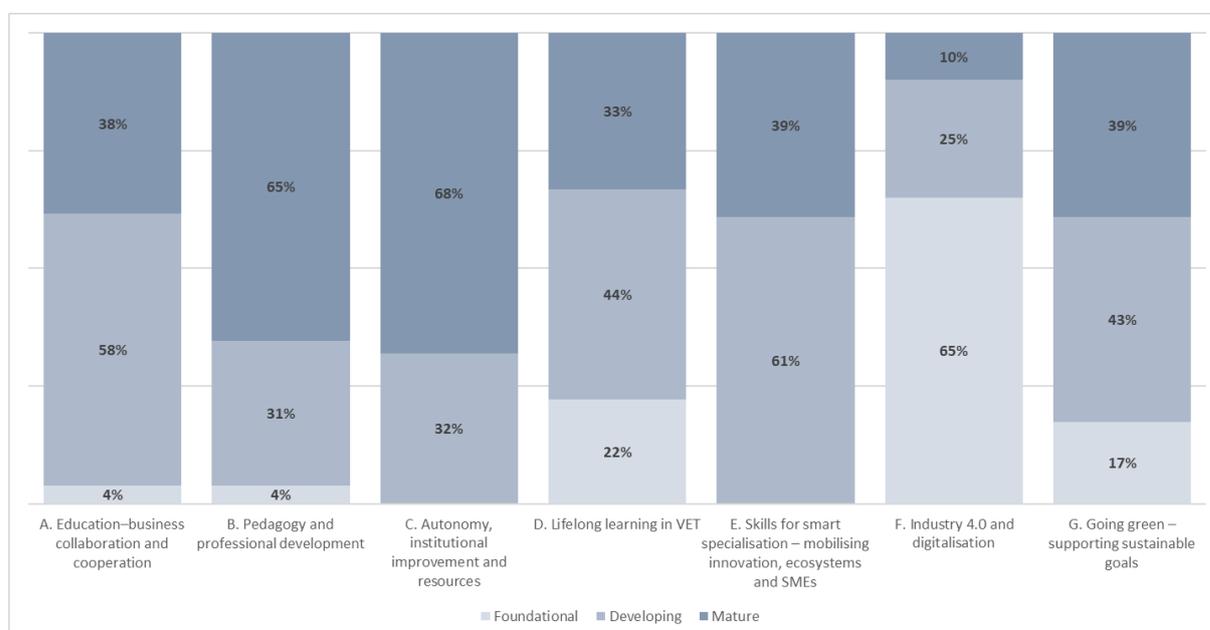
N = number of responses out of 26; Avg. = average score; % = average score out of the maximum score.

The results show that schools scored best in relation to Dimension B (total score 77% of the maximum score), closely followed by Dimension C (70%), while Dimension F was at the bottom of the list with 33%.

The leadership score was relatively low, even though a number of schools are participating in school clusters.

Performance was best for Dimension B (70% of the maximum score). In all the other dimensions, the share of the maximum leadership score was around 50% or below. The development score indicates a **level of development** for each school, and helps to understand if the school positions itself at a foundational, developmental or mature stage in each dimension.

Figure 2: Overall level of development by dimension



- Over 65% of the respondents self-assessed as mature in dimensions B and C.
- Dimension F seems to be the least developed: 65% of schools self-assessed as foundational.

- There was no prevalence in dimensions D and G, where we found heterogeneity of developmental levels.
- Around 60% of schools are developing in dimensions A and E. The rest are at mature level.
- The analysis of how the schools self-assessed across dimensions shows that development levels were more consistent between some dimensions than others. For example, 13 out of 25 schools (52%) self-assessed as mature in dimensions B and C.

These correlations may suggest that these two dimensions are somehow connected, so a high level of autonomy may foster developments in pedagogy.

3.2 Results by dimension

The following section presents a detailed analysis of the self-assessment results by dimension, taking into consideration the single indicators that contribute to defining schools' level of development and potential for improvement.

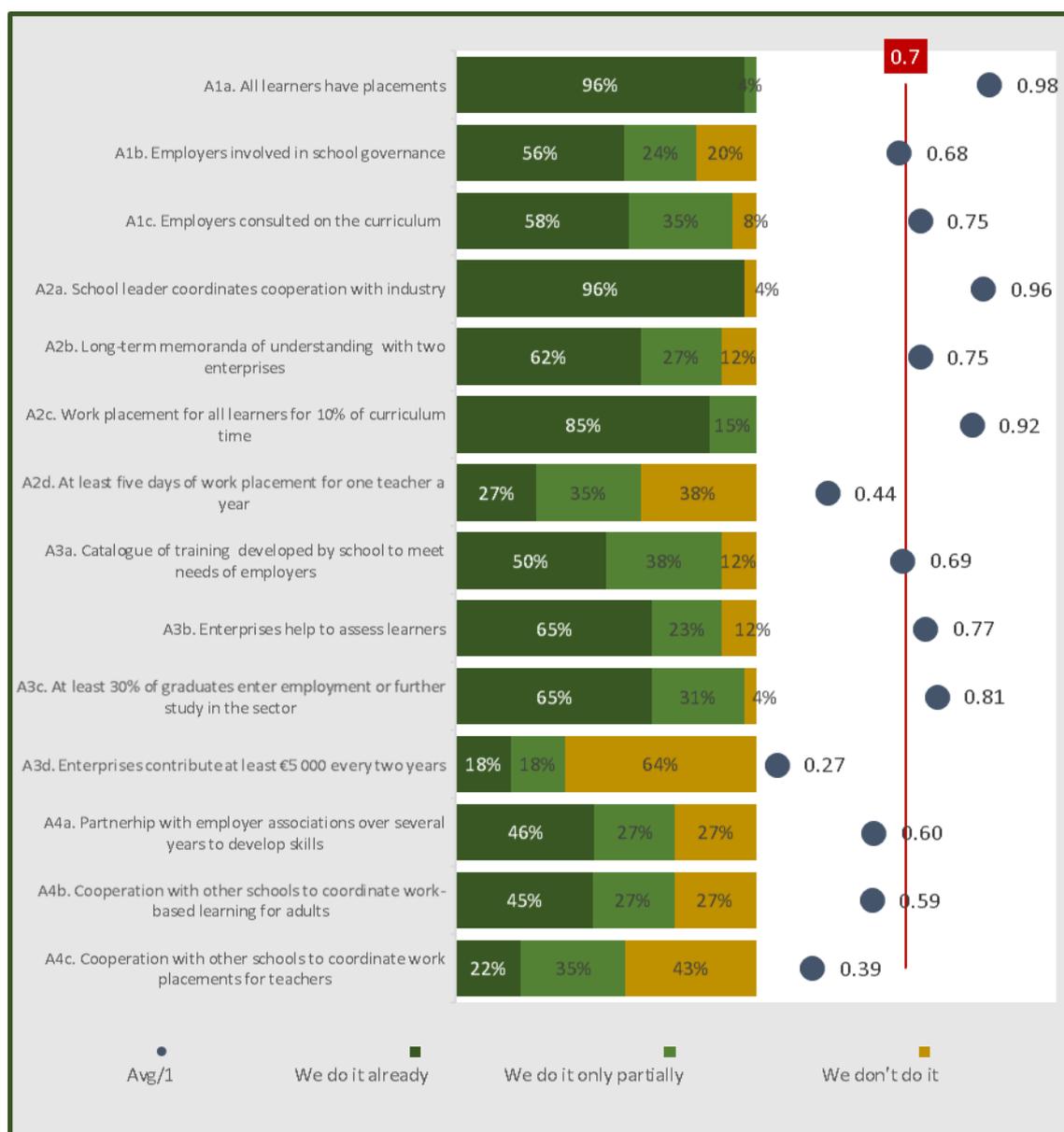
A. Education–business collaboration and cooperation

Education–business collaboration and cooperation is a dimension that all 26 schools judged to be relevant. The total score (67%) was the third highest of all seven dimensions and was only exceeded by dimensions B (Pedagogy and professional development; 77%) and dimension C (Autonomy, institutional improvement and resources; 70%). The score for leadership and coordination was relatively low (48%).

A - Education–business collaboration and cooperation	TOTAL score (out of 14)	Development score (out of 11)	Leadership score (out of 3)
Average score within dimension	9.4	8.0	1.4
Max. score	14	11	3
% of max. score	67%	72%	48%

Most schools claimed to do particularly well in relation to learners' placements. Around 96% of the schools stated that all learners had placements in industry (A1a) and another 85% said that they offer work placements for all learners for at least 10% of the curriculum time (A2c). The strong commitment of school leaders may explain these remarkable achievements: 96% of the schools stated that their school leader coordinated cooperation with industry (A2a).

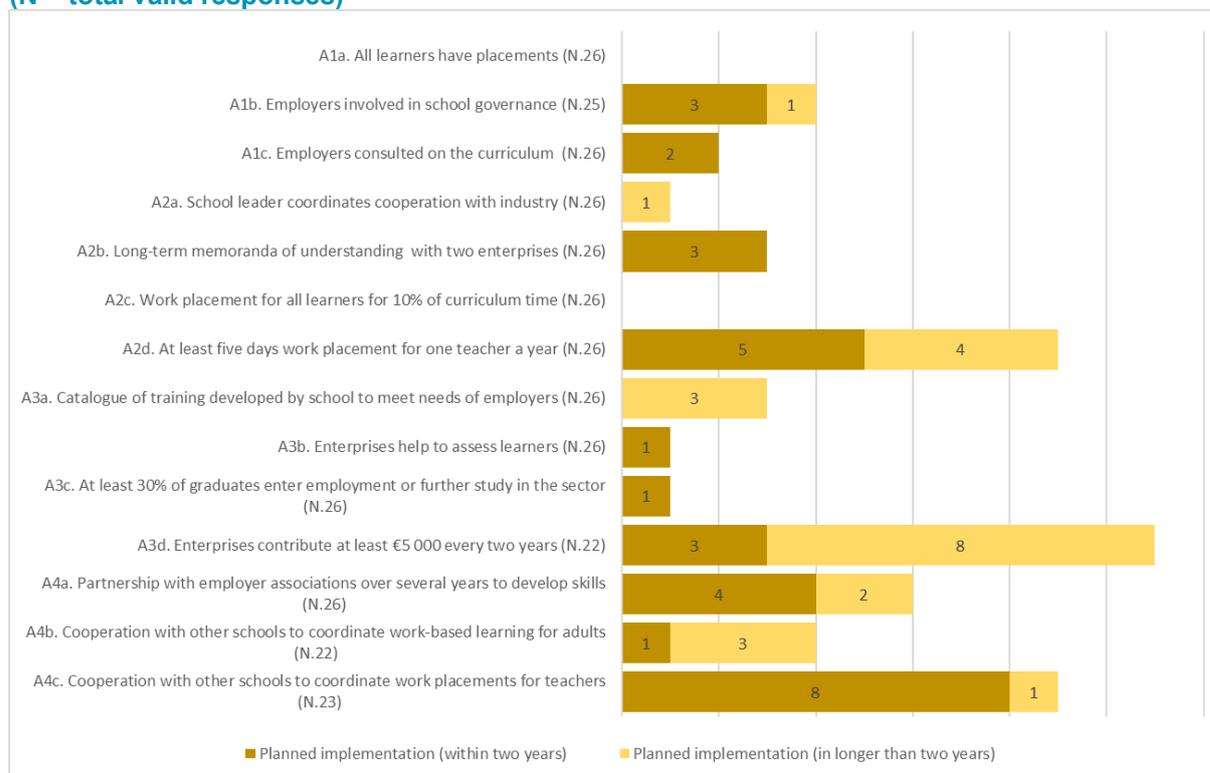
Far fewer schools indicated the same level of performance in industry placements for teachers. Only 27% of the schools said that they organised at least a five-day work placement for one teacher per annum (A2d). Cooperation in this area was also weak: only 22% of the schools already cooperate with other schools to coordinate work placements for teachers (A4c).



Work placements for teachers is an area in which a considerable number of schools want to improve their performance in the short term (within two years) or the medium to long term (longer than two years). Figure 4 shows that 39% of the schools (9/23) aim to cooperate with other schools to coordinate placements for teachers in industry or to organise training for teachers in the workplace (A4c). A total of 35% of the schools (9/26) plan that at least one teacher should benefit from at least five days of training or work placement (or work) in an enterprise every year (A2d).

Furthermore, 50% of the schools (11/22) plan within two years or longer that enterprises will contribute to infrastructure, equipment or other costs in the school (value of contribution at least €5 000 over two years) (A3d).

Figure 4: Number of schools planning to improve their performance in relation to Dimension A (N = total valid responses)



QUALITATIVE FINDINGS ON EDUCATION–BUSINESS COLLABORATION

- All stakeholders emphasised that a strong link between schools and businesses is crucial to enhance student employability. According to stakeholders, the schools are dedicated to high-quality training and strengthening the economy. For example, the Angola representatives declared that they have ‘effective collaboration and a will to grow together by supporting the development of agriculture, which we see as a way to lift poverty. It is a centre of expertise for agricultural skills development, training and consultancy.’
- Representatives also stated that collaboration with the private sector is essential to identify labour market demands and jointly develop curricula.
- The interviews confirmed the high scores in relation to learners’ placements: informants said that schools and businesses are mainly linked to organise student internships. Companies provide practical training and claim to ensure the quality of in-company training by maintaining standards. However, companies stated that they could do more, for example by getting involved in training in schools as external trainers or lecturers.
- Employers in the French-speaking countries seem to be involved in school leadership and provide input to the curriculum, or the intention is to involve them.
- Schools are working on establishing networks with their alumni.
- Interviewees made it clear that there is a need for better support for start-ups. According to the stakeholders in Mozambique, the world of business needs to do more: ‘The business community could help mobilizing resources. Investment funds exist but are insufficient. We can help graduates to start their own business; schools should initiate the process. There is, however, a dire need for a driving force, a change agent to accelerate processes such as these.’ This captures the situation in many countries.

B. Pedagogy and professional development

This component contains indicators for two dimensions: pedagogy and professional development. The scope of these dimensions is shown by the indicators listed in Figure 5 below.

All 26 schools judged this dimension to be relevant. On average, they scored themselves higher on this dimension than on any other. The high overall score (77%) reflects the fact that the average development score (79%) and the average leadership score (70%) were the highest across all dimensions.

B. Pedagogy and professional development	TOTAL score (out of 19)	Development score (out of 15)	Leadership score (out of 4)
Average score within dimension	14.7	11.9	2.8
Max. score	19	15	4
% of max. score	77%	79%	70%

Figure 5 shows that schools had a high, consistent average degree of implementation at over 70%⁷ for almost all indicators at foundation (B1), development (B2) and mature (B3) levels, with averages for many indicators at 80% or above.

Schools rated themselves particularly well in relation to pedagogy. A total of 88% claimed, without reservation, that their 'learning tasks closely resemble tasks in the workplace' (B1d) and 81% that 'all teachers use group work, problem solving and active learning' (B2b). Around 70% of schools reported full use of formative assessment and assessment for special needs (B2e and B3d).

However, only 58% reported that they 'systematically conducted training needs analysis for staff' (B2a), whilst only 52% said that they provided at least three training events per year for their own staff (B3a).

Self-assessment for leadership and collaboration was less strong, but still strong in relation to other dimensions. Most schools achieved an average degree of implementation of 70% or above. The only outlier was collaboration with other schools and industry to organise continuing professional development (B4b). Only 42% of schools reported that they achieved this.

Pedagogy and professional development are areas in which schools are already highly active. The share of schools that partially or fully implement activities in these dimensions is more than 75% for all indicators. Nevertheless, almost all schools plan to improve their performance in areas in which they have not yet been active. For instance, 20% of schools (5/25) plan to have a budget to develop and provide in-service training (or to be able to charge for in-service training [B4d]) within the next two years or in longer than two years. A total of 19% of the schools (5/26) plan to systematically conduct training needs identification for all staff, for example, through interviews or surveys (B2a).

⁷ The 'average degree of implementation' is calculated by assigning numerical values to responses for each indicator, from 0 (we don't do it), through 0.5 (we do it only partially), to 1 (we do it already) and then calculating the average per indicator for all responding schools. These averages are shown by the dark blue dots. The red vertical line is a threshold at 0.7 (or 70%) of the degree of implementation, which makes comparisons easier. This measure helps individual schools compare themselves to other schools and gives an indication of the overall developmental level of all the schools by dimension.

