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ICESCO Education Ministers Conference

ICESCO EMC 3

Beyond Transforming Education Summit:
from Commitments to Actions

3.1

The Progress of Education Transformation from Commitments to Actions 2022-2024: Post Transforming Education Summit (TES)

Muscat,
Sultanate of Oman

2-3
October

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Executive summary: Taking steps to transform education

This report, *The Progress of Education Transformation from Commitments to Action 2022-2024: Post Transforming Education Summit (TES)*, aims to monitor the progress made by ICESCO member states in translating their commitments at the Transforming Education Summit into practical action, and highlight the past and current key practices they have taken, as well as those they plan to take in order to fulfil their commitments towards transforming education. The report also aims to provide opportunities to exchange good practices and ideas among all Member states and promote the presentation of diverse perspectives on the roadmap for moving from commitments to practices for transforming education.

Main findings and recommendations

The main findings and recommendations of the report presented in this executive summary focus on the priority subtheme commitments reported by ICESCO member states in September of 2022, as well as being informed by the responses to the survey undertaken to inform this report. These priority subthemes form the basis of the roadmap moving from commitments to practices for transforming education. The priority subthemes include digital learning, governance and finance, inclusion, equity and gender equality, teacher professional development, and greening schools.

- The data and survey responses from ICESCO member states indicate a strong commitment to adapting education to the digital age, with significant emphasis on **digital transformation and learning**. Countries like Bangladesh and Malaysia have implemented comprehensive national strategies for digital learning, reflecting widespread adoption of digital platforms. However, persistent challenges in infrastructure, particularly in low-income countries, hinder the effective implementation of these strategies. The available literature corroborates these findings, highlighting the need for improved digital infrastructure.
- For **governance and finance**, the survey data reveals that many countries prioritize strengthening educational governance and securing sustainable financing. There is a clear drive for improvements in domestic financing and governance structures to ensure the efficiency and effectiveness of public education spending. The literature supports these priorities, with examples from Morocco and Oman, where successful governance reforms have been implemented through transparency initiatives and performance management systems. However, financial constraints remain a significant challenge in some countries.
- There is also a strong commitment to **inclusion, equity, and gender equality** among ICESCO member states. Countries like Jordan and Palestine have implemented policies aimed at reducing gender disparities and promoting equitable access to education. However, gaps remain in fully integrating these principles into national policies, especially in reaching marginalized groups. Studies show progress in promoting gender equality, but also highlighting the structural barriers that limit the reach of these reforms, particularly in lower-income regions. Evidence from across ICESCO member states highlights a need for targeted interventions to overcome these barriers to broader inclusion.



- **Teacher training and professional development** have also seen significant advancements in countries such as Egypt and Cameroon. There is a clear focus on modern teaching methods and educational technologies, along with efforts to enhance working conditions for teachers. The literature supports these developments, also stressing the importance of aligning teacher education with sustainable development goals. Other studies have underscored the need for comprehensive reforms in teacher education to better prepare educators for the demands of digital societies.
- **Efforts to green schools**, including integrating environmental sustainability into school operations and curricula, are gaining traction among ICESCO member states. Countries such as Saudi Arabia and Suriname have implemented comprehensive frameworks to promote sustainability in educational institutions. The literature reinforces these findings, highlighting the importance of greening schools as a key component of education for sustainable development.

A ten-year roadmap for transforming education systems in the Islamic World

Based on these priority subthemes, and the evidence on good practice case studies and from the literature review, a ten-year roadmap for transforming education systems in the Islamic World has been proposed. The roadmap covers four phases, which focus on foundation setting, systemic integration and inclusion, continuous improvement, and global leadership.

- Phase 1 (0-2 Years) is dedicated to **foundation setting**, focusing on establishing a solid base for educational and digital infrastructure, enhancing governance, securing sustainable financing, and modernizing teacher training. It calls for countries to conduct national audits to identify gaps in infrastructure and launch initiatives to improve educational services and connectivity in underserved areas. Simultaneously, governance structures can be improved through efforts to increase efficiency in spending, such as results-based budgeting and transparent financial management systems. Successful models from countries like Morocco and Oman can serve as frameworks for these reforms.
- Phase 2 (3-5 Years) focuses on **systemic integration and inclusion**, particularly integrating gender equality and inclusion into the education system, expanding access to ECCE, and promoting the greening of schools. Efforts in this phase will build on the foundation set in Phase 1, with targeted interventions to eliminate barriers to education for marginalized groups and ensure that national policies reflect commitments to equity.
- Phase 3 (5-9 Years) centres on efforts to **make continuous improvements through innovation and scaling successful practices**. With foundational conditions in place and efforts to promote inclusion, early learning, and sustainable schools in action, governments can focus on systemic improvements and scaling proven models. Regular upgrades to digital infrastructure will be necessary to keep pace with technological advancements, and further research will be needed to inform new practices and policies as contexts – and commitments – begin to change.
- The final phase 4 (10+ Years) offers an **opportunity for evaluation of the reform process and global leadership**. Countries can conduct impact and process evaluations of the consolidated efforts to transform education. The results of these evaluations can be shared with the global community to contribute to global knowledge on transformative education reform. Within ten years, ICESCO member states can position themselves as global leaders in education transformation by sharing successful models with the international community and advocating for global policies that support equitable and sustainable education systems worldwide.

1. Background and rationale for the report

1.1 A call to transform education

Prior to the COVID-19 pandemic, education systems worldwide were said to be suffering from a triple-headed crisis in terms of equity and inclusion, quality, and relevance. The pandemic further exacerbated these challenges.

In an effort to address these challenges head on, in September 2022, the UN Secretary General convened the Transforming Education Summit (TES) to “fundamentally rethink the purpose, content, and delivery of education in the 21st century”, to put education on the political agenda, both nationally and globally, and to revitalize efforts countries are making towards achieving Sustainable Development Goal 4 (SDG 4).

Over the next year, 141 countries would submit national statements of commitment to transforming education – including 41 ICESCO member states. In total, 163 countries worldwide had convened national cross-sectoral consultations committed to acting, and raise budgets, to transform their education systems (UNESCO, 2023a).

Five action tracks emerged in the lead-up to the summit, aiming to redefine education systems. These include:

- 1. Teachers, Teaching, and the Teaching Profession**
- 2. Learning and Skills for Life, Work, and Sustainable Development**
- 3. Inclusive, Equitable, Safe, and Healthy Schools**
- 4. Financing of Education**
- 5. Digital Learning and Transformation (UNESCO, 2023b).**

The action tracks seek to transform education for peace, inclusion, and sustainability, and were carefully selected promote action at both national and international levels.

To facilitate national monitoring and reporting on progress, these five thematic tracks were further distilled into nine main themes and 37 subthemes. The details are presented in Table 1.

The progress made in transforming education is being monitored by the SDG4 High-Level Steering Committee (HLSC). The Steering Committee is also charged with promoting and facilitating knowledge practice and exchange, youth engagement, and cross-sector and multilateral cooperation (UIS, 2022).

The TES Follow-up Strategy adopted five actions which called for countries to address education transformation through 1) a whole-of-government and whole-of-society approach, 2) including education transformation in the Pact for the Future, 3) engaging young people, teachers and other partners and stakeholders to nurture and sustain the momentum of the Summit, 4) transforming financing, and the view of education held by governments and finance ministries, and 5) engaging with five global multi-stakeholder initiatives and their respective Calls to Action (High Level Steering Committee, 2022).

Table1: Themes and sub-themes

Main theme	Sub themes
Content and methods	Curricular content –what to learn
	STEM
	Physical/mental health and safety
	Foundational Learning
	Comprehensive sexuality education
	TVET and skills for work
	21st Century skills
	Socio emotional learning and values education
	Education for sustainable development/greening education
	Assessment methods
Pedagogical approaches –how to teach & learn	
COVID19- recovery	COVID19- recovery
Digital transformation and learning	Connectivity
	Digital regulation
	Digital Learning
Early childhood	Early childhood care and education
Governance and financing	Domestic financing
	Data management
	Governance
International aid	
Higher education and research	Research and development
	International mobility in higher education
	Higher education access and inclusion
Inclusion, equity, and gender equality	Gender equality, girls' education
	Inclusion and equity (general)
	School meals and nutrition
	Financial support and incentives
	Cultural and linguistic minorities
	Disabilities and special needs
	Rural and remote residents
	Poverty/ low-income groups
	Refugees, displaced persons and migrants
Teachers	Teacher supply and deployment
	Teacher certification and qualification
	Teacher training and professional development
	Teacher working conditions
Youth engagement	Youth engagement

Source: UNESCO, 2023a.

TES adopted six global multi-stakeholder initiatives¹, such Initiatives seek to leverage greater financial, technical and political support for country-level implementation to respond to the series of Calls to Action launched at the Summit.

Related to these initiatives, roadmaps and monitoring frameworks are being developed, and progress toward achieving the goals of these initiatives will be reported to the HLSC of SDG4. The roadmaps and frameworks will include both advocacy and resource mobilization strategies. The Global Initiatives are multi-partner initiatives aimed to mobilize cross-country cooperation, and to both address the urgent post-recovery needs and pave the way for the transformation of education systems. These initiatives are:

- 1. Greening Education Partnership**
- 2. Gateways to Public Digital Learning**
- 3. Coalition for Foundational Learning**
- 4. Education in Crisis Situations: Partnership for Transformative Actions**
- 5. Global Platform for Gender Equality and Girls' and Women's Empowerment in and through Education**
- 6. Global Youth Initiative**

As part of undertaking these initiatives², seven calls to action included 1) getting every learner climate-ready, 2) connecting every child and young person to digital solutions, 3) addressing the crisis in foundational learning, 4) enabling all crisis-affected children and youth to access inclusive, quality, safe learning opportunities, 5) advancing gender equality and girls' and women's empowerment, 6) transforming the financing of education by investing more, more equitably, more efficiently, more innovatively, and 7) empowering young people to be effective leaders in reshaping education.

Two action tracks are presently being implemented by UNESCO, these are open to all stakeholders – public and private – and young people. The tracks will cover Action Track 1: Inclusive, equitable, safe and healthy schools and Action Track 2: Learning and skills for life, work and sustainable development.

1.2 Why revisit TES at the ICESCO Education Ministers Conference?

The upcoming ICESCO Education Ministers Conference is an opportune moment to revisit the commitments made by countries to the TES process and examine the extent to which commitments are translated into actions and practices. The shared values of ICESCO member states, in education and beyond, provide a unique opportunity to share and learn from practices in transforming education that may be more culturally, socially or economically viable as when compared to other country groupings. Indeed, agreements on priorities already made through ICESCO, underline this reality.

Furthermore, revisiting the TES allows for cross country learning opportunities, in fast moving economic and geopolitical contexts. Countries continue to face new challenges in their efforts to

1 <https://transformingeducationsummit.sdg4education2030.org/global-initiatives>

2 Greening Education Partnership (<https://www.unesco.org/en/sustainable-development/education/greening-future?hub=25>); Gateways to Public Digital Learning (<https://www.unesco.org/en/digital-education/learning-platforms-gateway?hub=25>); Coalition for Foundational Learning (<https://www.unesco.org/sdg4education2030/en/knowledge-hub/global-initiatives/coalition-foundational-learning>); Education in Crisis Situations (<https://www.unesco.org/sdg4education2030/en/knowledge-hub/global-initiatives/education-crisis-situations?hub=25>); Global Platform for Gender Equality (<https://www.unesco.org/sdg4education2030/en/knowledge-hub/global-initiatives/gender-equality-platform?hub=25>); and the Global Youth Initiative (<https://www.unesco.org/sdg4education2030/en/knowledge-hub/global-initiatives/global-youth-initiative?hub=25>).



transform education, and ICESCO provides a suitable forum for reflection, and evidence building, allowing countries to benchmark their efforts against peer nations, and foster collaboration in policy learning and best practices.

ICESCO envisions “Promoting Access to Quality Education for All” as its central goal within the education pillar. Under this overarching vision, five sub-pillars serve as key action areas to ensure excellence in education (ICESCO, 2017):

- 1. Ensuring Education for All and Gender Equality: ICESCO emphasizes equity and equal opportunities, striving to provide education to everyone, regardless of gender.**
- 2. Developing Educational Methods for Creativity and Identity Preservation: The organization aims to foster creativity and skills development while preserving cultural and civilizational identities.**
- 3. Achieving Quality Governance in Educational Systems and Infrastructure: ICESCO focuses on improving educational governance and infrastructure, including the construction of schools.**
- 4. Providing Education for Refugees in Conflict-Affected member states: Addressing the educational needs of refugees from wars and conflicts is a priority.**
- 5. Complementing Higher Education and Technical Research for Localized Technologies and Labor Market Demands: ICESCO recognizes the importance of aligning higher education and vocational research with technological localization and labour market requirements.**

These five pillars, along with the 5-TES thematic action tracks, demonstrate ICESCO’s commitment to transforming education in alignment with its strategic goals. Additionally, both ICESCO and the TES initiative are guided by the 2030 Agenda and its education-related goals, particularly SDG 4, which aims to ensure inclusive and equitable quality education for all, promoting lifelong learning opportunities.

The COVID-19 crisis has underscored the urgency for ICESCO member states to rethink and reimagine education. By transforming education toward peaceful, inclusive, and sustainable futures, ICESCO contributes to the well-being of humanity and the planet. Revisiting this topic at the ICESCO Ministerial Conference will allow countries to engage with the TES Call to Action, which encourages national governments to prioritize five global multi-stakeholder initiatives.

1.3 What is in this report?

To facilitate discussion of key issues to transforming education in ICESCO member states this report will be made up of three substantive sections, and a discussion section. The first section will review the national commitments to transforming education, including responses to a survey undertaken specifically to map developments in ICESCO member states since 2022. The second section will review the global evidence base on promising practice and action for transforming education – focussing on ICESCO priorities. The third section will draw the two previous sections together to assess where and how the available evidence can inform the ambitions for transforming education in ICESCO member states, and which gaps may need to be filled.

The sections will include two types of empirical work. First, descriptive analysis will be undertaken of the commitments reported to UNESCO by ICESCO member states in the dashboard of country commitments and responses to a survey sent to ICESCO member states to report on actions towards, and amendments to, these commitments. Second, a systematic review of global literature will be undertaken to identify promising practices for national actions towards transforming education.

For the literature work, the search terms are available in the appendix of this report. Brief summaries of the key methodological choices and details are presented in Boxes at relevant points in the main text.

2. Commitments to transforming education

This section will review the written commitments made by each country and present the commitments by the nine overarching themes and 37 sub-themes as adopted by UNESCO. This review will address simple questions such as: What were popular commitments amongst ICESCO member states? Do the commitments vary by country attributes (by income, regional groupings, and differences by the amount of GDP invested in the education system within ICESCO member states)?

The purpose of this analysis is to identify patterns in the commitments, and to review the initial plans and priorities of ICESCO member states based on TES themes and sub themes adopted by each member country. Results for this section will provide a starting point for assessing 1) determining which themes are priorities for countries, and so focus efforts in evidence building and recommendation setting, 2) understand if groups of countries have similar ambitions and challenges that match to contextual factors – such as income, geography, or existing level of investment in education systems – and foster collaboration between these groups and ICESCO, and 3) assess the dynamic nature of commitment setting amongst ICESCO member states in order to propose suitable means by which countries can monitor progress.