Figure 5: Percentages reporting achievement and scores for Dimension B indicators

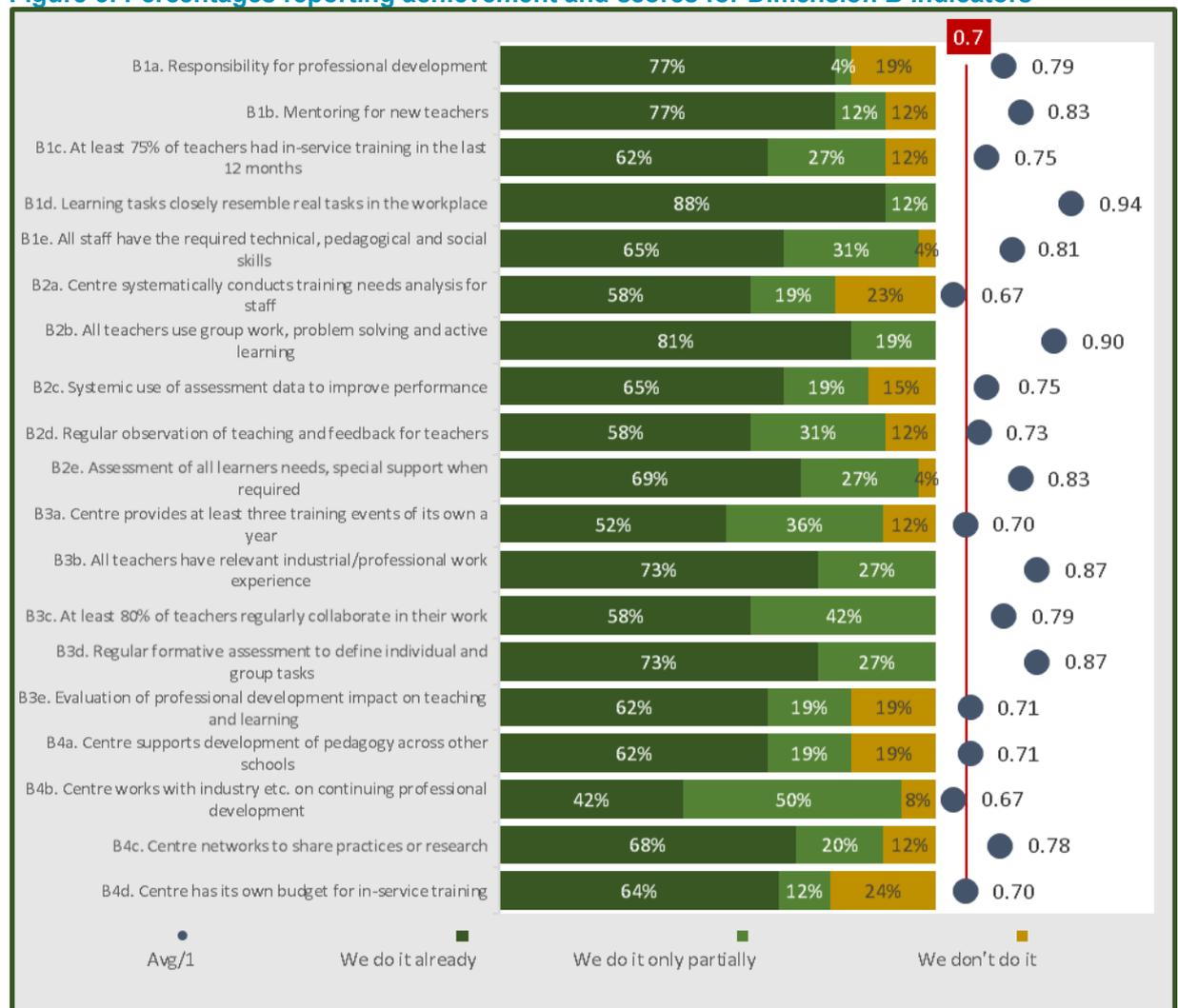
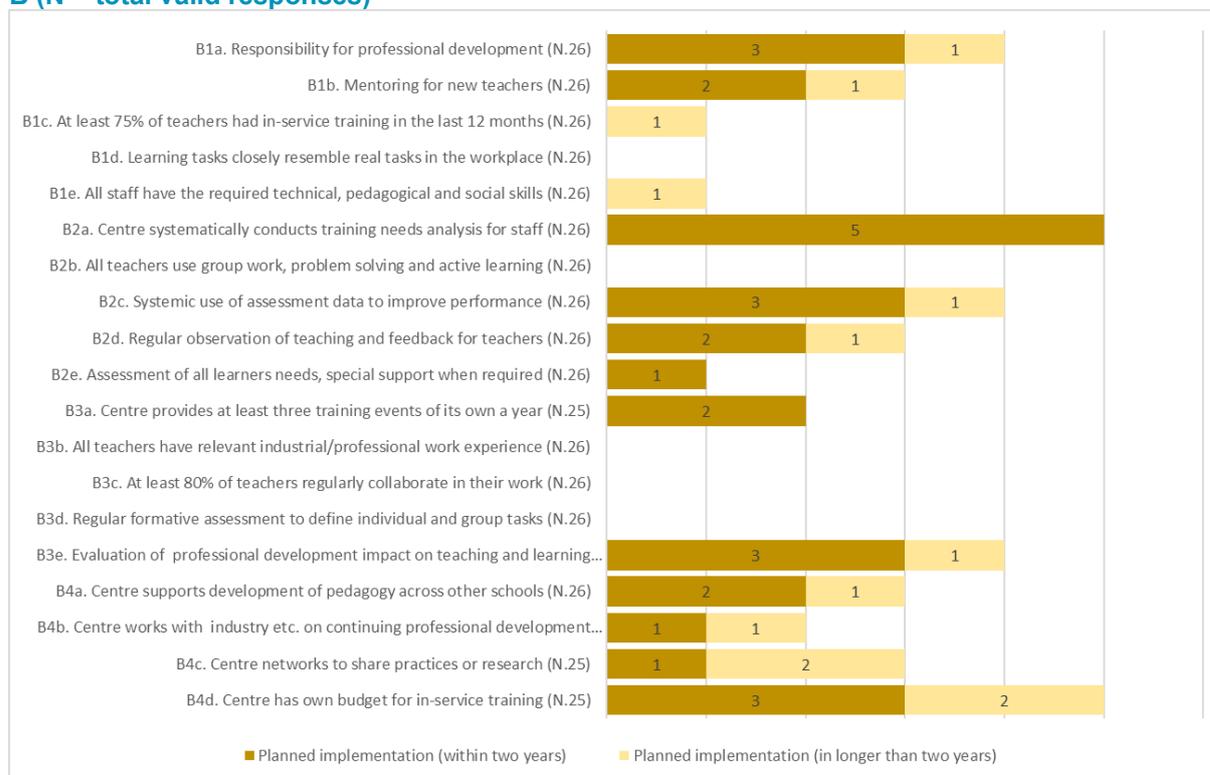


Figure 6: Numbers of schools planning to improve their performance in relation to Dimension B (N = total valid responses)



QUALITATIVE FINDINGS ON PEDAGOGY AND PROFESSIONAL DEVELOPMENT

- All schools received support and training on pedagogy and professional development, to a large extent based on modern 'international' principles and practices. The self-assessment scores were confirmed by the practices, systems and educational language used in meetings. For many years, most of the schools have invested in pedagogy and professional development. Informants reported that these aspects have been focused on and enhanced. This seems to have paid off: the dimension scored high for a very good reason. All schools had a sound, clear educational/pedagogical mission.
- Schools understood the importance of getting their graduates work-ready. The interviews confirmed that they favour active learning approaches, competence-based learning, and a sensible balance between direct instruction and inquiry-based approaches. Formative assessment was understood. These results confirmed the self-assessments that were recorded in the self-assessment tool. Nevertheless, the interviews suggested some exaggeration, for example, in the extent to which learning tasks closely resemble work tasks.

C. Autonomy, Institutional Improvement and resources

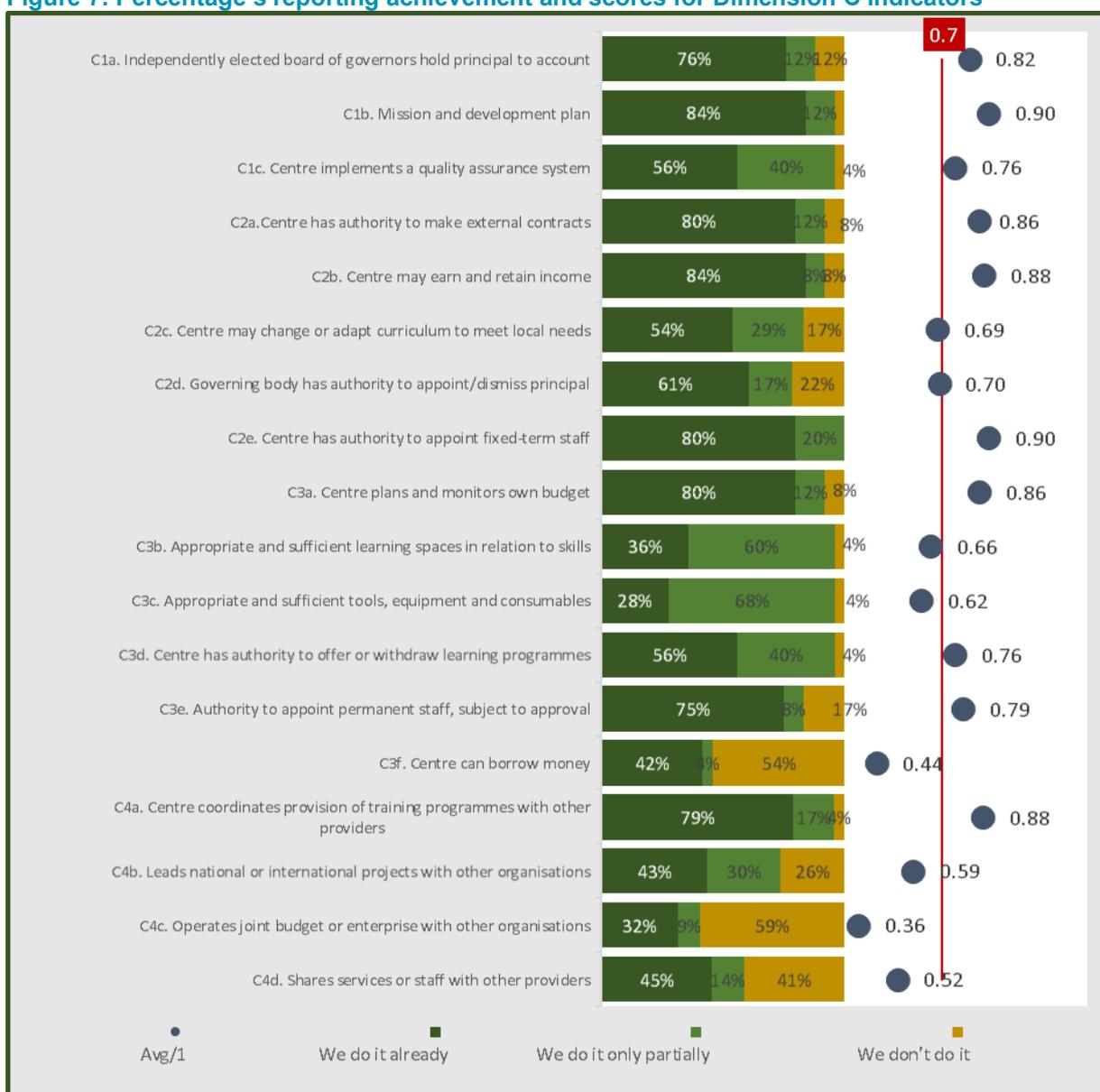
The average score for this dimension was one of the highest in relation to other dimensions (70% of the maximum score). However, it had a relatively low score of 54% for leadership and collaboration.

C. Autonomy, institutional improvement and resources	TOTAL score (out of 18)	Development score (out of 14)	Leadership score (out of 4)
Average score within dimension	12.7	10.5	2.2
Max. score	18	14	4
% of max. score	70%	75%	54%

Figure 7 shows that most schools already enjoy a remarkable degree of freedom. For instance, 80% of schools said that they have the authority to make external contracts; 84% said that they may earn and retain income; 80% claimed that they have the authority to appoint fixed-term staff; and 80% reported that they plan and monitor their own budget.

The schools have less autonomy in relation to learning programmes. Only 56% reported that they have the authority to offer or withdraw learning programmes. Furthermore, resources remain an issue for many schools. Only 36% said that they have appropriate, sufficient learning spaces in relation to skills and only 28% claimed that they have all the equipment, tools and consumables they need.

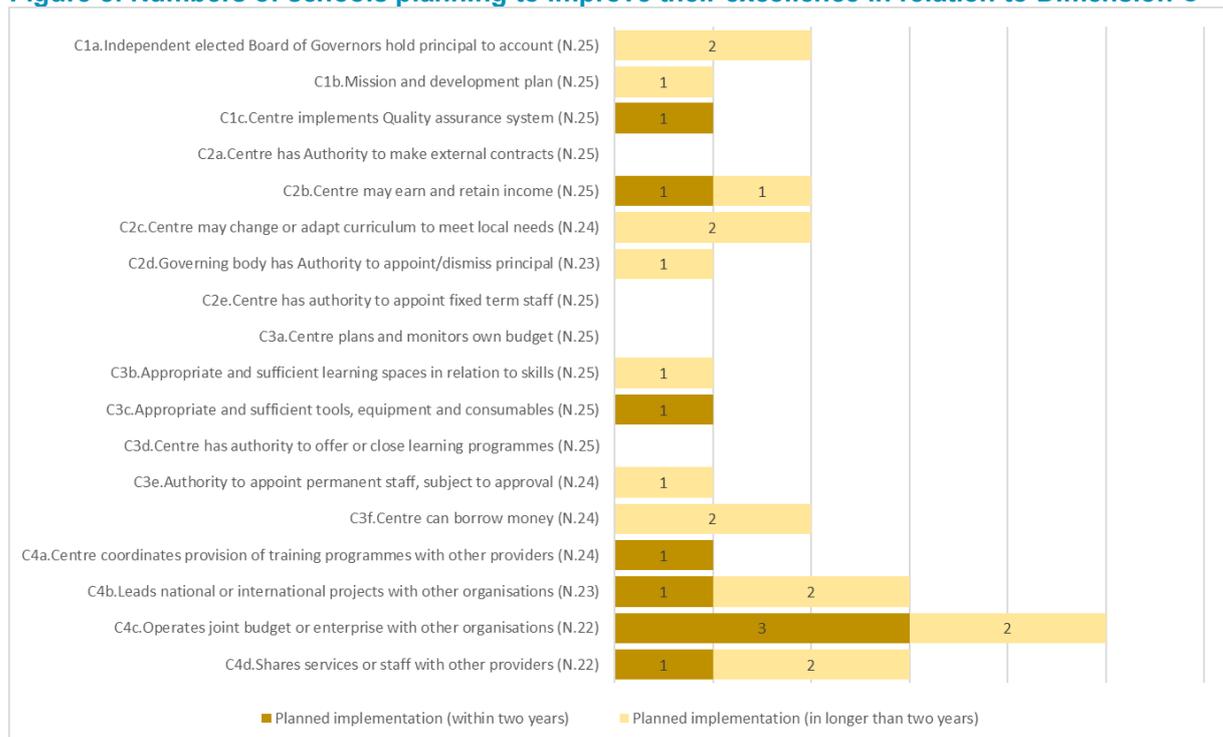
Figure 7: Percentage's reporting achievement and scores for Dimension C indicators



Only a small number of schools reported future plans in relation to autonomy, institutional improvement and resources. This may be due to the fact that decisions in these areas are mostly taken by regional or central government authorities.

Interestingly, 23% of the schools (5/22) plan to operate a joint budget or to own joint assets or enterprises with other schools or organisations, for example, a training company (C4c). This shows that there is a small but significant proportion of schools that are ambitious and want to collaborate with other institutions.

Figure 8: Numbers of schools planning to improve their excellence in relation to Dimension C



QUALITATIVE FINDINGS ON AUTONOMY, INSTITUTIONAL IMPROVEMENT AND RESOURCES

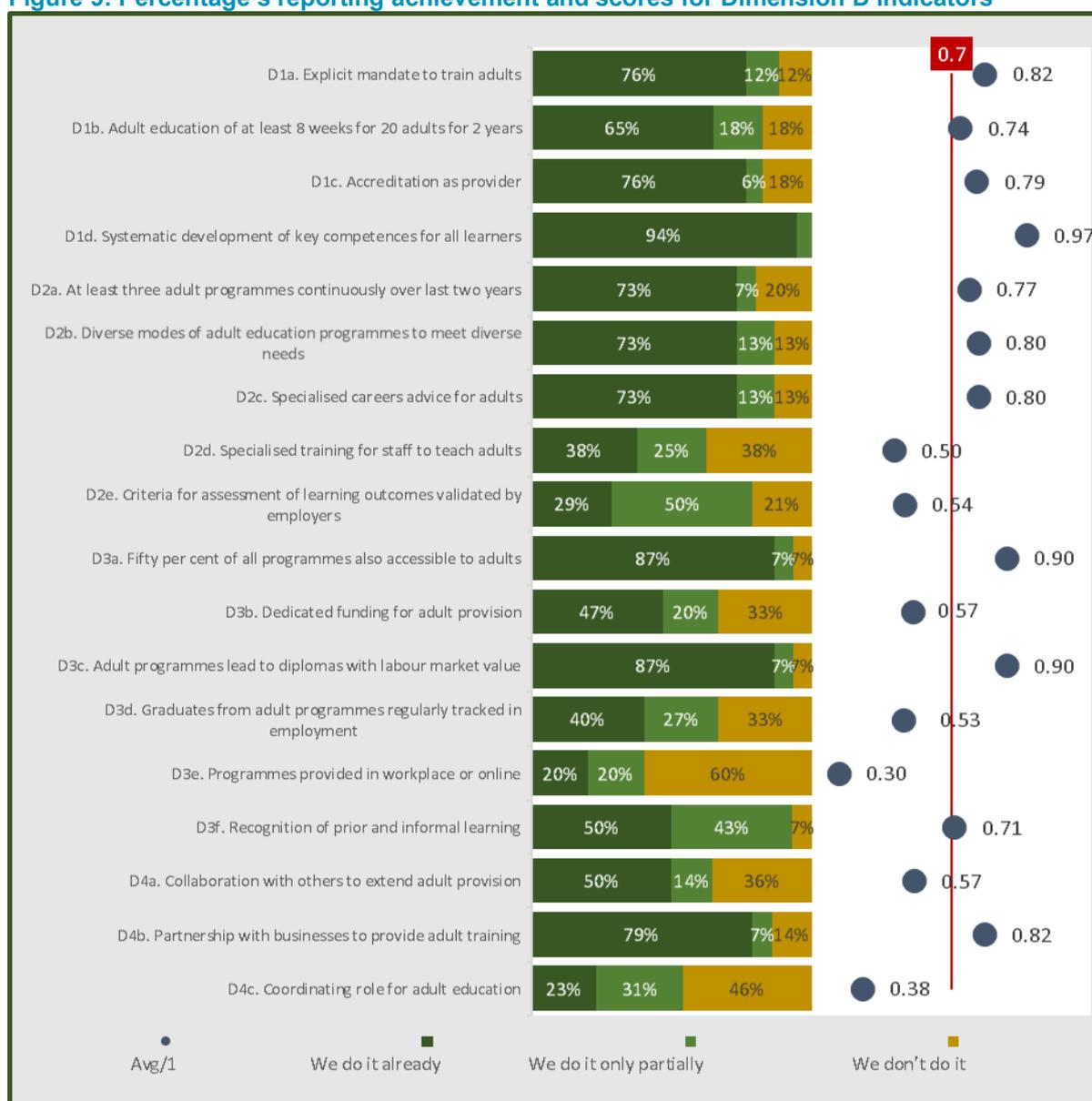
- Some schools reported that the shift from a more traditional, centrally governed VET system to greater autonomy is hampered by a lack of financial resources.
- Some schools stated that they have the freedom to adapt and develop curricula and courses to local industry needs but that processes between schools and supervisory authorities are not always clear, for instance whether adaptations need formal approval from central authorities. This applies particularly to formal vocational programmes. However, basically all schools said that they offer courses on a more informal basis.
- Almost all schools confirmed that they can generate income from extracurricular activities like operating production units or school farms.
- Schools understand that an increased level of autonomy can help them to better address the needs and requirements of the labour market and employers.

D. Lifelong learning in VET

The average total score for lifelong learning in VET was one of the lowest scores of the seven dimensions. In total, the average score for the dimension was only 59% of the maximum score (62% for development and 45% for leadership).

D. Lifelong learning in VET	TOTAL score (out of 18)	Development score (out of 15)	Leadership score (out of 3)
Average score within dimension	10.6	9.3	1.4
Max. score	18	15	3
% of max. score	59%	62%	45%

Figure 9: Percentage's reporting achievement and scores for Dimension D indicators

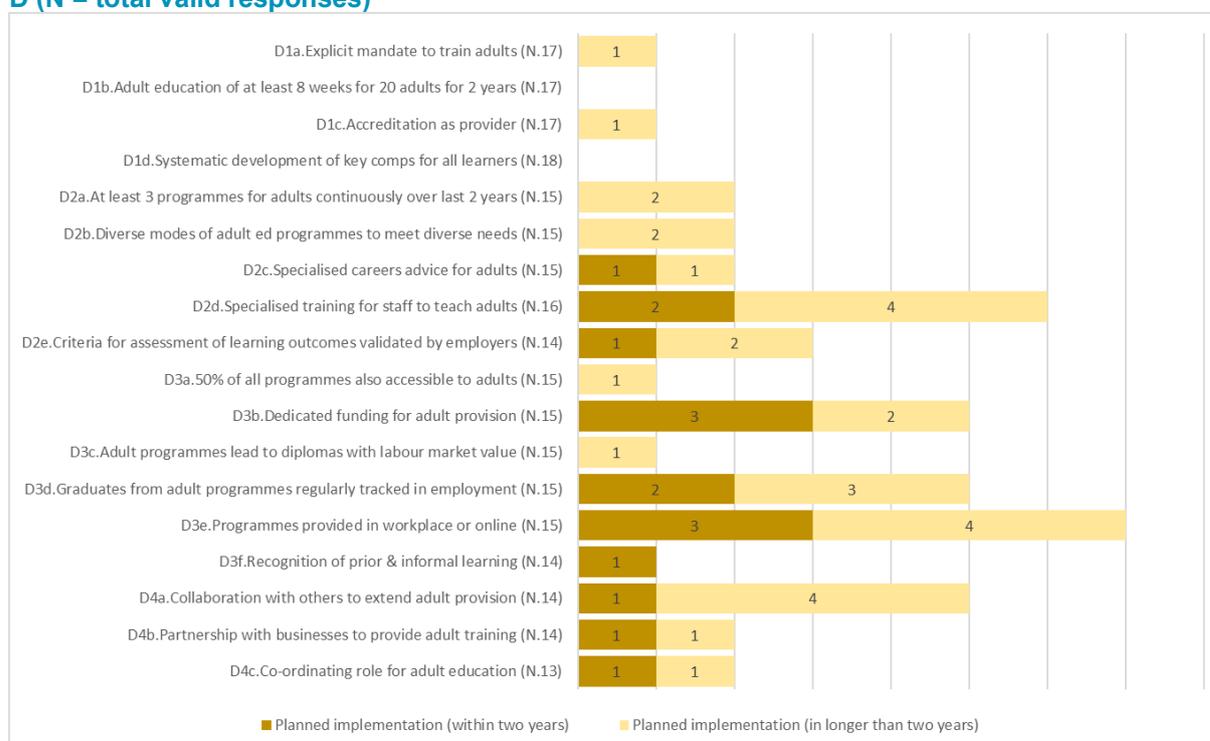


A substantial variation in the results could be perceived at the level of indicators on lifelong learning in VET. Among the positive results, 10 indicators presented an average score above the threshold (0.7). A total of 94% of the schools systematically develop key competences for all learners; 87% of schools

have half of their programmes available for adults; 87% have adult programmes that lead to diplomas with labour market value; and 79% have partnerships with businesses to provide adult learning.

However, the average scores indicate that seven indicators are below the threshold in the dimension of lifelong learning. For example, 60% of the schools do not have VET programmes in workplace or online environments (D3e). Among these, almost 50% of the schools (7 out of 15 schools, see Figure 10) are planning to implement this activity (3 schools plan to implement it within 2 years and 4 seek to implement it in a period longer than 2 years). Moreover, 46% of the schools do not have a coordinating role for adult education (D4c) and only 2 out of 13 institutions (less than 20%) plan to implement it in the future. In addition, 38% of the schools do not have specialised training for staff to teach adults (D2d). Almost 40% of schools (6 out of 16 schools) plan to implement this activity (2 schools plan to implement it within 2 years and 4 seek to implement it in a period longer than 2 years).

Figure 10: Numbers of schools planning to improve their performance in relation to Dimension D (N = total valid responses)



QUALITATIVE FINDINGS ON LIFELONG LEARNING IN VET

- Focus group participants mainly approached the concept of lifelong learning as formal education provided in multi-year programmes to young students. However, almost all the schools offer a substantial number of training activities in a more informal/non-formal way, like specific training for rural areas and target groups.
- Almost all the VET schools have learning activities for adults, such as short courses for people in employment (skills upgrading) or community-based activities, which can be perceived as contributions to the lifelong learning concept. For example, many schools organise target group-specific outreach activities. The school in Malawi uses converted trucks to offer activities in specific cultural communities in which women are not allowed to enrol for any formal education programme.

E. Skills for smart specialisation – Mobilising Innovation, ecosystems and SMEs

This dimension was regarded as highly relevant: 88% of the schools chose to self-assess against these indicators. However, the average score of 63% puts this dimension in an intermediate position between high and low-scoring dimensions. Many schools reported partial rather than full achievement of many indicators.

E: Skills for smart specialisation – Mobilising innovation, ecosystems and SMEs	TOTAL score (out of 15)	Development score (out of 12)	Leadership score (out of 3)
Average score within dimension	9.5	7.8	1.7
Max. score	15	12	3
% of max. score	63%	65%	58%

Figure 11: Percentages achieving indicators and scores for Dimension E



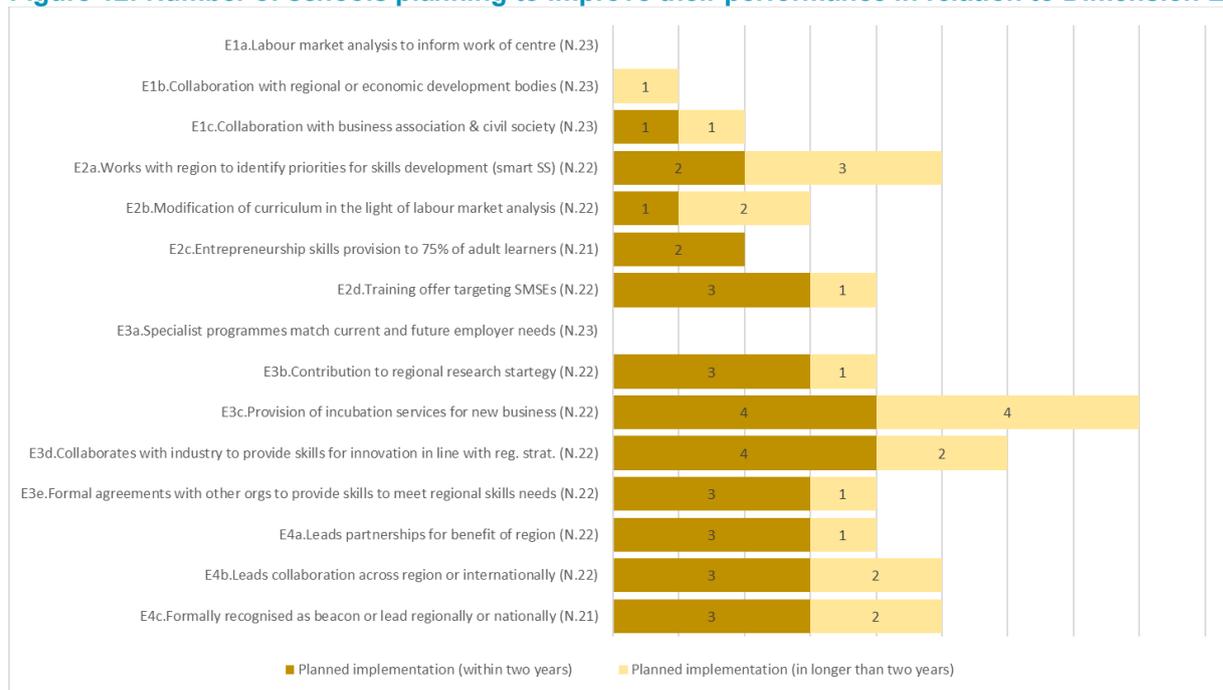
Figure 11 shows that the averages for all indicators only exceeded the benchmark of 70% at foundation (E1) level. Half of the indicators exceeded an average score of 70% at development (E2) level but none achieved this at mature (E3) level.

Performance was relatively strong across a few indicators. Some 78% of respondents reported that they already have 'specialist programmes matching current and future employer needs' whilst 76% are already offering entrepreneurship skills to 75% of their adult learners. A total of 65% collaborate with regional or economic development bodies and 78% with business associations or civil society organisations.

Formal agreements and cooperation to achieve a regional skills strategy are only in place for a minority of the schools and scores for the leadership and collaboration dimension are generally low. Despite the low level of leadership and cooperation reported, 71% enjoy formal recognition as a regional or national beacon or lead institution.

Figure 12 provides an overview of the schools' plans to develop performance within two years (in brown) or longer (in yellow), by indicator. Important priorities are the provision of incubator services and skills in line with the regional skills strategy for 20% (4/22) of schools within two years, and the entire dimension of leadership and collaboration (E4) in relation to innovation and skills strategies and ecosystems.

Figure 12: Number of schools planning to improve their performance in relation to Dimension E



QUALITATIVE FINDINGS ON SKILLS FOR SMART SPECIALISATION – MOBILISING INNOVATION, ECOSYSTEMS AND SMES

- The focus groups provided considerable evidence that schools are supporting SMEs and entrepreneurship. Schools provide entrepreneurship within their programmes and they offer short courses and outreach activities in communities and rural areas to earn additional revenue.
- Schools in the English-Portuguese speaking countries reported that despite their willingness to do more on entrepreneurship they lack experience and reputation, which holds them back. They recognised that entrepreneurship and creativity are vital skills for their graduates. They reported that it is difficult to find suitable business partners to model entrepreneurship and partner schools.
- Some of the terminology was not familiar, for example, some schools thought that ‘ecosystem’ related to ecological in the sense of ‘green’ issues.

F. Industry 4.0 and digitalisation

Among all the dimensions, industry 4.0 and digitalisation (Dimension F) had the lowest results, in terms of the total score (33% of the maximum score) the development score (34%) and the leadership score (28%).

F: Industry 4.0 and digitalisation	TOTAL score (out of 21)	Development score (out of 16)	Leadership score (out of 5)
Average score within dimension	6.9	5.5	1.4
Max. score	21	16	5
% of max. score	33%	34%	28%

Only two indicators scored above the threshold of 70%. A total of 55% of the respondents reported the existence of at least five VET programmes encompassing digital skills (F1a), with a further 30% of the respondents reporting partial implementation of this indicator. In addition, 63% of the respondents reported ensuring the safety and privacy of the digital environment (F2f), and 26% reported partial implementation of this indicator.

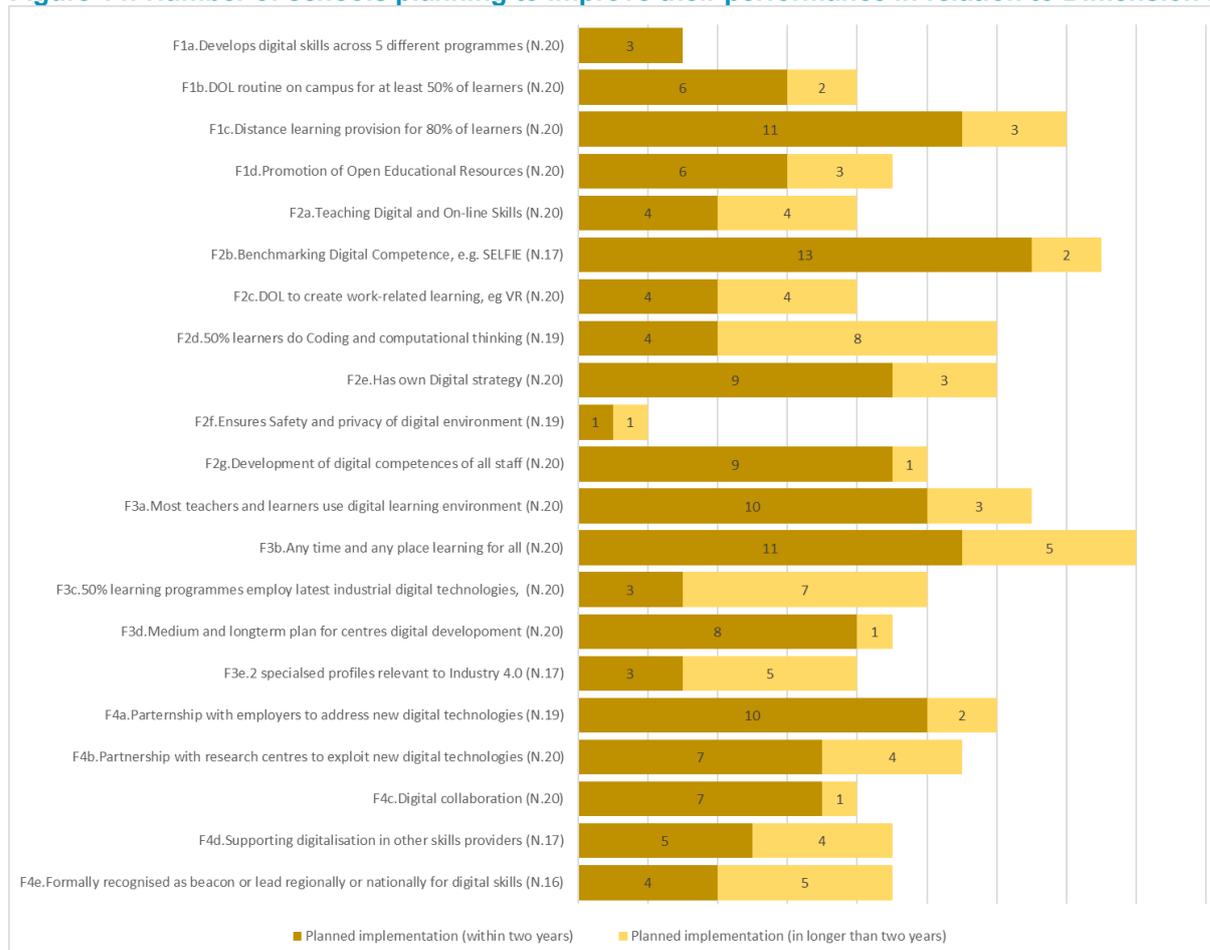
All the other indicators in dimension F had scores below the threshold. Indicator F2b had the lowest score, with 88% of respondents reporting a lack of benchmarking digital competence. A total of 80% of respondents reported not offering ‘any time and any place learning for all’ (F3b). Moreover, according to respondents, 75% of the schools are not formally recognised as regional or national leaders for digital skills (F4e).