2.1 ICESCO member states commitments to transforming education

Figure 1 reports the number of countries that have mentioned the themes and subthemes in their commitments to TES submitted to UNESCO. The most highly cited themes include digital transformation and learning, governance and finance, content and methods, and inclusion equity and gender equality. Within each of the themes, the most cited subthemes included digital learning, domestic financing, TVET and skills for work, general references to inclusion and equity (although disability and gender are high ranking in their own rights), and teacher training and professional development. In each of these cases at least 3 in 4 ICESCO member states referenced these subthemes – for digital learning and domestic finance this increased to 7 in every 8 responding ICESCO member states .



Box 1: Methods for analysing the UNESCO dashboard data on TES commitments

Out of 53 ICESCO member states, 44 submitted commitment statements. The majority of commitment documents were structured around the 5-TES thematic action tracks.

National Statements of Commitment were informed by national consultations, that had been articulated around nine themes proposed in the TES guidelines for national consultations, the themes are:

1. Covid-19 recovery
2. Resilience to future shocks
3. Addressing educational exclusions
4. Transforming the teaching profession
5. Renewing curriculum content and methods
6. Higher education, research and innovation
7. Digital learning and transformation
8. Financing education
9. Governing education as a common good

These statements were used to develop a dashboard by UNESCO that indicated which countries prioritised which themes and subthemes in their commitments to TES.

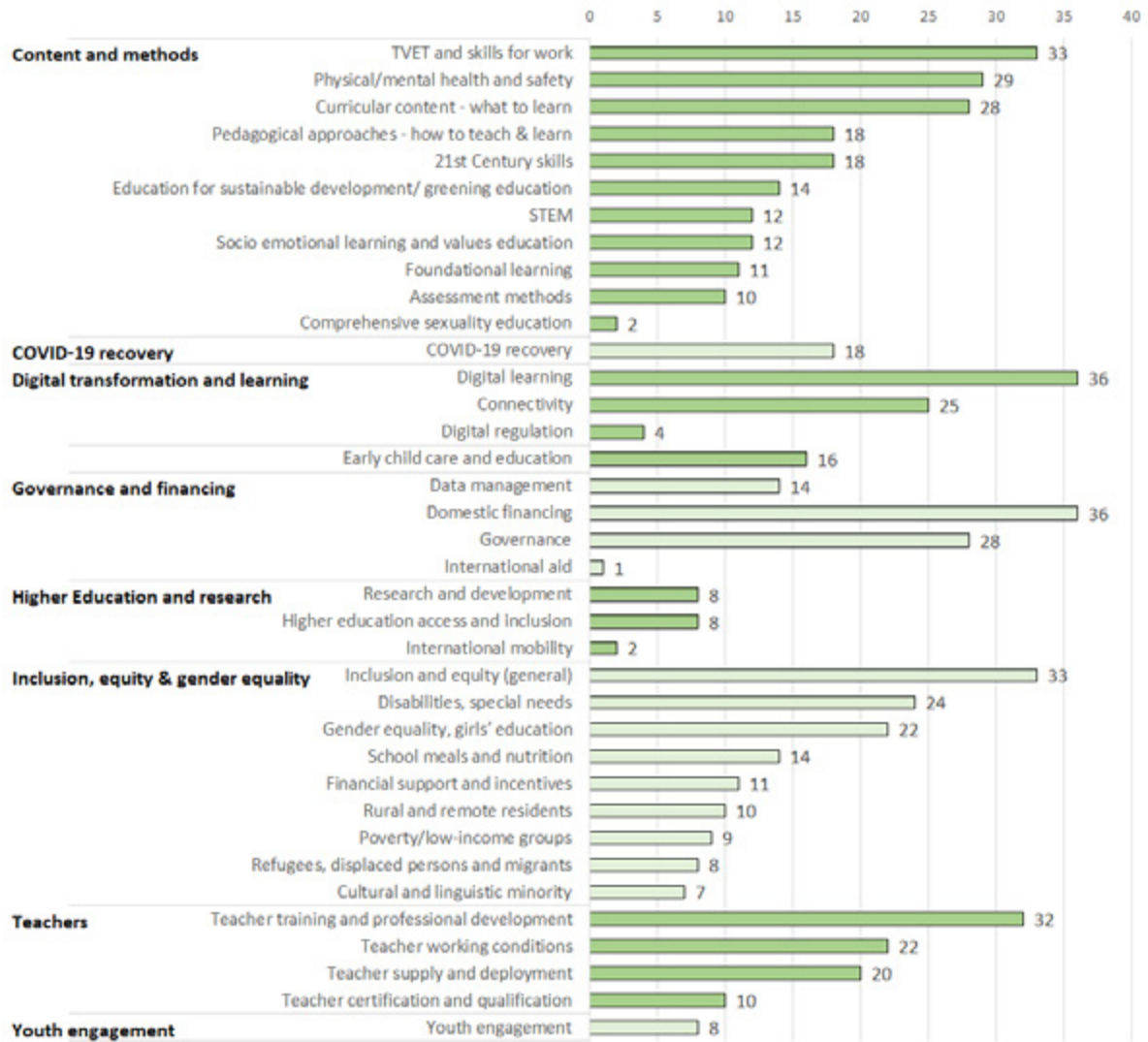
This section reviews the dashboard information first to assess the priority themes and subthemes across ICESCO member states, before complementing these ‘headline’ findings with a structured desk review of the written commitments submitted by countries.

Analysis in section 2.2 breaks down the commitments by country grouping based on income level, geography, and level of education investment using World bank and UIS data. This analysis is categorical descriptive and used to identify patterns in priorities unique to specific country contexts.

Section 2.3 analyses the first round of results of the Survey on Country Actions to Transform Education administered by the ICESCO Secretariat to explore the most up-to-date levels of commitments to themes and subthemes of Transforming Education and compare these to the original commitments reported to TES in September 2022.

Figure 1: Domestic financing and digital learning are the main concerns among ICESCO member states

Number of references to themes and subthemes in ICESCO member states TES submissions



Note: Forty-one of the 53 ICESCO member states reported. Source: UNESCO, 2023.



Across the 7 themes, youth engagement and higher education and research, are shown to be of least concerns to ICESCO member states relative to other options. By subthemes, comprehensive sexuality education, digital regulation, international aid, and international mobility, are concerns for fewer than 1 in 10 countries.

An Analysis of National Statements of Commitment for ICESCO member states was also undertaken, to provide more detail to the statistics offered by the UNESCO dashboard. The notes from this review are reported by country in Appendix 3 (<https://drive.google.com/file/d/116F6H8Vtr15wayjpp2cWz0jJ70tqrPi5/view?usp=sharing>). Based on the desk review, overarching findings are:

- Many commitment documents start with national policies, but these policies were part of ongoing national strategies, not connected directly with TES.
- In some commitment documents actions were introduced, since many countries did start actions related to SDG4 commitments, and 2030 agenda.
- Prioritization of one or more of the nine proposed TES guideline themes was influenced by each country context, particularly those countries facing conflict.