Despite the negative results, respondents clearly indicated that they have ambitions in Dimension F. Most respondents declared an institutional interest in implementing the indicators in the list below within two years. A small group stated that they are interested in implementing these activities in a period longer than two years. In fact, Dimension F appeared to be the area in which the institutions are most willing to invest in the near future (for more details see sections 3.3 and 3.4).

Figure 13: Percentages achieving indicators and scores for Dimension F



Figure 14: Number of schools planning to improve their performance in relation to Dimension F



QUALITATIVE FINDINGS ON INDUSTRY 4.0 AND DIGITALISATION

- The concept of industry 4.0 remains far from the school reality. Schools are aware of digitalisation in various sectors but can hardly cope with developments for several reasons, including limited resources. Due to COVID-19, in the last two years acceleration in the adoption of a digital mindset has been noticed. Schools have adopted Facebook and WhatsApp as tools for communicating with students, mainly via their parents, and giving homework and assignments.
- COVID-19 clearly created momentum and schools indicated that they may continue to use the newly discovered tools for learning purposes, even after the pandemic is over (blended learning).
- The lack of hardware for digital infrastructure and affordable access to the internet remain serious issues, in particular in rural areas.

G. Going green – supporting sustainable goals

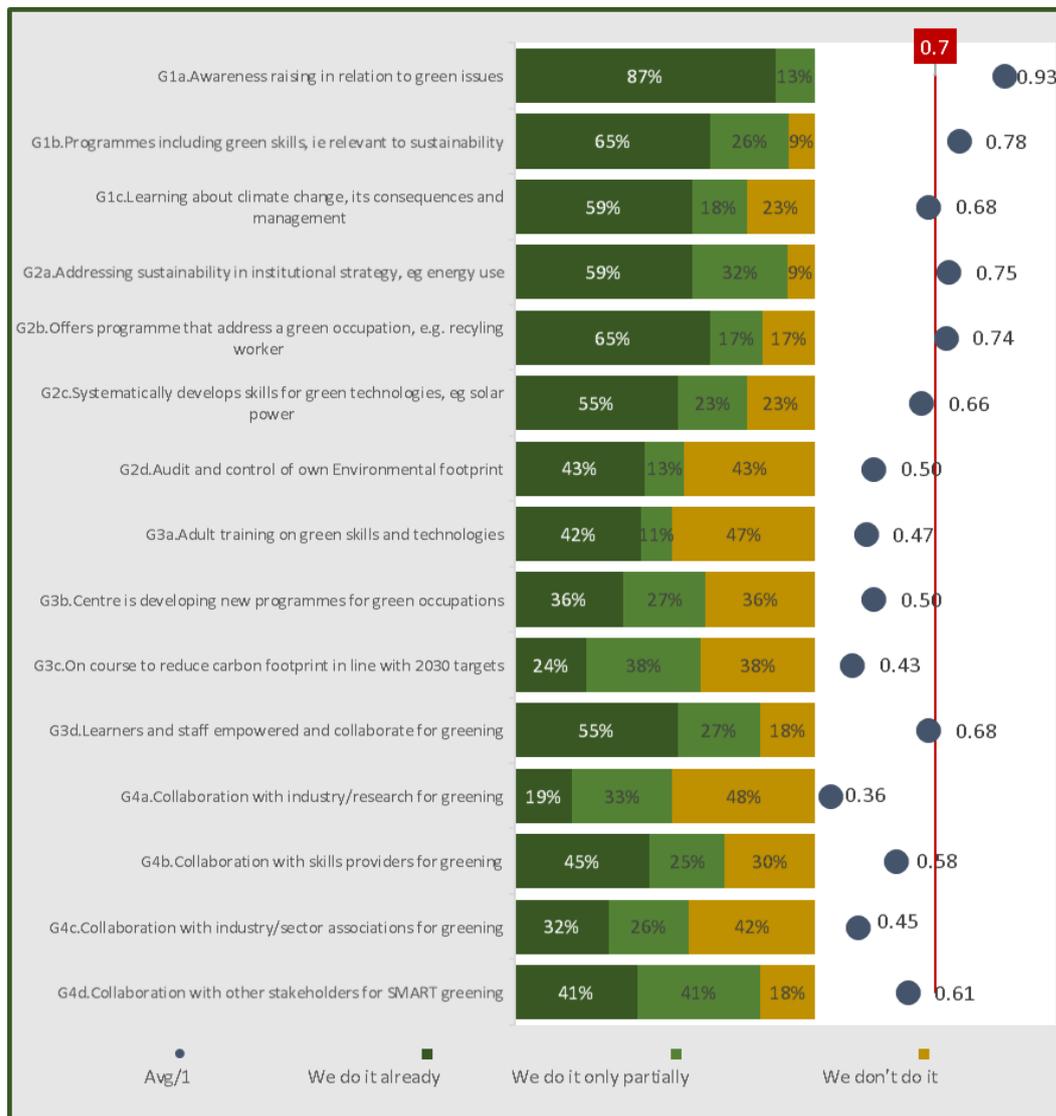
Dimension G, going green, was considered relevant by 88% of schools. It scored relatively low in development and leadership in comparison to other dimensions, at 62% and 45% of the maximum score respectively, and had a total score of 58%.

G. Going green	TOTAL score (out of 15)	Development score (out of 11)	Leadership score (out of 4)
Average score within dimension	8.7	6.9	1.8
Max. score	15	11	4
% of max. score	58%	62%	45%

The threshold (70%) for the average degree of implementation was only achieved for four indicators at foundational (G1) and development (G2) levels. The average degree of implementation for indicators ranged from 47% to 68% at mature level (G3) and from 36% to 61% at leadership and collaboration level (G4).

Figure 15 clearly shows a regression in the level of implementation when moving from indicators at foundational level to mature level. At foundational level, 87% of the schools implement awareness-raising actions in relation to green issues (G1a) and 65% of the school programmes include green skills (G1b). In contrast, at mature level, only 24% of the schools are working to reduce their carbon footprint to achieve the 2030 targets (G3c) and 36% are developing new programmes for green occupations (G3b). The exception is indicator G3d, where 55% of schools affirm that there is a good degree of collaboration on greening topics among learners and staff and the other half are already working on this or planning to do so.

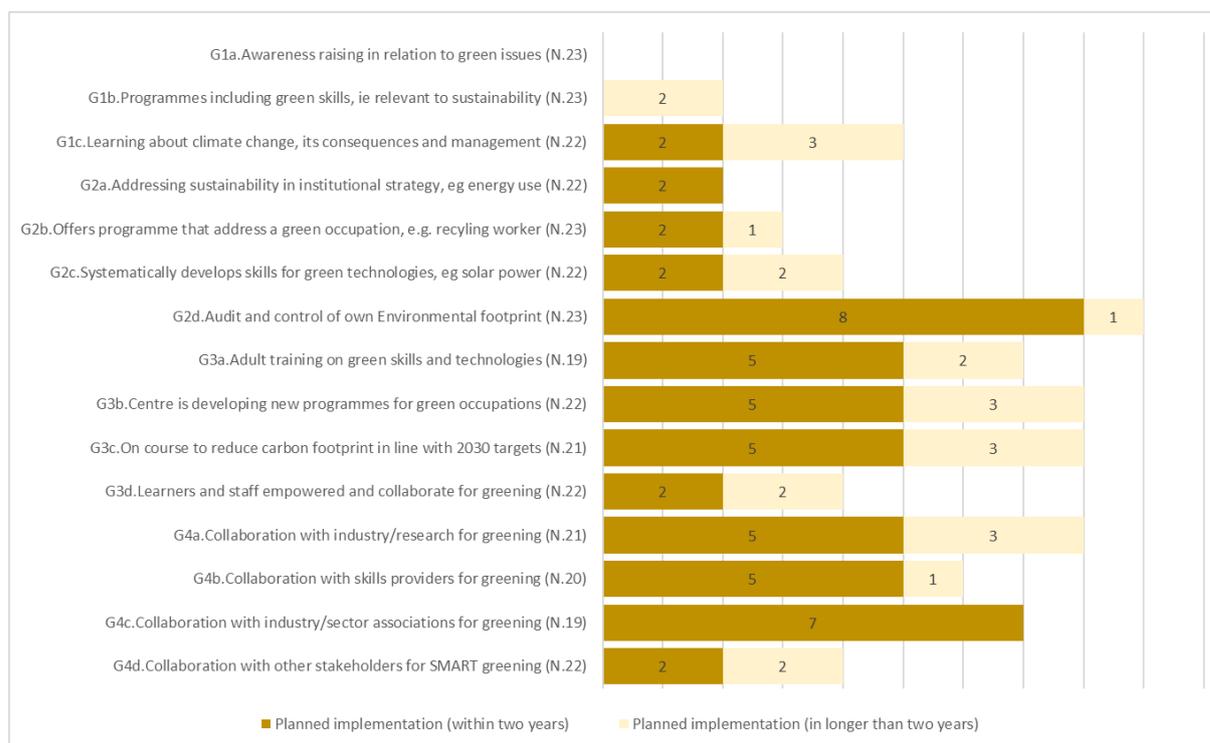
Figure 15: Percentages achieving indicators and scores for Dimension G



In terms of leadership and collaboration, around 50% of schools cooperate (fully or partially) with industry (G4a) or industry associations (G4c), but around 38% of the participating schools plan to develop these collaborations in the future (within two years or longer).

Another planned priority concerns auditing. Nine out of 23 (39%) schools plan to set up an auditing system on their environmental footprint (G2d). Seven out of 19 schools (37%) want to offer green skills trainings for adults (G3a).

Figure 16: Number of schools planning to improve their performance in relation to Dimension G



QUALITATIVE FINDINGS ON GOING GREEN – SUPPORTING SUSTAINABLE GOALS

- Greening is an important topic among the schools, and it is mentioned among priority actions to address sustainability goals (e.g. there are plans to expand environment-related courses, also in partnership with other schools or organisations). Some schools consider themselves ‘exemplary green schools’, sharing their knowledge and experience at local level (Angola).
- Schools already carry out initiatives such as production of organic compounds to fertilise the soil (organic farming), tree planting and harvesting, but attention seems to be focused on the innovative use of solar energy. For example, a school in Malawi set up a solar-based back-up system.
- The schools underlined the importance of sharing knowledge and expertise in innovative environmental techniques, and of supporting farmers and the community in adopting sustainable approaches. Collaboration on smart agriculture with farms and companies in the value chain is encouraged by stakeholders from private companies and organisations (Malawi).
- A lack of funds, for example to support start-ups, and a lack of solar technicians are the main barriers in this field. Stakeholders also highlighted the slow bureaucratic process of approving curriculum innovations.

3.3 Future plans and priorities of the schools ranked

For each indicator, schools provided information about their level of implementation: full or partial. For indicators that had not yet been implemented (or were in the process of being implemented), the schools were asked to describe their future plans, i.e. whether they planned to implement the action in the near future (within two years), in the mid-long term (in longer than two years) or if they had no plans about that particular issue.

Table 2 shows the indicators ranked by implementation plans: short-term (within the next two years) or medium to long-term priorities of the schools (longer than two years).

The top 10 priorities all belong to Dimension F – Digitalisation and Industry 4.0. For instance, around 88% of the schools aim to benchmark the digital competence of their staff and learners, using the EU's SELFIE tool or another framework, within the next two years or in longer than two years. A total of 80% plan to provide anytime/anyplace learning for all students using digital learning technologies in the years to come.

Table 2: Top 20 short-term and medium to long-term priorities of schools

Rank	Indicator	Number of schools (valid answers)	Percentage of schools that will do this		
			Within 2 years	In longer than 2 years	Within 2 years + in longer than 2 years
1	F2b) The digital competence of staff and learners is benchmarked using the EU's SELFIE tool or another framework.	17	76%	12%	88%
2	F3b) Digital learning technologies are used to provide anytime/anyplace learning for all students.	20	55%	25%	80%
3	F1c) The school or centre can use digital tools to provide distance learning for 80% of its students.	20	55%	15%	70%
4	F3a) Most teachers and learners use digital learning environments or systems for learning and assessment (for example, Moodle and Microsoft 365).	20	50%	15%	65%
5	F4a) The school or centre works in partnership with employers to address new digital technological development (for example, through investment, sharing of technology and know-how and continuing training for advanced digital competences).	19	53%	11%	63%
6	F2d) At least 50% of students learn coding and computational thinking.	19	21%	42%	63%
7	F2e) The school or centre has a digital strategy (for example incorporated into its institutional development plan).	20	45%	15%	60%
8	F4b) The school or centre works with research partners to address new challenges and exploit new digital technologies.	20	35%	20%	55%
9	F4d) The school or centre supports or encourages the development of digitalisation in other skills providers, for example, by providing professional development and development of assessment.	17	29%	24%	53%
10	F4e) The school or centre is formally recognised as having a national or regional mission to lead development in the provision of digital skills and/or the use of educational technologies.	16	25%	28%	53%
11	A3d) Enterprises contribute to infrastructure, equipment or other costs in the school or centre (value of contribution at least €5 000 in two years).	22	14%	36%	50%
12	F2g) The school or centre develops digital competences of all staff in line with the institutional development plan or workforce development plan.	20	45%	5%	50%
13	F3c) At least 50% of learning programmes develop the competence of learners to make use of the latest industrial digital technologies, e.g. CAD, CAM, 3D printing.	20	15%	35%	50%

14	F3e) The school or centre provides at least two specialised profiles (qualifications) that explicitly address digital competences relevant to industry 4.0. (for example, robotics, artificial intelligence, website designer, data scientist).	17	18%	29%	47%
15	D3e) The school or centre provides adult education programmes outside (either partially or fully) of a school environment (for example, in the workplace or online).	15	20%	27%	47%
16	F3d) The school or centre has medium-term and long-term plans to ensure that the development of its own digital infrastructure is in line with pedagogy and curriculum and industrial practice and the plans are implemented.	20	40%	5%	45%
17	F1d) The school or centre promotes and uses open educational resources.	20	30%	15%	45%
18	F1b) Digital and online instruction is regularly used on campus as a mode of teaching and learning by at least 50% of students.	20	30%	10%	40%
19	F2a) An explicitly defined set of digital and online skills are taught to all learners as part of their key competences.	20	20%	20%	40%
20	F2c) The school or centre uses digital and online learning to provide work-related learning situations (for example, video simulations, business games, videos of workplace, virtual reality).	20	20%	20%	40%

There are only two indicators in the top 20 that do not belong to Dimension F. In the other six dimensions, the schools indicated the following short-term and medium to long-term priorities (only a selection is shown; see the Excel table for the full list).

Dimension A. Education–business collaboration and cooperation

- Fifty per cent of the schools' plan for enterprises to contribute to infrastructure, equipment or other costs in the school or centre (value of contribution at least €5 000 over two years).
- Thirty-nine per cent of the schools aim to cooperate with other schools to coordinate placements for teachers in industry or to organise training for teachers in the workplace.

Dimension B. Pedagogy and professional development

- Twenty per cent of the schools' plan to have a budget to develop and provide in-service training (or to be able to charge for in-service training).
- Nineteen per cent of the schools' plan to systematically conduct training needs identification for all staff, for example, through interviews or surveys.

Dimension C. Autonomy, institutional improvement and resources

- Twenty-three per cent of the schools' plan to operate a joint budget or to own joint assets or enterprises with other schools or organisations, such as a training company.

Dimension D. Lifelong learning in VET

- Forty-seven per cent of the schools aim to provide adult education programmes either partially or fully outside of a school environment (for example, in the workplace or online).
- Thirty-eight per cent of the schools' plan for teachers and trainers to receive training or specialised support that will help them to develop skills to support adult learning and career counselling.