By country, the commitment documents offered further detail as follows:

- Senegal and Tajikistan prioritized the need to strengthen emergency preparedness through capacity building in disaster-risk reduction, and climate-change adaptation, within the education sector.
- Egypt committed to “increasing the supply of adequate and professionally high-quality educators through appointing a targeted number of 150,000 new teachers in the coming five years”.
- Guinea and Niger addressed the need to regularize the situation of teacher’s contracts.
- Nigeria and Tajikistan outlined the important role of early childhood care and education in the acquisition of foundational skills.
- Guyana commits to digitizing the Education Management Information System (EMIS) to support policy development.
- Pakistan referenced their debt burden, and wishes to see the foreign debt burden reduced, or written off, through debt swaps or debt conversions.
- Algeria proposed the creation of special saving banking products for education.
- Algeria, Egypt, Guyana, and Tajikistan outlined the virtues of results-based budgeting in improving efficiency in public education spending,
- Tajikistan committed to strengthening capacity of civil servants involved in financial planning.
- Bangladesh called for a new social contract for education.
- Egypt committed to sustained participation of teachers and educators in decision-making.
- Egypt and Equatorial Guinea committed to amplifying youth and student voices in decision-making.
- Brunei Darussalam referenced cross-sectoral synergies between Ministries.

2.2 Do country categories explain priorities for transforming education?

By understanding the extent to which county attributes link to prioritisation it is possible to focus evidence building and recommendations and facilitate international collaboration between groups of ICESCO member states.

Figure 2 illustrates the relative periodisation of TES themes and subthemes across countries with different income levels, from different regions, and with different level of education expenditure. Each subtheme is represented by a horizontal bar that indicates the proportion of countries within each category (e.g. low income, low-middle income, upper-middle income, high income) – the larger the bar the higher the relative consensus there is for that subtheme within the country groups. The results capture the proportion of responses overall by the average rate of repose by category – and should be read priority levels relative to those of other country groups. This allows for the categories to be meaningfully compared even though number of countries by group vary.

The Figure shows large difference in the likelihood of reporting properties overall by country context, and the type of themes and subthemes covered.

By income, low-income countries report no or few priorities under the themes of COVID-19 recovery, digital transformation, governance and finance, higher education, inclusion, equity and gender equality, and youth engagement. Issues related to cultural and linguistic minorities are most prominent among this group of countries. For countries in the low-middle income groups, priorities include pedagogical approaches (how to teach and learn), STEM, assessment methods, foundational learning, comprehensive sexuality education, connectivity, international aid, financial support and incentives, and rural and remote residents. Issues related to education for sustainable development/greening education, socio-emotional learning and values education, early childcare and education, and higher education access and inclusion are the lowest priorities.

Upper middle-income countries see the highest priorities in digital regulation and in areas related to inclusion for low-income groups, refugees, and rural groups. These countries report relatively low interest in content and methods subthemes. Higher-income groups are dominating interest in COVID-19 recovery, higher education and research, and youth engagement. No high-income country has prioritized financial support and incentives, refugees, displaced persons and migrants, or rural and remote residents.

The Middle East and North Africa (MENA) countries report priorities across all subthemes except for comprehensive sexuality education and international aid, which were only prioritized by sub-Saharan African countries. Education for sustainable development/greening education, physical/mental health and safety, and research and development were relative priorities for the MENA region. In sub-Saharan Africa (SSA) countries, only issues related to international mobility were not prioritized by at least one country. The highest priority subthemes are found in content and methods, governance and finance, and teachers. The subthemes least prioritized by countries in this region were education for sustainable development/greening education, socio-emotional learning and values education, and early childcare and education.

In Central Asia, priorities cover the majority of the themes and subthemes, with foundational learning, digital regulation, higher education access and inclusion, international mobility, and rural and remote residents being the most often selected. Central Asian countries did not prioritize assessment methods, COVID-19 recovery, research and development, or teacher certification and qualification.

For South Asian and Southeast Asian countries, the range of priorities is spread, meaning that no one subtheme stands out as a very high priority for the group. In contrast, several areas were not prioritized by any countries in this group, including foundational learning, digital regulation, higher education access and inclusion, international mobility, poverty/low-income groups, rural and remote residents, cultural and linguistic minority, and teacher certification and qualification.

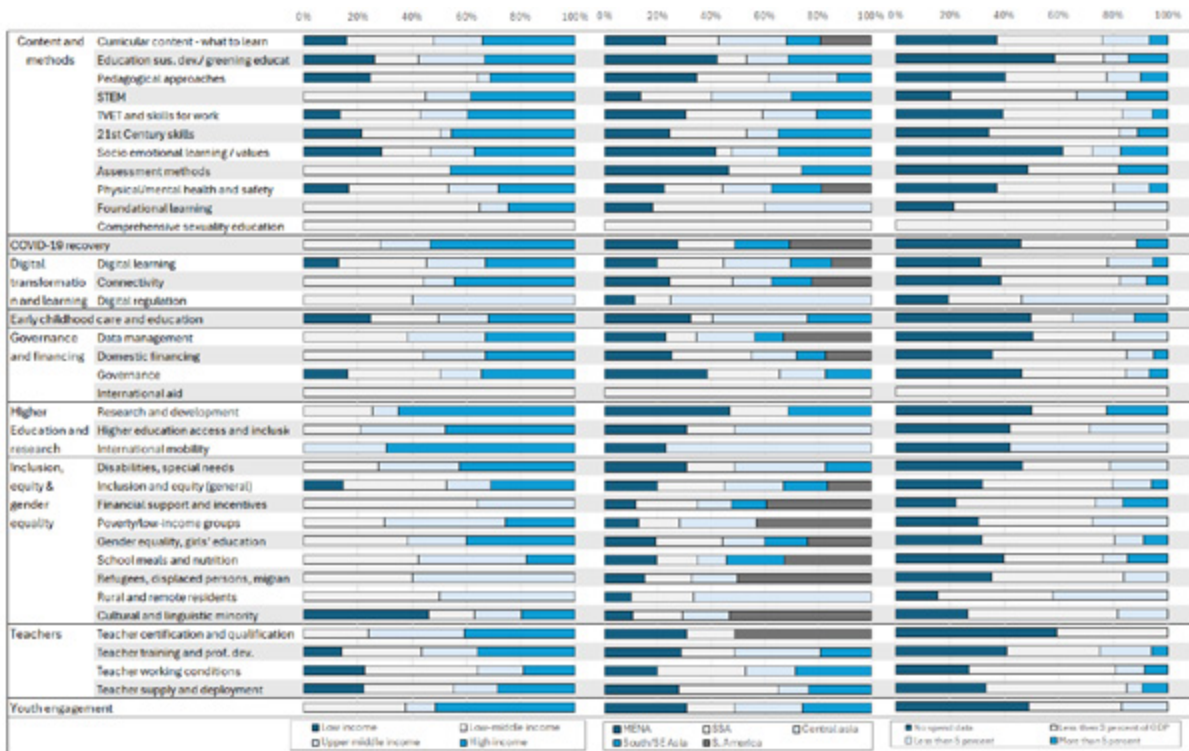




For the two South American countries, inclusion and equity issues dominated, along with teacher certification and qualification. Issues related to higher education and research were not prioritized by either South American country.

By educational expenditure levels, the general picture is most telling. Countries without available education spending data or those reporting spending at levels of less than 3 percent of GDP consistently prioritize more subthemes with higher consensus than mid-level spenders (3 to 5 percent of GDP) and higher spenders (5 percent plus). Only digital regulation and international mobility buck this trend. For the highest spenders, socio-emotional learning and values education, assessment methods, research and development, financial support and incentives, and school meals and nutrition were the most popular.