Dimension E. Smart specialisation – mobilising innovation, ecosystems and SMEs

- Thirty-six per cent of the schools aim to provide incubation services, i.e. support for new business start-ups, such as accommodation, mentoring or loans.
- Twenty-seven per cent of the schools' plan to collaborate with industry to create new training programmes that address innovation (for example, the adoption of new technologies), in line with the regional strategy.

Dimension G. Going green – supporting sustainable goals

- Thirty-nine per cent of the schools' plan to audit and control their own environmental footprint.
- Thirty-eight per cent of the schools' plan to implement a strategy for green transformation and to achieve a reduction in their own carbon footprint in line with national and international targets by 2030.

3.4 Comparison with the ENE2020 survey

This section presents some relevant insights based on a comparison between the results of the first wave of the self-assessment survey launched in October 2020, which comprised 72 questionnaires from 11 ETF partner countries and 5 EU Member States from members of the ENE Network (ENE2020), and the results presented in the previous section of 26 questionnaires from African countries (Africa2021).

The aim of the comparison was to highlight strengths and weaknesses between the two sets of VET institutions, and possible complementarities and opportunities for peer learning and cooperation.

The comparison included the development of comparative tables on the relevance of the VET excellence dimensions, the scores⁸ at dimension level (total, development and leadership), and the total scores of a few relevant indicators. The relevance of the indicators is defined by the level of variance (positive or negative variation) across the results from the two datasets. In other words, this section focuses on the indicators with the highest levels of difference between the results of the first wave of the self-assessment survey and the current study.

In general, the relevance of the VET excellence dimensions converged. The dimensions of Education–business collaboration, Pedagogy and professional development, and Autonomy, institutional improvement and resources were highly relevant for both sets of respondents (over 90%). All seven dimensions were judged to be relevant by 80% or more of the ENE2020 respondents. Only the dimensions Lifelong learning in VET and Industry 4.0 and digitalisation scored less than 80% (69% and 77%, respectively) among the Africa2021 respondents. The results diverged on the dimension Lifelong learning in VET (69% vs. 94%), which highlights the importance of European strategies to shape VET policies within the ENE Network. Moreover, 20% of ENE2020 respondents chose not to self-assess on dimensions E and G – either because they did not feel ready to self-assess or because they believed these dimensions were not relevant. In contrast, these dimensions were perceived as relevant by 88% of the Africa2021 respondents.

⁸ The indicators within each dimension are grouped into three levels of development (foundational, developing mature) to provide the development score. An additional group of indicators addresses leadership and coordination, to generate the leadership score. The total score is the sum of these two scores (development and leadership).

Figure 17. Comparison of results on the relevance of VET excellence dimensions

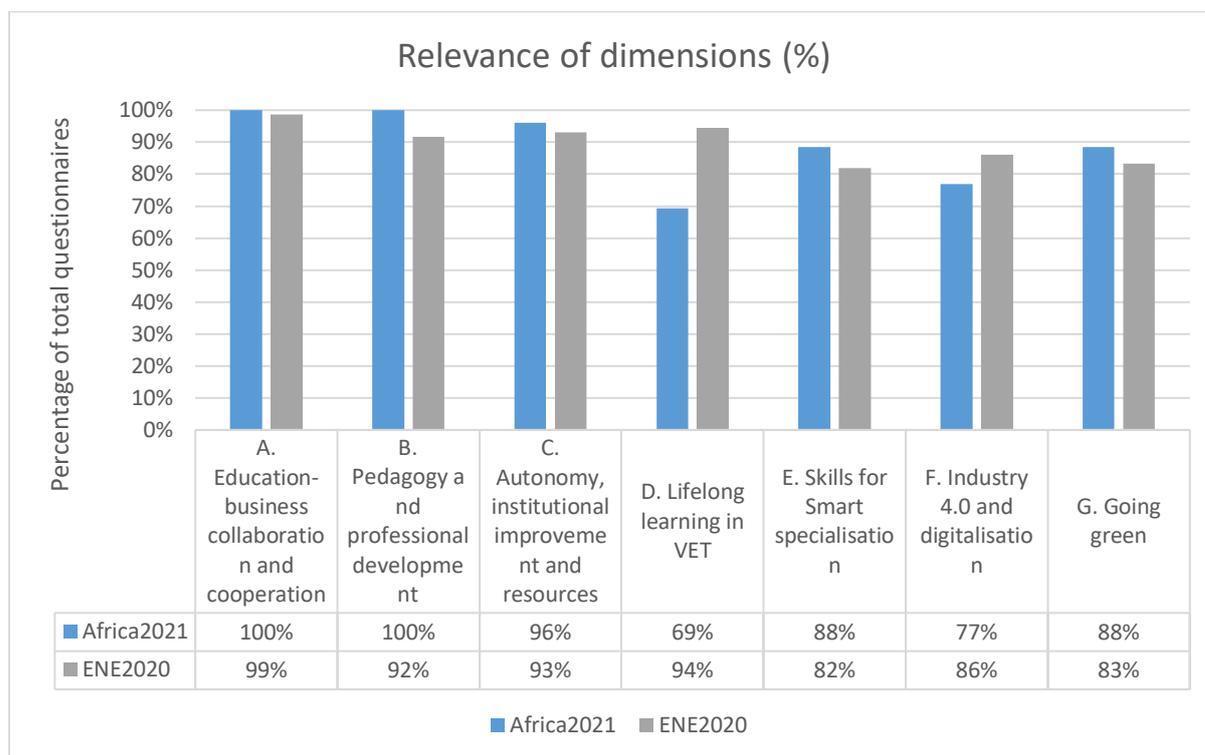
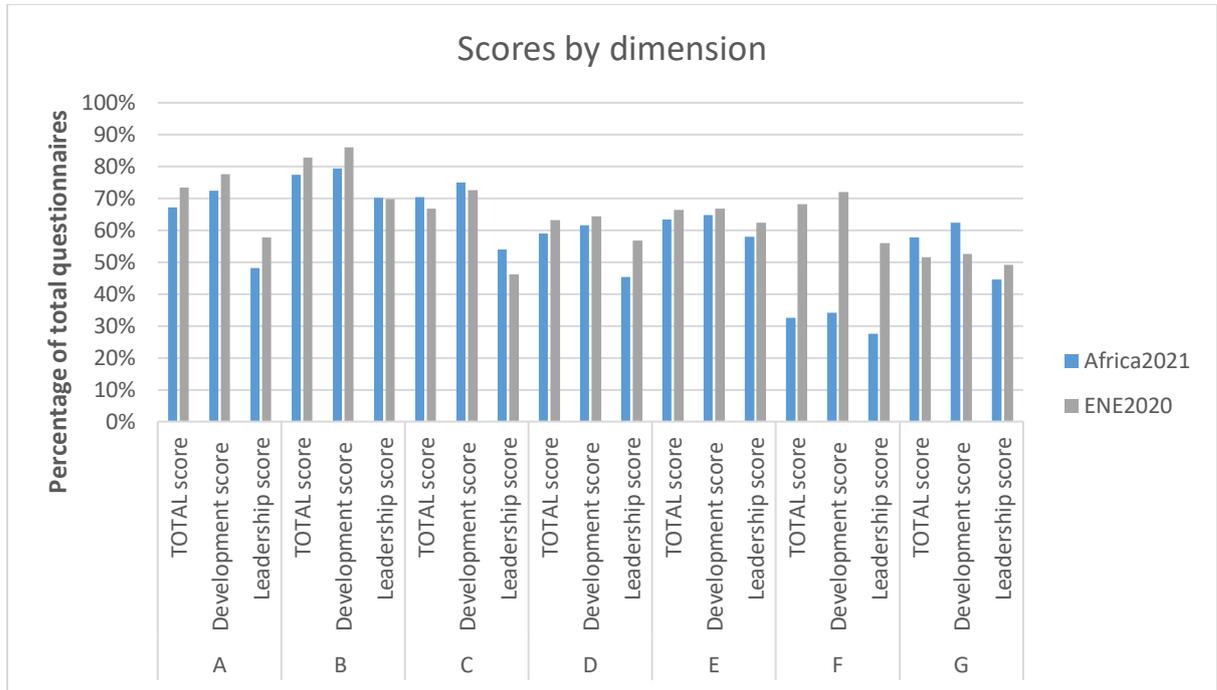


Figure 17 compares the results of the scores (total, development and leadership). A few points can be highlighted: (1) in both scenarios, the respondents tended to give higher development scores than leadership scores, which may indicate the need for more regional and international cooperation. In dimensions D and F, the Africa2021 scores had a significant negative variation compared to the ENE2020 results. (2) While the ENE2020 results were slightly higher on dimensions A, B and D, the Africa2021 results tended to be slightly higher on dimensions C and G. This may indicate possible future pathways of cooperation and mutual learning. (3) A comparison of the scores in Dimension F showed great potential for further cooperation activities and projects. It revealed a large gap in expertise and experience in this area (33% Africa2021 vs. 68% ENE2020 in total score). Considering the low leadership scores from Africa2021 Centres of Vocational Excellence, future cooperation activities and projects should provide a solid framework on how to support digital leaders in African VET.

Figure 18. Comparison of the percentage of maximum scores (total, development and leadership)



This last argument can be further substantiated by the shortlist of indicators with the highest negative variation between the Africa2021 and the ENE2020 results (see Figure 20). The analysis found the highest negative variation among 12 indicators in Dimension F. These indicators are mostly related to activities such as the implementation of distance and digital learning, promoting digital competences and open educational resources, and infrastructure and ICT equipment.

Figure 19. List of indicators with the highest negative variation and their results

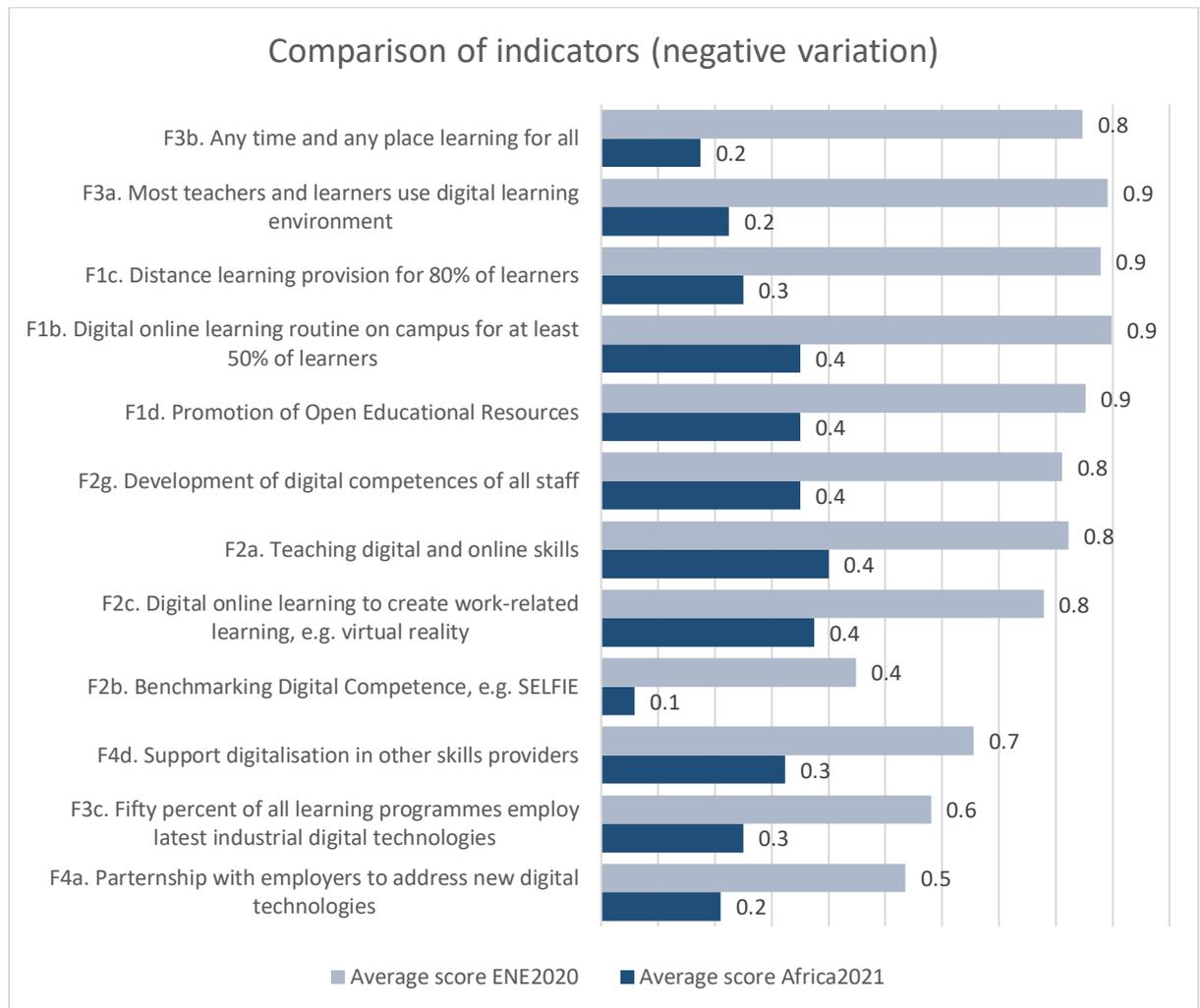
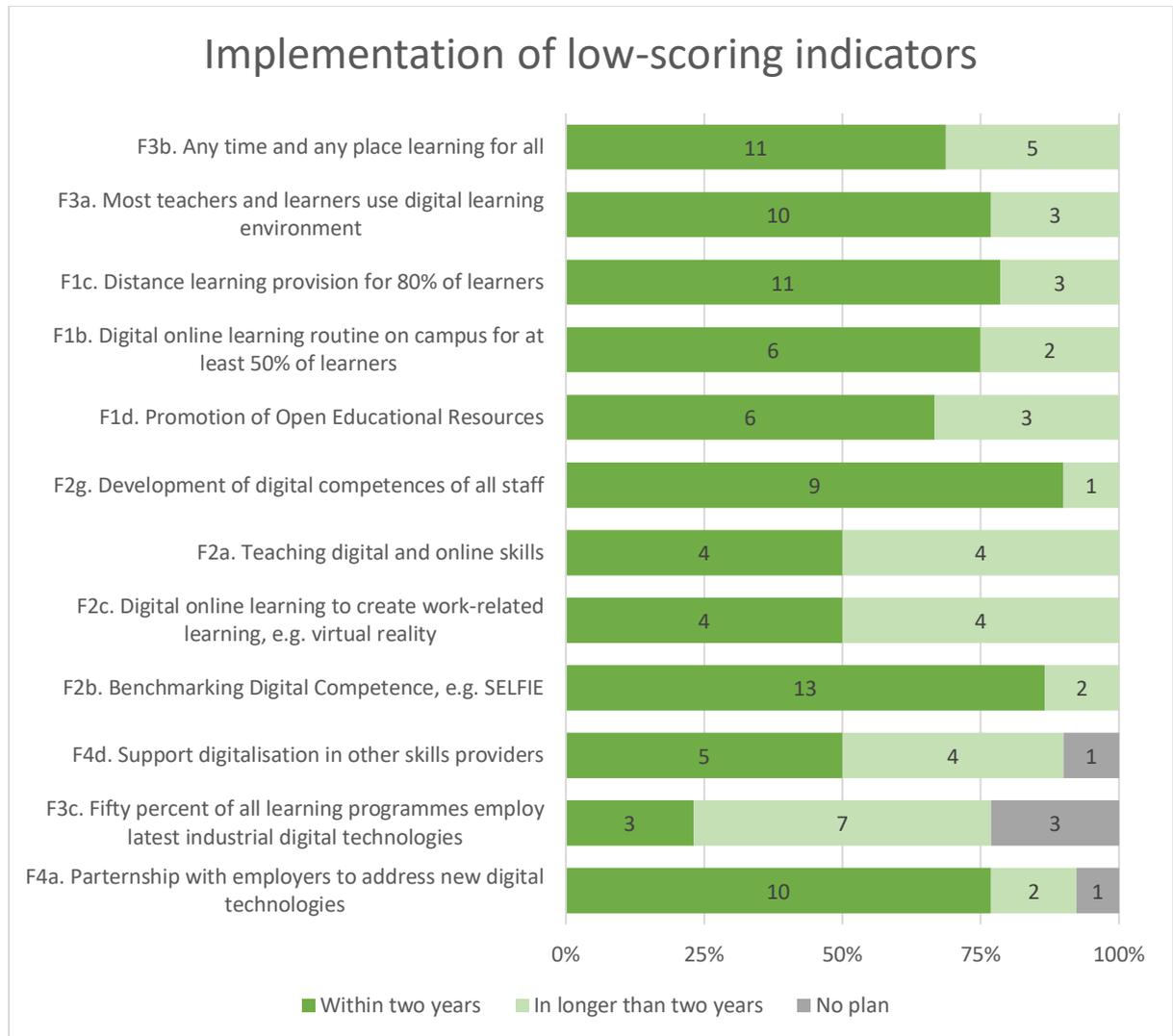


Figure 20: Numbers of VET institutions interested in implementing low-scoring indicators in the future (Africa2021)



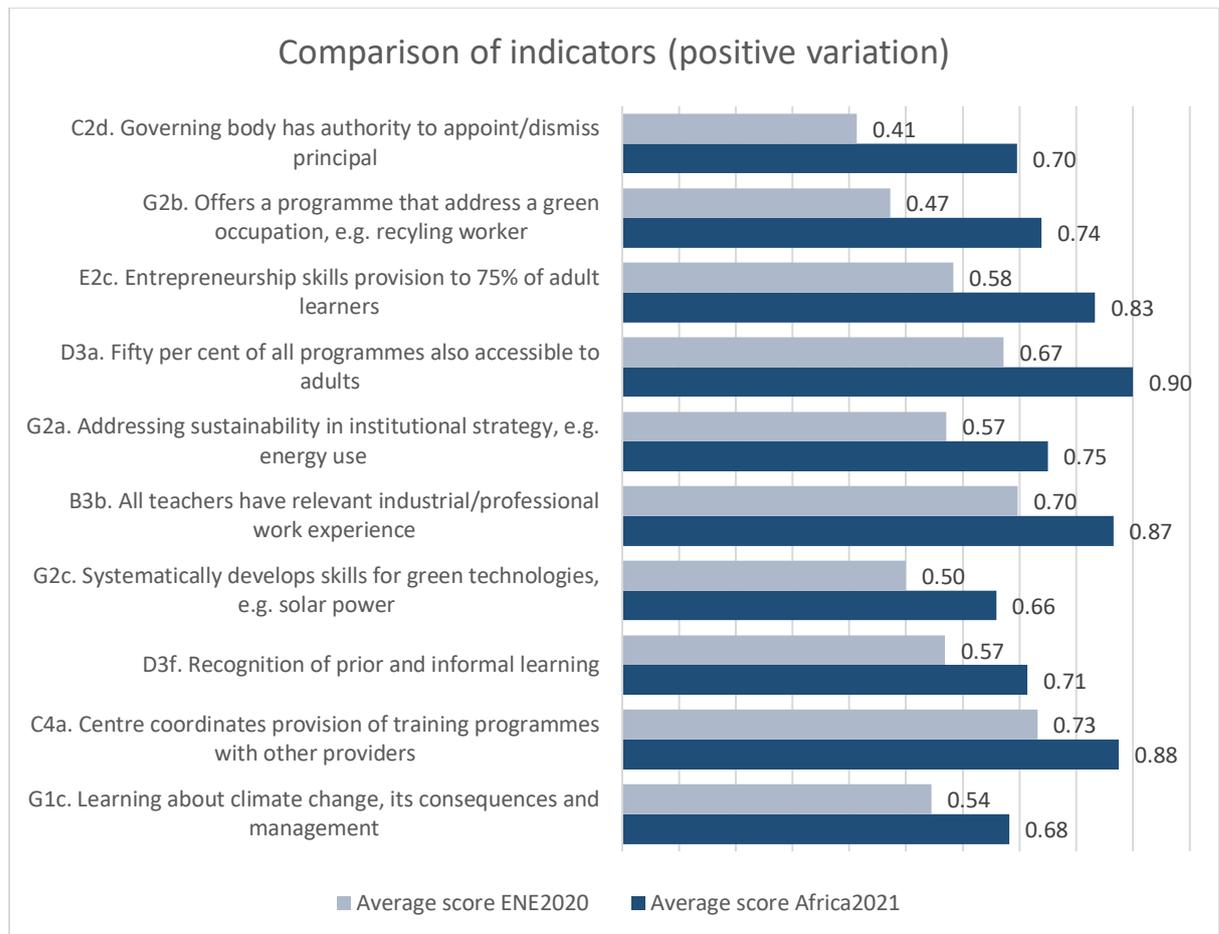
More importantly, respondents who are not currently developing the activities described in the indicators above seemed to have great interest in implementing these activities in the future (see Figure 20). Most of these respondents declared an institutional interest in implementing the indicators in the list below within two years. A small group stated that they are interested in implementing these activities in a period longer than two years. An even smaller number of respondents reported no interest in implementing the activities (only concerning indicators F4d, F3c and F4a).

Lastly, a comparative analysis of the results from ENE2020 and Africa2021 identified 10 indicators (see Figure 21) in which the African2021 Centres of Vocational Excellence scored higher than the ENE 2020 Centres of Vocational Excellence. In general, these 10 indicators in the spotlight form a heterogeneous group. However, some of them focus on Dimension G (Going Green).

This list of indicators in which Africa2021 respondents scored higher than the ENE 2020 Centres of Vocational Excellence may also indicate a possible thematic focus for future cooperation and mutual learning among the set of institutions. In the list, no indicator refers to Dimension A and only one is related to Dimension B. Two indicators are in Dimension C (C2d and C4a), two are related to

Dimension D, and only one refers to Dimension E. The list does not include any indicators from Dimension F, and four indicators refer to Dimension G. Therefore, this exercise of comparison identifies the need to further investigate the strategies and activities developed by VET institutions within the Africa2021 dataset in Dimension G and how they can help ENE Network institutions in challenges concerning promoting sustainability in VET.

Figure 21: List of indicators with the highest positive variation and their results



4. ENABLERS AND BARRIERS TO IMPROVEMENT

Interviews with representatives from vocational schools suggest that the following key enablers and barriers help to explain and influence high-quality VET and quality improvement.

Key enablers are described below.

1. There is strong evidence that autonomy and proactive, engaging VET leadership have a positive impact on education and training results. Semi-autonomous/autonomous schools are better able to effectively address the ever-changing needs and requirements of the labour market and employers/industry, which enhances student employability. Schools that are more flexible and able to incorporate a new curriculum can make changes faster than schools that are tied to an official curriculum demanded by governmental institutions. The latter must go through long regulatory procedures to respond to labour market demands, which makes them far less responsive.
2. A strong link between schools and businesses for curriculum development, leadership and internships is perceived as crucial for enhancing student employability.
3. Active learning approaches (e.g. a good balance between direct instruction and inquiry-based approaches) are essential to enhance employability and entrepreneurship and prepare VET graduates for the world of work.
4. Entrepreneurial competences and a capacity for independent learning and thinking help students to engage with local and global markets and challenges and improve their chances of employment, self-employment, and further education. In this way, they can increase their incomes, improve their prospects, and support their families.
5. Quality instruments, mechanisms and measures should be adopted and actively implemented.

Key barriers to the development of vocational excellence include:

1. A lack of experience and skills within institutions to support business-orientated approaches and entrepreneurial activities, for instance business incubation.
2. Bureaucratic processes, central controls and micro-management prevent TVET providers from developing and delivering demand-driven products and services.
3. Fixed curriculum and assessment systems hinder or delay necessary adaptations/innovations.
4. Lack of investment means that schools do not have the equipment, tools and specialised environments they need to facilitate higher-level practical training in school, and they lack sufficient support from companies to make this provision outside of school or with help from companies.
5. The digital infrastructure is insufficient and unaffordable. The internet provider markets are monopolised and accessibility in rural areas is very limited. There is a lack of hardware like smartphones or laptops.
6. The opportunities for workplace learning experiences are very restricted, as the number of companies and other organisations that are able and willing to absorb graduates is limited. Employment prospects are poor, which discourages skills acquisition.
7. Many companies are not willing or are very reluctant to employ people with special needs/disabilities, hence some schools are not inclined to offer inclusive VET courses.

ANNEXES

Annex 1. List of interviewees

Interviews for the EU study on VET schools in sub-Saharan Africa

List of participants

Mikolongwe Vocational School, Malawi

School management meeting, 2 July 2021

Jimmy Brian Kayange	Project school leader	DAPP Malawi
Charles Salema	Headmaster	Mikolongwe VET School
Ganizani Likupe	Grants administrator	DAPP Malawi
Zacharia Viano	Deputy principal	Mikolongwe VET School
Emily Mwale	Teacher	Mikolongwe VET School

Stakeholders' meeting, 13 July 2021

Elliot Mulanje	Director of quality assurance	TEVETA
Kush Urmar	Operational manager	Trogon leather trading company
Andrew Mkoloma	Executive director	Farm for Passion and Global Solar Company
George Nkhwema	Deputy principal	Stephanos Foundation

Polytechnic Institutes of Nhamatanda and Nacala, Mozambique

School management meeting, 8 July 2021

Cristina Domingos Colher	Headmaster	Polytechnic Institute of Nhamatanda
Tiago Bana	Deputy pedagogical director	Polytechnic Institute of Nhamatanda
José Rosa	Headmaster	Polytechnic Institute of Nacala
Rui Sevene	Teacher	Polytechnic Institute of Nacala

Stakeholders' meeting, 13 July 2021

Lovemore Chigariro	Technical manager	Jacaranda Agricultura Norte LDA
Miguel Alberto Douve	Company technician	IDE Moçambique
Malacate	Association president	Associacao AGRIPPEL
Rui Baloi	Partnership officer	National partnership team
Joaquim Muholove	Programme officer	NHQ, ADPP Mozambique
Arcides João Baptista	Programme officer	NHQ, ADPP Mozambique
Robert Williamson	Programme manager	NHQ, ADPP Mozambique

EPP Kwanza Norte, Angola

School management meeting, 14 July 2021

Karen Hesselberg	Coordination of schools	ADPP Angola
Francisco Sapi	National Partnership Office	ADPP Angola
Fernando Angelo	Headmaster	EPP Kwanza Norte
Jorge Francisco Dimba	Vice-headmaster	EPP Kwanza Norte
Domingas Valente	Cooking teacher	EPP Kwanza Norte
Orlando Domingos	Energy assistance teacher	EPP Kwanza Norte
Eugenio Quibambo	Food production teacher	EPP Kwanza Norte

Stakeholders' meeting, 13 July 2021

Salomão Kussema	Senior staff/engineer	Cabanguela Farm
Suca Panzo	Food production graduate	Employee on a Lucala Farm
Rosária Morais	Owner	Rosária Restaurant

Stakeholders' meeting, 21 July 2021

	Remote meeting
School	Ecole de la Formation Professionnelle (NGO), Abidjan
Country	Côte d'Ivoire
Representatives	Cachia Marie-Odile, Director Aguié Ange, Director of studies Boni Lydie, Executive secretary in charge of employment–training relation
Date	21 July 2021
Contact person	Cachia Marie-Odile, Director

Stakeholders' meeting, 12 and 29 July 2021

	Remote meeting
School	Nyeri National Polytechnic, Nyeri
Country	Kenya
Representatives	Charity Mugo, Deputy principal for academic affairs Benson Munene, Industrial liaison officer Grace Miringu, Head of the Department of Occupational Health and Safety Francis Karanja Nguku, Trainer in applied science Representatives of cooperating industries: hospitality, automotive, health care, animal health and others
Date	12 July (implementers) and 29 July (industry) 2021
Contact person	Charity Mugo, Deputy principal for academic affairs

Stakeholders' meeting 29 July 2021

	Remote meeting
School	Centre de Formation aux Métiers - Dakar
Country	Senegal
Representatives	Mme Awa Ndiaye Sagna, Director of the Training Centre for Port and Logistics Related Jobs (CFMPL) M. Thierno Racine Talla, Head of administration and finance M. Mansor Ndiaye, Head of pedagogy and technology M. Kala Diagne Fall, Head of planning Mme Mbouya Ba, Head of development of lifelong learning
Date	29 July 2021
Contact person	Mme Mbouya Ba, Head of development of lifelong learning

Annex 2. Templates for the semi-structured interviews

ETF/ENE study on VET schools in sub-Saharan Africa – 2021

Semi-structured interview

School	
Country	
Representatives	
Date	
Contact person	

A	General observations	
1	School's appreciation of the self-assessment results	
2	General critical issues	
3	General strengths of the organisation	

B	Thematic dimensions	Achievements	Enablers?	Barriers?
A	Education–business collaboration and cooperation			
B	Pedagogy and professional development			
C	Autonomy, institutional improvement and resources			
D	Lifelong learning in VET			
E	Smart specialisation – mobilising innovation, ecosystems and SMEs			
F	Industry 4.0 and digitalisation			
G	Going green – supporting sustainable goals			
	In relation to the state of affairs in:			
H	Employability/employment of learners			
I	Social inclusion			
J	Support of the informal economy			

Enablers and barriers

What makes these achievements possible (or not)? For instance:

- legislation
- (stable political) environment
- policies at regional and national level
- support from local, regional and national VET authorities
- management/leadership
- financial and human resources
- organisation

C	Autonomy – in what areas	y/n	What is the current level of autonomy?
1	Staffing		
2	Academic		
3	Financial		
4	Planning and organisation		
5	Strategy and portfolio development		
6	....	

D	Plans	
1	Main priorities for the coming years (ambitions, plans)	
2	Anticipated development of barriers?	
3	What would you need to realise your ambitions	

E	Survey-related conclusions and recommendations	
1	What is the value of this exercise to you	
2	General: your appreciation of the self-assessment tool	
3	Follow-up suggestions for ETF	

ETF/ENE study on VET schools in sub-Saharan Africa – 2021

Semi-structured interview for stakeholders

School	
Country	
Stakeholders' representatives	
Date	
Contact person	

- Explain the ETF self-assessment tool and outcomes (general)
- Your partnership with the school? Please describe

A	General observations	
1	Your appreciation of the performance of the school	
2	General critical issues	
3	General strengths of the school	
4	Your appreciation of the alumni/graduates	

B	Thematic dimensions	Specific school strengths?	Opportunities for further development?	Challenges?
A	Education–business collaboration and cooperation			
B	Pedagogy and professional development			
C	Autonomy, institutional improvement and resources			
D	Lifelong learning in VET			
E	Smart specialisation – mobilising innovation, ecosystems and SMEs			
F	Industry 4.0 and digitalisation			
G	Going green – supporting sustainable goals			
	In relation to the state of affairs in:			
H	Employability/employment of learners			
I	Social inclusion			
J	Support of the informal economy			

C	Collaboration and partnerships	
1	The nature of your collaboration with the school	
2	Is the school reaching out to create co-ownership and more employer involvement?	
3	Do you reach out to the school to create co-ownership and more involvement?	
4	How could/would you help the school?	
5	What do you need to provide that help? From whom?	
6	How could the school help you	

D	Plans	
1	Main priorities for the coming years, which may need support from the school	

E	Survey-related conclusions and recommendations	
1	What is the value of this exercise for you	
2	General: your appreciation of the self-assessment tool	
3	Follow-up suggestions for ETF	

Annex 3. Facts and figures: Sub-Saharan Africa

Table 3: Population trends in sub-Saharan Africa (1990–2050)

Year	Population	Growth rate every 5 years	Growth rate 1990–2050
1990	509 451 851		
1995	583 413 261	15%	15%
2000	665 327 581	14%	31%
2005	758 924 681	14%	49%
2010	869 025 106	15%	71%
2015	995 458 478	15%	95%
2020	1 136 050 000	14%	123%
2025	1 288 228 000	13%	153%
2030	1 452 715 000	13%	185%
2035	1 627 979 000	12%	220%
2040	1 811 771 000	11%	256%
2045	2 001 968 000	10%	293%
2050	2 196 110 000	10%	331%

Data source: World Bank data, population estimates and projections

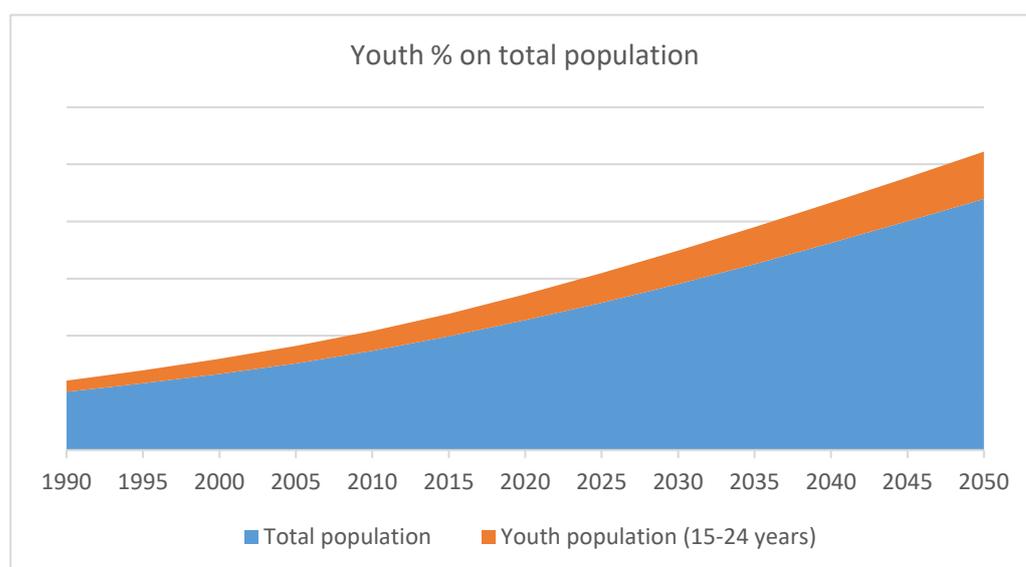
Table 4: Comparison of population trends in sub-Saharan Africa and Europe & Central Asia (1990–2050)