Figure 2: Distribution of transforming education priorities by income group, geographical region and education spending



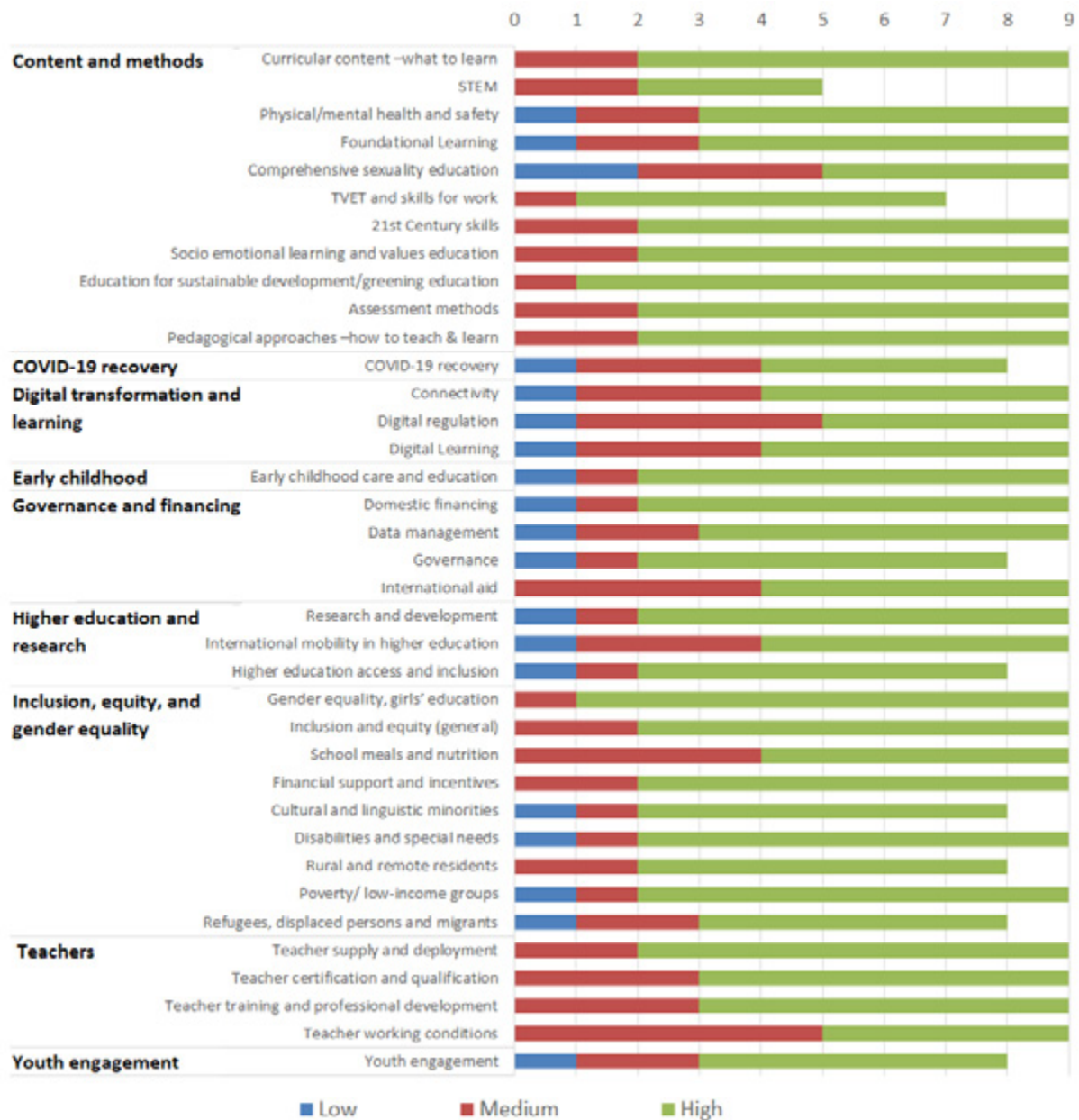
Source: Authors calculations using most recent data for ICESCO member states from World Bank and UIS sources (World Bank, 2024, UIS, 2024).

2.3 How have ICESCO member states commitments to transforming education developed?

Twenty ICESCO member states submitted responses to the ICESCO secretariat questionnaire on updates to the Transforming Education commitments, four reported that they had not originally submitted commitments to the TES (Comoros, Maldives, Oman and Sudan). When asked if the commitments had changes since the original submission, five of the remaining 16 countries – Bahrain, Guinea, Niger, Tunisia, and Yemen – all reported changes to the commitments.

Below, Figure 3 reports the results from 9 countries (Bahrain, Guinea, Lebanon, Niger, Oman, Sudan, Syria, Tunisia, and Yemen) who gave updates on the level of commitment they have for each of the 37 subthemes.

Figure 3: Levels of commitments to themes and subthemes of Transforming Education



Source: Author calculation of ICESCO Secretariat survey including 20 country responses (see Appendix 2).

For countries updating their commitments, the results indicate a strong consensus for high commitment levels in the subthemes of TVET and skills for work, Education for Sustainable Development/Greening Education, and gender equality/girls' education. Curricular content –what to learn, STEM, 21st Century skills, Socio emotional learning and values education, Assessment methods, Pedagogical approaches –how to teach & learn, general inclusion and equity, financial support, rural and remote residents, and the majority of the teacher subthemes were also often highly ranked.



Lower commitments overall are shown for comprehensive sexuality education and digital regulation. Discounting COVID-19 recovery (as this has only one subtheme), the theme of digital transformation and learning has the fewest countries reporting high commitment across the subthemes on average.

3. Promising practices on the path to Transform Education

3.1 Developments around Transforming Education and future opportunities

Education transformation requires the collective commitment and action of visionary political leaders at all levels, as well as parents, students, teachers, and the public at large.

Within this vision, the UN system is primed to support governments and communities on this journey. The SDG4 High Level Steering Committee co-chaired by UNESCO and Sierra Leone will play a key role in ensuring the effective follow-up of the Summit – strengthening global, regional, and national level cooperation.

Following up on the transformative commitments made at the Summit, a call to action by the SDG4 High-level Steering Committee to mobilize solutions to accelerate national and global efforts to achieve Sustainable Development Goal 4. Seven new Global Initiatives launched at the Summit will focus on such solutions to transform education:

- Greening Education to get every learner climate-ready;
- Connecting every child and young person to digital solutions;
- Addressing the crisis in foundational learning among young learners;
- Transforming education systems to enable all crisis-affected children and youth to access inclusive, quality, safe learning opportunities and continuity of education;
- Advancing gender equality and girls' and women's empowerment;
- Transforming the financing of education by investing more, more equitably, more efficiently, more innovatively;
- Empowering young people to be effective leaders in reshaping education.

A call on countries to build on the national SDG4 benchmarking process, by:

- Agreeing to set a small number of indicators, linked to the Global Initiatives, which will be added to the list of SDG4 benchmark indicators.
- Setting national targets for these indicators for 2025 and 2030. These will represent the transformation countries want to see coming out of this Summit. Progress towards them will be reviewed on an annual basis.

In addition, selected policy areas and the volume of financing linked to Global Initiatives will also be monitored to assess whether country and development partner efforts are in the right direction. This follow-up mechanism will be led by the SDG4 High-level Steering Committee and coordinated by the UNESCO Institute for Statistics and the Global Education Monitoring Report, which share the mandate for monitoring and reporting on SDG4.

Within this scope, the “UN Summit of the Future” to be held in September 2024 will provide a further opportunity to take forward the progress from this input.

Following the TES, a multi-stakeholder consultation process, and to stress the importance regional education cooperation mechanisms, four regional coordination mechanisms were established: West and Central Africa; Arab States; Asia and the Pacific; and Latin America and the Caribbean.

In West and Central Africa regions, the IIEP is launching a new series of four Strategic Debates focusing on evidence-informed policy and planning – from design to implementation. Each debate will focus on a specific theme and will facilitate discussions on challenges, innovations, and prospects in the use of data and evidence to inform sectoral analysis, and to develop impactful and relevant policies to translate and use data (IIEP, 2024).

In Arab States region, the UNESCO Office in Beirut supports Arab member states in setting SDG 4 regional and national benchmarks to monitor their progress towards SDG 4. The Office has conducted several regional technical workshops on the SDG 4 benchmarking process, this process allows countries to define their own targets, considering their unique contexts and starting points, the goal of this process is to accelerate progress toward the shared education objectives (UNESCO, 2024a).

In Asia and the Pacific region, UNESCO, in collaboration with UNICEF, will host the 6th Asia-Pacific Meeting on Education 2030 (APMED 6) in September 2024. this event is carried out under the umbrella of the Asia-Pacific Learning and Education 2030+ (LE2030+) Networking Group,

Over the course of four days, APMED 6 will examine actions taken since the 2022 National Statements of Commitment to Transform Education, as well as review new initiatives to transform education towards becoming more relevant, inclusive, resilient, and environmentally sustainable. This meeting will also contribute inputs from Asia-Pacific to the 2024 Global Education Meeting, to take place late October 2024, in Brazil (UNESCO, 2024b)

3.2 How are ICESCO member states meeting their commitments to transform education?

The following findings on how ICESCO member states are meeting their commitments to transforming education have been collected through country questionnaires undertaken by the ICESCO Secretariat (See Appendix 2). On a number of occasions these actions actually precede the submission of commitments to UNESCO in September 2022, however, they do represent efforts by countries to transform education by theme and subtheme and so have been retained (and noted) as examples of actions with potential to transform education.

The following eight sections cover the responses of the 20 responding ICESCO member states by themes and subthemes as reported in Table 2. These member states include Bahrain, Bangladesh, Cameroon, Comoros, Egypt, Gambia, Guinea, Jordan, Lebanon, Malaysia, Maldives, Mali, Morocco, Niger, Oman, Palestine, Sudan, Syria, Tunisia, and Yemen. The selection of the subthemes is based on priority given to the subthemes by all ICESCO member states in the original TES submissions to UNESCO and reported in this report in Figure 1 above. For each of the Theme sections (3.2.1 to 3.2.8) spotlights have been included to:



Table 2: Themes and subthemes covered in this report

Theme	Subtheme
1. Content and methods	TVET and skills for work; Physical/mental health and safety
2. COVID19- recovery	COVID-19 recovery
3. Digital transformation and learning	Digital learning, Connectivity
4. Higher Education and research	Higher education access and inclusion; Research and development
5. Inclusion, equity and gender equality	Inclusion, equity and gender equality; Gender equality, girls' education; and Disabilities, special needs
6. Early childcare and education	Early childcare and education
7. Teachers	Teacher training and professional development; Teacher working conditions
8. Governance and financing	Governance
9. Youth engagement	Youth engagement

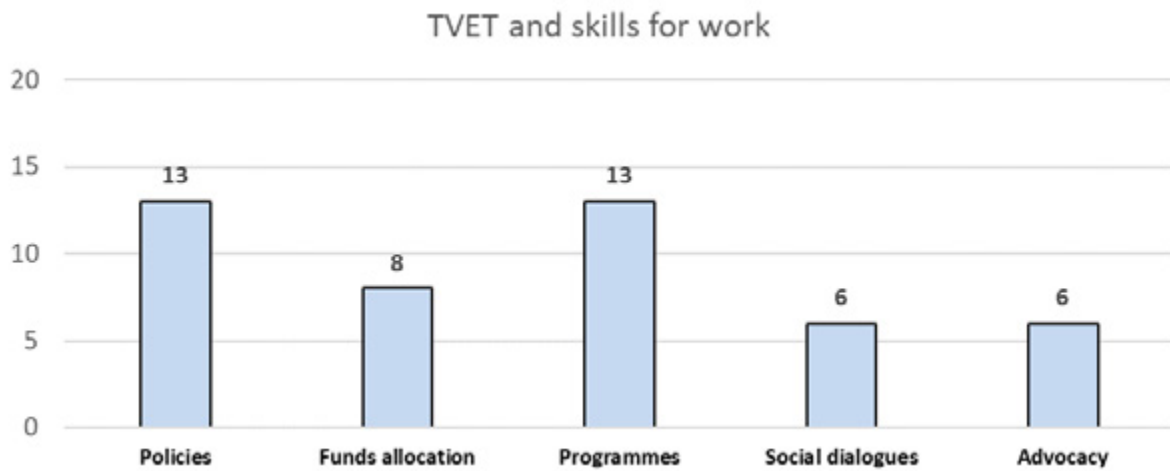
3.2.1 Content and methods

Eighteen of the 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Content and methods?'. The following sections review in greater detail responses to the requests for action on the subthemes of: TVET and skills for work, and Physical/mental health and safety.

- ***TVET and skills for work: areas of action***

The survey evidence indicates a strong emphasis on two of the five action areas for TVET and skills across different country responses: policies and programmes (Figure 4). Policies are mentioned in 13 out of 16 country responses, as are programmes, reflecting a focus on implementing targeted initiatives aimed at achieving strategic goals.

Figure 4: Policies and programmes are the most common TVET and skills for work action with 13 countries reporting activities out of 16 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **TVET and skills for work: policy details**

The country-level survey evidence highlights various initiatives aimed at enhancing vocational and technical education, including curricula development, vocational educational policies, infrastructure and tools for training, professional development, support and monitoring.

In Bangladesh, vocational education has been introduced to secondary education and is being piloted in schools, with plans for a national rollout. The Technical and Vocational Education and Training (TVET) curriculum has been updated to meet the challenges of the Fourth Industrial Revolution and job market demands. In 2022, the technologies of Diploma in Engineering and trades of SSC and HSC (Secondary School Certificate and Higher School Certificate) Vocational were merged with mother technologies, aligning with National Technical and Vocational Qualifications Framework (NTVQF) levels. Lebanon’s Ministry of Education and Higher Education (MEHE) advances vocational and technical education by modernizing curricula, collaborating with industry for hands-on training, and emphasizing essential work skills. Training facilities are enhanced, and career guidance is provided to prepare students for the workforce. Oman is keeping pace with rapid changes in information and technology by launching the Omani National Framework for Future Skills in 2021. Additionally, a technical and vocational education track was introduced in school education in the academic year 2023, with curricula in information technology and entrepreneurship. This initiative aims to gradually expand based on specialization and geographical needs across the Sultanate of Oman.

In advance of the TES in September 2022, Malaysia had implemented the Vocational Education Transformation Plan (TPV) between 2012 to 2020, funded by the Ministry of Education’s operational expenditure. The plan involved various government agencies, industries, and educational institutions. All 606 diploma programs are accredited, and the employability rate of Vocational College graduates exceeds 95%. In Morocco, the 2022-2026 roadmap for a quality public school system includes a structuring program focused on diversified courses. This program aims to implement an attractive professional pathway that aligns with the needs of the national economy, thereby improving the connection between education and employment. Cameroon is promoting a skills development paradigm that emphasizes the alignment between training and employment, particularly through vocational education. In 2024, Cameroon developed and validated a national strategy for the



development of technical and professional skills under the leadership of the ministry responsible for professional training. Additionally, the Support Project for the Development of Secondary Education and Skills for Growth and Employment (PADESCE), financed by the World Bank, contributes to expanding and improving the quality of professional training and strengthening the professionalization of secondary education.