Year	Sub-Saharan Africa	Europe & Central Asia
1990		
1995	15%	2%
2000	31%	2%
2005	49%	4%
2010	71%	6%
2015	95%	8%
2020	123%	10%
2025	153%	10%
2030	185%	11%
2035	220%	11%
2040	256%	10%
2045	293%	10%
2050	331%	10%

Data source: World Bank data, population estimates and projections

Table 5: Youth population trends in Sub-Saharan Africa (1990–2050)

Years	Total population	Youth population (15–24 years)	Youth % of total population
1990	509 451 851	97 417 504	19%
1995	583 413 261	114 146 213	20%
2000	665 327 581	133 114 947	20%
2005	758 924 681	152 321 129	20%
2010	869 025 106	172 224 252	20%
2015	995 458 478	196 480 940	20%
2020	1 136 050 000	226 237 500	20%
2025	1 288 228 000	259 648 500	20%
2030	1 452 715 000	293 466 900	20%
2035	1 627 979 000	324 029 400	20%
2040	1 811 771 000	353 109 800	19%
2045	2 001 968 000	383 344 800	19%
2050	2 196 110 000	413 353 200	19%



Data source: World Bank data, population estimates and projections

Table 6: Share of youth population (15–24 years) in 2020, 2035 and 2050 by geographical area

Geographical area	2020	2035	2050
Sub-Saharan Africa	20%	20%	19%
East Asia & Pacific	13%	12%	11%
Europe & Central Asia	11%	12%	11%
South Asia	18%	16%	14%
Latin America & Caribbean	16%	14%	12%
North America	13%	12%	12%
Middle East & North Africa	16%	17%	14%

Data source: World Bank data, population estimates and projections

Table 7: Share of youth population (15–24 years) in 2020, 2035 and 2050 by country

Country	2020	2035	2050
Angola	20%	20%	20%
Burkina Faso	20%	20%	19%
Democratic Republic of the Congo	19%	21%	20%
Guinea-Bissau	20%	21%	19%
Côte d'Ivoire	21%	20%	19%
Kenya	21%	19%	17%
Malawi	21%	20%	19%
Mozambique	21%	20%	20%
Namibia	19%	20%	17%
Niger	17%	17%	15%
Senegal	20%	20%	18%
South Africa	17%	17%	15%
Uganda	21%	21%	19%
Zimbabwe	20%	22%	18%

Data source: World Bank data, population estimates and projections

Table 8: Increase in youth population (15–24 years) by country (2020–2050)

Country	Increase in youth population 2020–2050
Angola	138%
Burkina Faso	99%
Democratic Republic of the Congo	123%
Guinea-Bissau	70%
Côte d'Ivoire	80%
Kenya	42%
Malawi	80%
Mozambique	98%
Namibia	39%
Niger	184%
Senegal	86%
South Africa	13%
Uganda	79%
Zimbabwe	41%

Data source: World Bank data, population estimates and projections

Table 9: Share of youth (15–24 years) not in employment, education or training (NEETs), by country (2019)

Country	Male	Female	Total
Angola	5.5%	8.3%	6.9%
Burkina Faso	16.0%	28.3%	22.0%
Democratic Republic of the Congo	17.9%	24.8%	21.3%
Guinea-Bissau	13.4%	22.8%	18.1%
Côte d'Ivoire	25.5%	43.6%	34.6%
Kenya	11.9%	19.3%	15.6%
Malawi	5.9%	13.0%	9.5%
Mozambique	13.2%	20.9%	17.1%
Namibia	29.2%	34.1%	31.7%
Niger	12.5%	35.6%	23.8%
Senegal	31.0%	44.3%	32.5%
South Africa	30.7%	34.3%	32.5%
Uganda	13.6%	20.7%	17.2%
Zimbabwe	10.1%	22.1%	16.2%

Data source: ILOSTAT database

Table 10: School enrolment by sex, primary (% gross)

Country	2010		2019	
	M	F	M	F
Angola	117.7%	94.1%	...	...
Burkina Faso	81.6%	74.3%	94.8%	94.3%
Democratic Republic of the Congo	106.9%	93.0%	...	...
Guinea-Bissau	122.9%	114.5%	...	...
Côte d'Ivoire	...	...	103.4%	97.2%
Kenya	...	...	...	...
Malawi	137.3%	140.2%	142.7%	147.0%
Mozambique	119.2%	105.9%	120.4%	112.4%
Namibia	117.5%	112.9	...	...
Niger	69.2%	55.9%	70.7%	62.0%
Senegal	81.7%	86.4%	76.7%	87.6%
South Africa	106.8%	102.7%	...	...
Uganda	121.5%	122.4%	...	...
Zimbabwe	...	...	...	...

Data source: World Bank data, population estimates and projections

Table 11: School enrolment by sex, secondary (% gross)

Country	2010		2019	
	M	F	M	F
Angola	31.3%	21.3%	...	...
Burkina Faso	24.8%	18.9%	40.7%	42.0%
Democratic Republic of the Congo	52.2%	30.1%	...	...
Guinea-Bissau	...	...	...	...
Côte d'Ivoire	...	...	60.9%	48.3%
Kenya	...	...	...	...
Malawi	36.1%	31.9%	40.5%	33.6
Mozambique	28.0%	22.5%	...	...
Namibia	...	...	...	...
Niger	15.3%	10.7%	...	...
Senegal	38.7%	33.8%	43.4%	49.1%
South Africa	91.0%	96.6%	...	...
Uganda	...	...	...	...
Zimbabwe	...	...	...	...

Data source: World Bank data, population estimates and projections

Table 12: School enrolment by sex, tertiary (% gross)

Country	2010		2019	
	M	F	M	F
Angola	...	...	...	...
Burkina Faso	4.8%	2.3%	9.0%	5.1%
Democratic Republic of the Congo	...	...	...	...
Guinea-Bissau	...	...	...	...
Côte d'Ivoire	10.2%	5.2%	...	...
Kenya	...	...	...	...
Malawi	0.9%	0.5%	...	...
Mozambique	5.7%	3.7%	...	...
Namibia	...	...	...	...
Niger	2.0%	0.8%	5.1%	3.3%
Senegal	9.6%	5.6%	15.0%	11.3%
South Africa	...	...	...	...
Uganda	4.7%	3.5%	...	...
Zimbabwe	7.8%	5.7%	...	...

Data source: World Bank data, population estimates and projections

Table 13: Out-of-school rate, primary school age, both sexes

Country	Out-of-school rate	Most recent year
Angola	21.75%	2015
Burkina Faso	...	...
Democratic Republic of the Congo	21.62%	2018
Guinea-Bissau	27.47%	2014
Côte d'Ivoire	22.87%	2016
Kenya	4.28%	2014
Malawi	5.52%	2016
Mozambique	...	...
Namibia	...	...
Niger	...	...
Senegal	38.69%	2019
South Africa	1.06%	2016
Uganda	8.02%	2016
Zimbabwe	5.16%	2019

Data source: UNESCO database

Table 14: Out-of-school rate, lower secondary school age, both sexes

Country	Out-of-school rate	Most recent year
Angola	15.85%	2015
Burkina Faso	...	...
Democratic Republic of the Congo	16.74%	2018
Guinea-Bissau	17.53%	2014
Côte d'Ivoire	32.57%	2016
Kenya	3.67%	2014
Malawi	7.99%	2016
Mozambique	...	...
Namibia	...	...
Niger	...	...
Senegal	39.62%	2019
South Africa	4.58%	2016
Uganda	26.63%	2016
Zimbabwe	25.68%	2019

Data source: UNESCO database

Table 15: Out-of-school rate, upper secondary school age, both sexes

Country	Out-of-school rate	Most recent year
Angola	28.99%	2015
Burkina Faso	...	...
Democratic Republic of the Congo	28.77%	2018
Guinea-Bissau	25.92%	2014
Côte d'Ivoire	56.91%	2016
Kenya	20.43%	2014
Malawi	29.75%	2016
Mozambique	...	...
Namibia	...	...
Niger	...	...
Senegal	54.89%	2019
South Africa	19.87%	2016
Uganda	64.98%	2016
Zimbabwe	72.07%	2019

Data source: UNESCO database

Table 16: Government expenditure on education, total (% of GDP)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Angola	3.4%	...	...	...	...	...	...	...	...
Burkina Faso	3.5%	4.0%	3.6%	4.1%	4.1%	3.7%		5.6%	5.4%
Democratic Republic of the Congo	1.5%	...	...	2.1%	2.0%	2.2%	2.1%	1.5%	
Guinea-Bissau	1.9%	1.9%	2.0%	2.1%	...	...	...	...	...
Côte d'Ivoire	4.6%	4.1%	4.7%	4.7%	4.6%	3.5%	4.0%	3.8%	3.3%
Kenya	5.5%	5.3%	5.5%	5.4%	5.3%	5.3%	5.4%	5.4%	5.3%
Malawi	3.5%	4.2%	...	5.4%	4.8%	5.6%	4.7%	4.0%	4.7%
Mozambique	...	...	5.7%	6.1%	...	...	5.9%	5.5%	5.5%
Namibia	8.3%	...	...	...	...	...	...	...	...
Niger	2.7%	3.1%	3.2%	3.7%	5.1%	4.5%	3.0%	2.6%	3.5%
Senegal	5.2%	4.9%	4.7%	5.7%	5.7%	5.5%	5.1%	4.6%	4.8%
South Africa	5.7%	...	...	...	...	6.0%	5.9%	6.1%	6.2%
Uganda	1.7%	2.3%	1.8%	1.9%	1.9%	2.3%	2.2%	2.3%	2.1%
Zimbabwe	1.5%	...	6.1%	6.0%	6.1%	...	...	5.8%	5.9%

Data source: World Bank database

Table 17: Human Development Index (HDI) rank and GDP per capita by country (2019)

Country	HDI rank	GDP per capita (\$)
Angola	148 (value: 0.581)	6 965.5
Burkina Faso	182 (value: 0.452)	2 274.7
Democratic Republic of the Congo	175 (value: 0.480)	1 146.5
Guinea-Bissau	175 (value: 0.480)	2 077.4
Côte d'Ivoire	162 (value: 0.538)	5 443.2
Kenya	143 (value: 0.601)	4 521.5
Malawi	174 (value: 0.483)	1 106.6
Mozambique	181 (value: 0.456)	1 338.1
Namibia	130 (value: 0.646)	10 063.6
Niger	189 (value: 0.394)	1 278.7
Senegal	168 (value: 0.512)	3 545.1
South Africa	114 (value: 0.709)	13 034.2
Uganda	159 (value: 0.544)	2 284.3
Zimbabwe	150 (value: 0.571)	2 961.4

HDI data source: UN Human Development Data Center

GDP per capita data source: World Bank database. Data refer to GDP per capita, PPP (current international dollars)

Table 18: Top three industry sectors (contribution to GDP) by country

Country	Top three industries
Angola	Petroleum, diamonds, iron ore
Burkina Faso	Cotton lint, beverages, agricultural processing
Democratic Republic of the Congo	Mining (copper, cobalt, gold, diamonds, coltan, zinc, tin, tungsten), mineral processing, consumer products (including textiles, plastics, footwear, cigarettes, processed foods, beverages)
Guinea-Bissau	Agricultural products processing, beer, soft drinks
Côte d'Ivoire	Foodstuffs, beverages, wood products
Kenya	Small-scale consumer goods (plastic, furniture, batteries, textiles, clothing, soap, cigarettes, flour), agricultural products, horticulture
Malawi	Tobacco, tea, sugar
Mozambique	Aluminium, petroleum products, chemicals (fertilizer, soap, paints)
Namibia	Meatpacking, fish processing, dairy products
Niger	Uranium mining, petroleum, cement
Senegal	Agricultural and fish processing, phosphate mining, fertilizer production
South Africa	Mining (platinum, gold, chromium), automobile assembly, metalworking
Uganda	Copper mining and processing, construction, foodstuffs
Zimbabwe	Mining (coal, gold, platinum, copper, nickel, tin, diamonds, clay, numerous metallic and non-metallic ores), steel, wood products

Data source: CIA World Factbook

Annex 4. ENE self-assessment tool

ENE Framework for Excellence

Introduction

This questionnaire has been designed for vocational schools and centres of vocational excellence that are members or associates of ETF's Network for Excellence (ENE). It has been developed to permit members and associates to self-assess their own level of development against a shared set of indicators.

Completing this self-assessment will assist schools and centres to understand their own strengths and weaknesses and to plan their own improvement strategies. Members of the Network will be invited to repeat the self-assessment in the future, in order to review their own progress.

Data from the survey will be analysed in order to understand the development needs of its members and to plan support across the network. However, the self-assessment of each centre or school belongs to that institution: it will not be disclosed or published – unless the school or centre chooses to do this.

After you have completed the self-assessment you will be able to download feedback for your school or centre.

Structure of the questionnaire

Schools and centres are invited to self-assess in relation to 7 dimensions of vocational excellence which, according to previous research, are particularly relevant to schools and centres in the ENE. Currently the dimensions are:

Education-business collaboration and cooperation

Pedagogy and professional development

Autonomy, institutional improvement and resources

Lifelong learning in VET

Smart specialisation – mobilising innovation, ecosystems and SMEs

Industry 4.0 and digitalisation

Going green – supporting sustainable goals

In the future, it is planned that indicators for other dimensions and sub-dimensions will be developed and made available.

Within each dimension, the indicators are organised into three development levels:

- Foundational
- Developing
- Mature.

Since ENE is concerned not only with the development of excellence but also with its transmission, each dimension includes a section on Leadership and Collaboration.

For each indicator the evaluation scale is the following:

- Yes (i.e. we do it already)
- To some degree (i.e. we do it only partially)
- No (i.e. we don't do it)
- Not relevant

- Don't know.

If the answer is "No", then the school will be invited to describe its plans for the future, choosing between three options:

- We will do it within two years
- We will do it in longer than two years
- We are not planning to do it

Schools and centres may choose to self-assess only for those dimensions which they find relevant, selecting the dimensions for which they opt in in the page "Dimensions' choice".

How to fill in the questionnaire

ETF advises that the self-assessment will be most useful to a school or centre if a small team of teachers and managers from each school or centre familiarise themselves with the questionnaire in advance – since it may be necessary to consult with others or collect information before responding. The team should include the school or centre Director or a senior manager, the identified ENE contact point and other teachers or managers who have, between them, a strong understanding of all of the dimensions addressed.

After the individuals have reviewed the questionnaire, the team may then meet to discuss and complete the questionnaire together or, once they have agreed their collective responses, they may delegate a member of the team to respond on their behalf.

Following this link you will find the full version of the questionnaire, which you may like to download in order to prepare your organisation's response.

- The questionnaire may be completed in English, Russian or French. Please select your preferred language from the language bar on the top.

- To save the questionnaire and continue at a later date, click on "Save & Continue" on the toolbar at the top of the survey page. You can enter an email address to receive a link to return your survey later (all your survey progress will be saved).

To raise questions about the purpose and use of the self-assessment for vocational excellence please contact Julian.stanley@etf.europa.eu

Dimensions' choice

You are encouraged to self-assess in relation to all 7 dimensions, since ETF advises that they are all relevant for a centre of vocational excellence.

However, if you judge that one or more element is irrelevant or inappropriate you can deselect it below.

The questionnaire will then display only the selected dimensions.

The full version of the questionnaire can be previewed [here](#).

Please deselect any dimension(s) that you judge irrelevant or inappropriate:

A - Education-business collaboration and cooperation

B - Pedagogy and professional development

C - Autonomy, institutional improvement and resources

D - Lifelong learning in VET

E - Smart specialisation – mobilising innovation, ecosystems and SMEs

F - Industry 4.0 and digitalisation

G - Going green – supporting sustainable goals

Background Information

Please provide some background information on your school or centre.

If the school or centre is part of a cluster or partnership, please complete this questionnaire on behalf of your own organisation rather than on behalf of the whole cluster.

Name of the school or centre responding: _____

Name of the person responding: _____

Email of the person responding: _____

Is your school or centre part of a formal cluster or association with other vocational schools or another centre?

Yes No Don't Know

If "Yes", please name the other schools or centres that form part of your cluster or organisation:

1. _____

2. _____

3. _____

4. _____

5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Please describe what relationship exists between your school or centre and the others in the cluster:

N.B.

For each indicator the **evaluation scale** is the following:

Yes To some Degree No Not relevant Don't Know

If the answer is “No”, then the school will be invited to describe its **plans for the future**, choosing between three options:

- We will do it within two years*
- We will do it in longer than two years*
- We are not planning to do it*

A - Education-business collaboration and cooperation

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development in education-business collaboration and cooperation.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

A1) Foundational

A1a) The school or centre cooperates with enterprises so that all learners can carry out learning in the workplace (placements or internships) to meet formal requirements specified in relevant qualification or curriculum frameworks.

A1b) Representatives from employers are formally involved in school governance, for example, they are included in the Governing Body.

A1c) Employers are regularly consulted by the school or centre in relation to curriculum.

A2) Developing

A2a) A senior person (for example Deputy Principal) in the school or centre leads and coordinates school-industry cooperation.

A2b) The school or centre has signed long-term memoranda of understanding with at least two enterprises which bring about annual cooperation (for example, to provide work placements for learners or visits).

A2c) The school or centre cooperates with enterprises in order to organise work placements for all learners which are equivalent to at least 10% of curriculum time.

A2d) At least one teacher benefits from at least 5 days training or work placement (or work) in an enterprise every year.

A3) Mature

A3a) School or centre systematically develops and updates a catalogue of training programmes designed to meet the needs of identified employers for both initial and continuing vocational training.

A3b) Enterprises regularly contribute to assessment processes for students, for example, participate in assessment juries.

A3c) Tracer studies demonstrate that at least 30% of graduates enter employment or self-employment or further study in sector related to their programme.

A3d) Enterprises contribute to infrastructure, equipment or other costs in the school or centre (value of contribution at least € 5000 over last two years).

A4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

A4a) The school or centre forms lasting institutional partnership with specialist national or regional employer associations or sector organisations to develop skills over medium term, for example, developing joint curricula or implementing joint skills surveys.

A4b) The school or centre cooperates with other schools to co-ordinate placements or other work-based learning for adult learners.

A4c) The school or centre cooperates with other schools to co-ordinate placements for teachers in industry or to organise training for teachers in the workplace.

Give one example of good practice in Cooperation with Enterprise at your school or centre:

B - Pedagogy and Professional Development

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development of development of pedagogy and professional development.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

B1) Foundational

B1a) The school or centre has a person (pedagogue or pedagogical coordinator or lead teacher) in charge of professional development.

B1b) The school or centre provides mentoring and induction for all Beginning Teachers.

B1c) At least 75% of the teachers in the school or centre attended at least one in-service training event (for example, a seminar or workshop) in the last 12 months.

B1d) Teachers of theory and of skills regularly set learning tasks that closely resemble real, up-to-date tasks in the world of work.

B1e) All staff have appropriate knowledge, skills and competences (technical, pedagogical and personal) which qualify them to teach, collaborate and support the welfare of learners.

B2) Developing

B2a) The school or centre systematically conducts training needs identification for all of its staff, for example, through interviews or surveys.

B2b) All teachers at the school or centre regularly practise a range of pedagogies that are appropriate to vocational subjects and to different learners (for example, active approaches like group work, problem solving, critical thinking, role play).

B2c) The school or centre makes systematic use of assessment data to evaluate and improve its own performance.

B2d) Senior managers and pedagogues regularly observe teaching and provide feedback to all staff.

B2e) School or centre regularly assesses needs of all learners and provides special support to meet individual needs (with respect to both learning and wellbeing) where appropriate.

B3) Mature

B3a) The school or centre plans its own in-service training events at least three times each year to achieve its training plan (in addition to participating in external training events).

B3b) All teachers and trainers have relevant industrial or professional work experience which they have either obtained outside of teaching or through placements and training in relevant enterprises.

B3c) At least 80% of teachers and instructors regularly collaborate to prepare and support their teaching, for example, through mentoring, team teaching or joint lesson preparation.

B3d) Regular assessment of learning is used systematically to decide what learning tasks should be set for individual learners and for groups of learners.

B3e) The school or centre evaluates the impact of professional development on the quality of teaching and learning, and the information is used to plan future professional development.

B4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

B4a) The school or centre supports the development of pedagogy across a group of other schools or learning centres, for example, through the offer of in-service training or by sharing instructional materials.

B4b) The school or centre works in partnership with industry, universities or donors to design and organise in-service training for teachers and trainers.

B4c) The school or centre participates in national or international networks to share good practices or research in teaching and learning.

B4d) The school or centre has a budget to develop and provide in-service training (or is able to charge for in-service training).

Give one example of good practice in pedagogy and professional development at your school or centre:

C - Autonomy, Institutional Improvement and Resources

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development of autonomy, capacity for improvement and of what resources are available.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

C1) Foundational

C1a) The school or centre has an independent Board of Governors with some elected members that exercises authority and holds the principal to account.

C1b) The school or centre, in consultation with its stakeholders, has defined its own mission and institutional development plan.

C1c) The school or centre has an institutional quality assurance system which it implements.

C2) Developing

C2a) The school or centre has the authority to enter independently into contracts with other organisations such as businesses, training providers and donors e.g. to buy or sell services or equipment.

C2b) The school or centre is able to earn and retain income (for example, by selling training services).

C2c) The school or centre is able to make changes to nationally defined curriculum frameworks or profiles in order to adapt curriculum to local needs.

C2d) The Governing Body has the authority to appoint and dismiss principal.

C2e) The school or centre has the authority to appoint its own fixed term staff (for example, part-time teachers, maintenance staff).

C3) Mature

C3a) The school or centre plans and monitors its own budget, deciding independently how to use the resources.

C3b) The school or centre has appropriate and sufficient laboratories, classrooms and workshops which permit it develop the competences required by employers.

C3c) The school or centre has appropriate and sufficient tools, equipment, infrastructure and consumables which permit it develop the competences required by employers.

C3d) The school or centre has the authority to decide which learning programmes will be offered in the future and to close down current programmes if not required.

C3e) The school or centre has the authority to appoint full-time, permanent teaching staff, subject to approval.

C3f) The school or centre has the authority to take out loans, for example, to fund investment.

C4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

C4a) The school or centre coordinates the planning and provision of training programmes, together with other skills providers.

C4b) The school or centre leads and sometimes initiates national or international projects involving more than one other organisation.

C4c) The school or centre operates a joint budget or joint owns assets or enterprises with other schools or organisations, for example, a training company.

C4d) The school or centre shares services or staff with other schools (for example, accounting services, technical maintenance services, etc.).

Give one example of good practice in Autonomy and Institutional Improvement at your school or centre:

D - Lifelong learning in VET

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development of development of Lifelong Learning in VET.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

D1) Foundational

D1a) he school or centre has an explicit mission to provide education or training programmes to adults.

D1b) The school or centre has delivered at least one adult education programme with at least 8 weeks duration for 20 or more adult learners over the last two years.

D1c) The school or centre is formally accredited as provider of adult education.

D1d) The school or centre systematically supports the development of key competences (including soft skills as well as basic skills) for all learners.

D2) Developing

D2a) The school or centre has delivered at least three different programmes for adults continuously over the last two years.

D2b) Different kinds of learning-programme are offered to different kinds of adult learners, in order to meet their needs (for example, part-time courses for employees, elementary courses for adults without basic skills, etc.).

D2c) The school or centre offers specialised advice on training and careers to adult learners.

D2d) Teachers and trainers have received training or specialised support that has helped them to develop skills to support adult learning and career counselling.

D2e) Learning outcomes (or competences) from adults' skills programmes are assessed using criteria that have been validated by employers (or their representatives).

D3) Mature

D3a) More than 50% of programmes provided by the school or centre are also accessible to adult learners, either as special courses or it is possible for adults to join existing programmes.

D3b) There is dedicated funding which makes it possible for adult learners to study.

D3c) Learning from adults' skills programmes is accredited, i.e. the programmes lead to diplomas which have value on the labour market.

D3d) Graduates from adult programmes are regularly tracked (e.g. by tracer studies) in order to monitor destinations and/or future learning needs.

D3e) The school or centre provides adult education programmes outside (either partially or fully) of a school environment (for example, in the workplace, online, etc.).

D3f) The school or centre recognises informal learning of adults so that they can benefit from prior learning outside of the school or centre.

D4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

D4a) The school or centre collaborates with or supports other adult education providers, for example, so that together schools can offer a wider range of programmes.

D4b) The school or centre has well-established partnerships with businesses or employment agencies, for example, to provide training.

D4c) The school or centre has a co-ordinating role with respect to adult education (for example, it coordinates adult education in several organisations or campuses or neighbourhood centres).

Give one example of good practice in Adult Education at your school or centre:

E - Smart specialisation - Mobilising Innovation, ecosystems and SMEs

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work and which provide evidence of how your school or centre is working in collaboration with local and regional organisations to plan and implement regional economic development and innovation, following the principles of Smart Specialisation.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

E1) Foundational

E1a) The school or centre gathers and analyses labour market knowledge (for example, information on employers' needs) to inform its work.

E1b) The school or centre collaborates with local or regional bodies responsible for local/regional development (for example, with the Regional Development Agency).

E1c) The school or centre collaborates with the local or regional business associations and civil society (for example, Chambers, employers' associations, NGOs, etc.).

E2) Developing

E2a) The school or centre is involved in activities that help the region to identify priorities for the economic development ("smart skills specialisation").

E2b) The school or centre has developed or modified its curriculum or the range of programmes that it offers in response to labour market analysis in the last three years.

E2c) The school or centre provides enterprise/entrepreneurship skills to 75% of its adult learners.

E2d) The school or centre provides training or other services targeting Small and Medium Enterprises (SMEs).

E3) Mature

E3a) The specialist programmes offered by the school or centre match well with the current and future employment needs of local and regional enterprises.

E3b) The school or centre contributes to regional research strategy, for example, by helping to transfer and apply new knowledge and technologies.

E3c) The school or centre provides incubation services, i.e. support for new business start-ups, such as accommodation, mentoring or loans.

E3d) The school or centre collaborates with industry to create new training programmes which address innovation (for example, take up of new technologies), in line with the regional strategy.

E3e) The school or centre has entered into formal agreements with private and public sector organisations to jointly address local or regional economic needs, for example the ones expressed in the regional strategy.

E4) Lead or Coordinating

The indicators in this section address the way in which the school or centre leads or coordinates other organisations and skills providers to support regional economic development and innovation according to the principles of smart specialisation.

E4a) The school or centre leads or coordinates building partnerships, for example, by hosting meetings or mobilising alumni, for the benefit of the region.

E4b) The school or centre leads or coordinates collaboration with other schools, centres or research organisations locally, across regions or internationally, for example, to develop project or training programmes e.g. on emerging technologies.

E4c) The school or centre is formally recognised to have a lead role in the development of identified specialised skills or technologies at regional or national level.

Give one example of good practice in Smart specialisation – Mobilising Innovation, ecosystems and SMEs at your school or centre:

F - Industry 4.0 and digitalisation

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development of capacity to address Industry 4.0 and digitalisation.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

F1) Foundational

F1a) The school or centre develops the digital skills and competences of learners in at least five different learning programmes.

F1b) Digital and on-line instruction is regularly used on campus as a mode of teaching and learning by at least 50% of learners.

F1c) The school or centre is able to use digital tools to provide distance learning to 80% of its students.

F1d) The school or centre promotes and uses Open Educational Resources.

F2) Developing

F2a) An explicitly defined set of Digital and On-line Skills are taught to all learners as part of their key competences.

F2b) The Digital Competence (DC) of staff and learners is benchmarked, e.g. using the EU's SELFIE tool or another framework.

F2c) The school or centre uses digital and on-line learning to provide work-related learning situations (for example, video simulations, business games, videos of workplace, VR).

F2d) At least 50% of learners learn coding and computational thinking.

F2e) The school or centre has a digital strategy (for example incorporated into institutional development plan).

F2f) The school or centre ensures safety, privacy and a responsible behaviour in digital environments.

F2g) The school or centre develops digital competences of all staff, in line with institutional development plan or workforce development plan.

F3) Mature

F3a) Most teachers and learners use digital learning environments or systems for learning and assessment (for example, Moodle, Microsoft 365, etc.).

F3b) Digital learning technologies are used to provide anytime/anyplace learning for all learners.

F3c) At least 50% of learning programmes develop the competence of learners to make use of up-to-date industrial digital technologies, e.g. CAD, CAM, 3D printing.

F3d) The school or centre has medium- and long-term plans to ensure that the development of its own digital infrastructure is in line with pedagogy and curriculum and industrial practice and the plans are implemented.

F3e) The school or centre provides at least two specialised profiles (qualifications) that explicitly address digital competences relevant to Industry 4.0. (for example, robotics, AI, website designer, data scientist).

F4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

F4a) The school or centre works in partnership with employers to address new digital technological development (for example, through investment, sharing of technology and know-how and continuing training for advanced digital competences).

F4b) The school or centre works with research partners to address new challenges and exploit new digital technologies.

F4c) The school or centre networks and collaborates digitally with other skills providers, for example, through e-twinning, videoconferencing or platforms.

F4d) The school or centre supports or encourages the development of digitalisation in other skills providers, for example, by providing professional development, development of assessment.

F4e) The school or centre is formally recognised to have a national or regional mission to lead development in the provision of digital skills and/or the use of educational technologies.

Give one example of good practice in Industry 4.0 and digitilisation at your school or centre:

G - Going green – supporting sustainable goals

The following statements provide an indication of the different services or processes that may be going on in the school or centre where you work, and which provide evidence of development of skills for a green and sustainable economy.

The indicators are grouped according to level of development: Foundational, Developing and Mature.

The fourth group of indicators addresses the extent to which the school or centre has taken on a leadership or coordinating role in relation to other schools or centres.

For every indicator, select the option that best describes the situation in your school or centre. Questions marked with an asterisk are compulsory.

G1) Foundational

G1a) Some awareness raising activities have already taken place in the school or centre (for example, campaigns to reduce and/or carefully manage waste).

G1b) Where appropriate the learning programmes provided include competences that are relevant to making the economy sustainable ('green skills'), for example, knowledge about energy conservation, skills in waste reduction.

G1c) The school or centre supports learning addressing the science of climate change and exploring critically economic, political and technological responses to environmental change.

G2) Developing

G2a) The school or centre addresses explicitly sustainability issues in its institutional strategy (for example, with respect to energy, curriculum, consumables).

G2b) The school or centre provides at least one training programme that explicitly addresses a current or emerging green occupation (for example, environmental management, photo-voltaic installer, recycling worker).

G2c) The school or centre systematically develops skills in green technologies, for example, solar or wind power, insulation, electric batteries.

G2d) The school or centre audits and controls its own environmental footprint.

G3) Mature

G3a) The school or centre is providing adult training programmes that provide green skills, give access to green technologies and open up green occupations.

G3b) The school or centre is helping to develop new programmes, curricula or technologies associated with green skills, occupations and technologies.

G3c) The school or centre has successfully implemented a strategy for green transformation and is on course to achieve a reduction in its own carbon foot print in line with national and international targets by 2030.

G3d) The school or centre empowers learners and staff to innovate and collaborate to bring about a sustainable economy.

G4) Lead or Coordinating

The indicators in this section address the way in which the school or centre works with other schools or training centres.

G4a) The school or centre is collaborating with industry or research institutes to develop or provide learning programmes which address sustainability, for example, through projects or platforms.

G4b) The school or centre is collaborating with other skills providers to support or provide learning programmes which address sustainability, e.g. through clusters or in-service training.

G4c) The school or centre is working with industry or sector associations to provide training programmes for employees focusing on sustainability.

G4d) The school or centre is collaborating with other stakeholders, (for example, local government, NGOs, parents, adult learners, employers) on actions to bring measurable progress in achieving collective sustainability goals.

Give one example of good practice in development of Going green – supporting sustainable goals at your school or centre:

Feedback

The feedback report provides a record of your responses and calculates a score for each dimension. It can be downloaded to help your organisation plan for the future.

The scores contained in the report offer a summary of your self-assessment of development towards excellence at your school or centre. They have been calculated by totalling the scores within each dimension.

The report provides also an average indication of your level of development (i.e. “Foundational”, “Developmental” or “Mature”) to help staff, managers and stakeholders reflect upon their performance and their goals. A detailed analysis of the single answers will help to build upon this starting point.

LIST OF ACRONYMS

ADPP	NGO on Quality Education, Health / Well-being, Sustainable Agriculture, Environment
CFMPL	Training Centre for Port and Logistics Related Jobs
COVID-19	Worldwide Corona pandemic from 2019 onwards
DAPP	Development Aid from People to People
DG INTPA	Directorate-General for International Partnerships
EFQM	European Foundation for Quality Management
Enabel	Belgian development Agency
ENE	ETF Network for Excellence
ENESAT	Network for Excellence Self-Assessment Tool
EPP	Basic Education for a Productive Future
ETF	Education and Training Foundation
EU	European Union
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HDI	Human Development Index
IDE	Empowering entrepreneurs to end poverty
ISO/DIS 21001	Management systems for educational organisations
LuxDev	Luxembourg Development Cooperation
NGO	Non-Governmental Organisation
NQA	Namibia Qualifications Authority
NTA	Namibia Training Authority
PPP	Purchasing Power Parity
TEVETA	Technical, Entrepreneurial and Vocational Education and Training Authority
TVET / VET	Technical and Vocational Education and Training

Where to find out more

Website

www.etf.europa.eu

ETF Open Space

<https://openspace.etf.europa.eu>

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linkedin.com/company/european-training-foundation

E-mail

info@etf.europa.eu



European Training Foundation