In Palestine, the Ministry of Education has undertaken several initiatives aimed at improving vocational and technical education. These efforts include building vocational schools, equipping them with modern tools and equipment that simulate real work environments, and aligning education with labour market needs to ensure that students acquire relevant skills. In Mali, a work-study training system (school-company-school) is being set up, requiring curriculum reform. Awareness campaigns highlight the importance of technical and vocational education. Guinea focuses on training women for empowerment and establishing ERAM (*Ecole de Réparation Automobile de Mopti*) for youth qualification to improve employability and socio-economic development.

Tunisia includes technical education within preparatory schools and secondary education. There are centres for training teachers in various specializations, and an educational track for vocational training affiliated with the Ministry of Vocational Training and Employment. Yemen has technical and vocational institutes under the Ministry of Education and also provides vocational education in general education schools. However, this sector requires additional support to meet its goals.

In Bahrain, efforts are concentrated on reviewing and updating policies and legislation related to post-secondary education to improve the efficiency of higher education institutions. This includes issuing regulatory decisions related to higher education, auditing internal regulations of higher education institutions to ensure compliance with the Higher Education Law, and monitoring how well higher education outcomes align with labour market requirements.

Syria's Ministry of Education helps students, youth, and adults develop the knowledge and skills needed to build a peaceful and sustainable world. Egypt is focusing on the development of technical education as a means to enhance vocational skills and better meet the demands of the labour market. Comoros has a policy to increase teachers' salaries. Niger has a professional technical education and training program.

Altogether, the evidence shows a strong focus on improving vocational and technical education to meet current and future job market demands, emphasizing curriculum development, teacher training, and industry collaboration.

A Policy Spotlight on effective TVET and skills for work: The case of Cameroon

In Cameroon, the government is focusing on aligning education with employment through a skills development paradigm that emphasizes learning trades. This approach aims to ensure that training programs are directly relevant to job market needs. In 2024, a national strategy for the development of technical and vocational skills was developed and validated under the leadership of the Ministry in charge of vocational training. This strategy is part of a broader effort to enhance the quality and availability of professional training across the country.

Additionally, the World Bank-funded Support Project for the Development of Secondary Education and Skills for Growth and Employment (PADESCE) plays a crucial role in this initiative. PADESCE aims to expand both the quantity and quality of professional training programs while also strengthening the professionalization of secondary education. These efforts are designed to improve the employability of graduates and support the country's economic growth by providing a workforce that is well-equipped with the necessary skills.

PADESCE in Cameroon aims to enhance equitable access to quality general secondary education and skills development programs, with a particular focus on girls. The project has four main components:

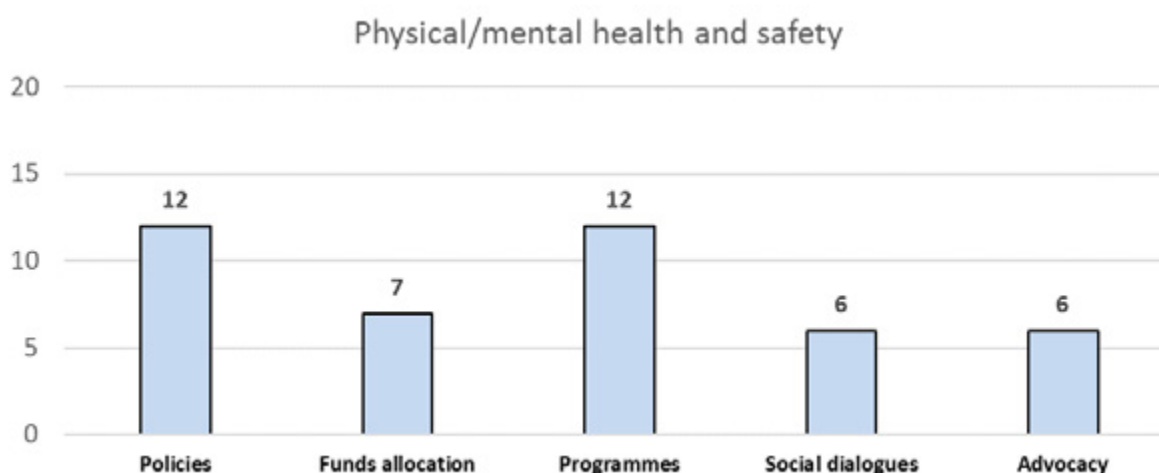
- 1. Support to General Secondary Education:** This component focuses on improving the learning environment in secondary schools and enhancing the capacity of head teachers and new teachers.
- 2. Support to Skills Development:** This component aims to improve the quality and relevance of skills development programs by involving employers, expanding access to market-relevant skills through a competitive fund, and strengthening institutional capacity in the skills development sector.
- 3. Project Management and Technical Assistance:** This includes project coordination, monitoring, evaluation, and technical assistance for capacity-building needs related to project implementation.
- 4. Contingent Emergency Response:** This component provides flexibility for the project to respond quickly to emergencies by reallocating resources in case of a natural or man-made disaster (World Bank, 2020).



- **Physical/mental health and safety: areas of action**

The survey evidence shows that social dialogues and advocacy efforts are least common in the area of physical/mental health and safety (see Figure 5). Policies are mentioned in 13 out of 16 country responses, whereas programmes are also featured in 12 country responses, reflecting a focus on implementing initiatives to achieve strategic goals.

Figure 5: Policies and programmes are the most common Physical/mental health and safety action with 12 countries reporting activities out of 16 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

- **Physical/mental health and safety: policy details**

The country-level survey evidence highlights various policies and programs focused on physical and mental health and safety in educational settings, these include: the implementation of policies and programmes related to health awareness and safety, inclusive supports for disabled children, school health programmes, and mental health supports.

In Bangladesh, the government has established policies to address mental health and safety issues in education. Malaysia has implemented the National Strategic Plan for Mental Health 2020-2025 and the Healthy Mind School Programme, in collaboration with the Ministries of Education and Health. This program aims to enhance students' understanding of mental well-being, improve emotional regulation, and provide professional help when needed. Strategies include mental health promotion, screening, intervention, and parent consultation. The program is implemented nationwide, focusing on early detection and emotional well-being from a young age. Collaboration with government and NGOs supports school counsellors and student well-being.

In Syria, the Ministry of Education focuses on protecting teachers and students from workplace hazards, creating a safe environment without fear of negative consequences. Guinea emphasizes raising awareness about sports and workplace safety to reduce accidents and cardiovascular disease. Mali has endorsed the declaration on school safety, raising awareness about hygiene through WASH programs. Jordan conducts a health awareness education program for students from fifth to tenth grade to support their developmental characteristics. In Tunisia, the Department of School and University Medicine monitors health in educational institutions through examinations, health monitoring, and vaccination. Psychological support is provided by psychologists throughout regional education delegations.

In Gambia, the establishment of a Special Needs Directorate indicates a focus on supporting students with special needs within the educational system. Niger also implements an inclusive education strategy.

Morocco has launched a national program as part of its 2022-2026 roadmap for a quality public school system. This program focuses on school health, aiming to reduce learning obstacles related to health issues. The program targets preschool and primary school students aged 5-8, screening and treating them for visual impairment, preventable deafness, oral health issues, nutritional deficiencies, and reading deficits. Key stakeholders involved in this initiative include the Ministry of National Education, Preschool, and Sports; the Ministry of Health and Social Protection; the Ministry of the Interior; the World Health Organization; and the Saham Foundation. Yemen has a General Administration for School Health that works closely with the Ministry of Health, although there is a recognized need to better integrate these services into the education system and curricula.

In Cameroon, the government implements several programs to address mental health and safety, including psycho-social support, the PRONEC-REAMORCE initiative, the Peace Incubators Initiative, and the national strategy to combat gender-based violence, which provides support and assistance to survivors. Palestine's Ministry of Education has undertaken various measures to promote health and safety in schools, focusing on both physical and mental well-being. These efforts include organizing awareness and education campaigns, workshops, and lectures on healthy nutrition, physical activity, and mental and psychological health for both students and teachers. Bahrain's Ministry of Education has established psychological and academic counselling centres in all government schools. The apprenticeship program aims to develop the capabilities of social guidance specialists, enhance their role in providing psychological and social support to students, and train them to address contemporary educational and social challenges. In Oman, educational services provided within schools are closely integrated with health services and psychological support. Each school has a department focused on awareness and school health, a resident nurse, and a social worker, with most schools also having a psychologist.

Overall, the evidence indicates a strong focus on mental health, safety, and well-being in educational settings across these countries, with various programs and policies aimed at supporting students and educators.

3.2.2 COVID-19 recovery

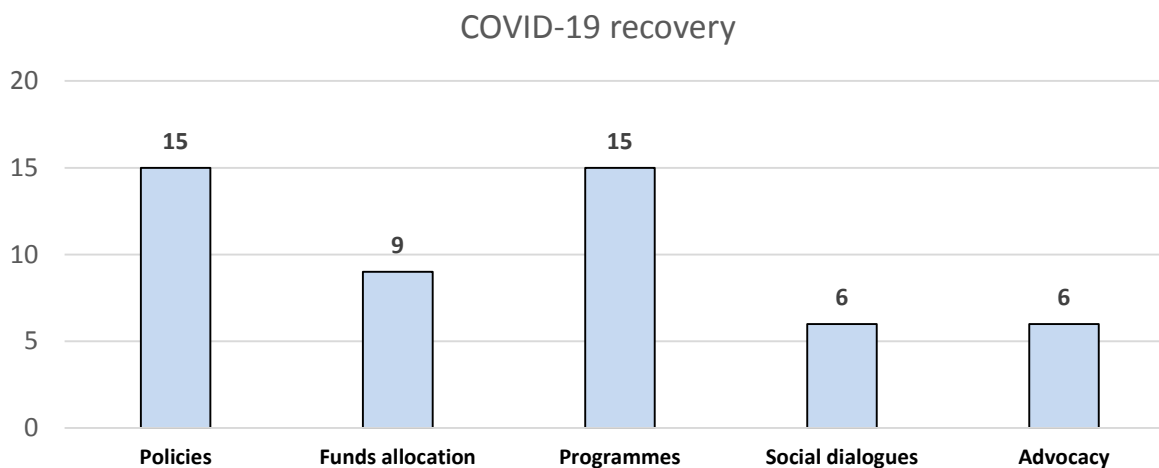
All 20 of the responding countries responded positively to the question: Have you undertaken action in relation to the theme of: 'COVID-19 recovery?'.

- ***COVID-19 recovery: areas of action***

The survey evidence highlights a focus on policy and programming in the area of the COVID-19 recovery. Policies are mentioned in 15 out of 20 country responses, the same numbers as programmes, reflecting a commitment to implementing initiatives aimed at achieving strategic goals as well as the importance of establishing statutory responses.



Figure 6: Policies and programmes are the most common COVID-19 recovery actions, each with 15 countries reporting activities out of 20 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **COVID-19 recovery: policy details**

The country-level survey evidence highlights various strategies and initiatives implemented by different nations to address educational challenges during and after the COVID-19 pandemic. These include digital learning and curriculum change, health and safety promotion in schools, pandemic response and continuity of education delivery, and learning recovery strategies.

Bangladesh has focused on enhancing learning quality through digital learning initiatives, producing standard digital content for grades one to 10, and developing a National Blended Education Master Plan. The government emphasizes formative assessments and competency-based approaches and has transformed the curriculum to integrate experiential pedagogy. A remedial education package was introduced for primary education, with over 200,000 at-risk students receiving catch-up learning support. The Maldives arranged for virtual education by providing internet facilities and preparing lessons to ensure educational continuity. Oman made significant efforts during and after the pandemic, embracing e-learning and blended learning approaches. The Ministry of Education adapted educational content to fit the exceptional circumstances, focusing on essential knowledge, skills, and values. The Ministry also developed a student assessment system aligned with both in-person and online learning methods. Oman's Ministry of Education, in collaboration with international organizations such as UNESCO and UNICEF, organized a national conference to discuss strategies for addressing learning loss.

Oman prioritized the vaccination of teachers and students to facilitate the safe return to partial in-person education. Syria's Ministry of Education provided programs to help overcome COVID-19 and reduce symptoms. Jordan produced television lessons for the Darsak platform, with projects like the Learning Bridges Program supporting student learning in key subjects. UNICEF has supported these initiatives, and evaluation studies are underway to assess their impact. Teacher training programs focused on therapeutic interventions for Arabic and mathematics teachers. Tunisia developed a participatory strategy involving various stakeholders to address the pandemic's impacts, forming crisis committees and ensuring logistical supplies to prevent the spread of COVID-19.

Cameroon has focused on capitalizing on and sustaining the achievements made during the response to COVID-19. Niger focused on ensuring educational continuity during the pandemic. Sudan adhered to health directives within daily school programs. Comoros reports having implemented a program to eliminate COVID-19 impacts. Guinea prioritized raising awareness about post-COVID-19 health and reducing utility costs to support public health and household economies. In Palestine, the Ministry of Education quickly adapted to the crisis by developing a plan in collaboration with various stakeholders to manage the educational process while ensuring the safety of students, teachers, and administrative staff. This plan included adopting a distance learning model to maintain educational continuity while keeping students safe. Yemen took precautionary measures to protect students and staff during the pandemic, ensuring that safety protocols were followed. In Bahrain, specific measures and strategies were implemented, although the details were not provided in the text.

Malaysia implemented guidelines for school management in the new normal and published the Malaysia Education Blueprint 2023-2025. Mali utilized funding from the Global Partnership for Education (GPE) to implement remedial courses, accelerated learning programs, and distance education, ensuring safe school reopening. In Gambia, efforts have been focused on increasing the number of learning hours to compensate for time lost during the pandemic. Morocco's Ministry of Education has implemented a comprehensive strategy that includes academic support, reinforcement, and remediation measures spread throughout the school year to assist students with learning difficulties and to address the learning losses incurred during the pandemic. Lebanon implemented a five-phase training plan for teachers to support learning recovery in Mathematics and languages, training thousands of teachers across different phases.

Across all countries, the survey evidence demonstrates a commitment to educational continuity and recovery through digital initiatives, training, funding, and collaboration among stakeholders.

A Policy Spotlight on effective COVID-19 recovery: The case of Bangladesh

In Bangladesh, the government's education program has focused on enhancing the quality of learning, with efforts intensified due to the challenges posed by COVID-19. Key initiatives include continuing to prioritize learning quality amid the pandemic, developing standard digital content for grades 1 to 10, and disseminating this content across multiple platforms to support learning recovery. The government has also been working on establishing a digital learning ecosystem under the National Blended Education Master Plan, aiming to integrate remote learning into the national education framework.

Additionally, significant reforms have been made to national student assessments at both primary and secondary levels to better understand students' needs and provide targeted support, such as supplementary materials and remedial education. The curriculum has been transformed to incorporate experiential pedagogy, formative assessment, and a competency-based approach, addressing structural barriers to learning. The "National Statement of Commitment" highlights Bangladesh's dedication to sustaining and scaling up effective practices from the pandemic, such as distance learning and diagnostic assessments. Through these efforts, more than 200,000 students at risk of dropping out have received catch-up learning support, demonstrating the government's commitment to improving learning outcomes and reducing dropout rates.



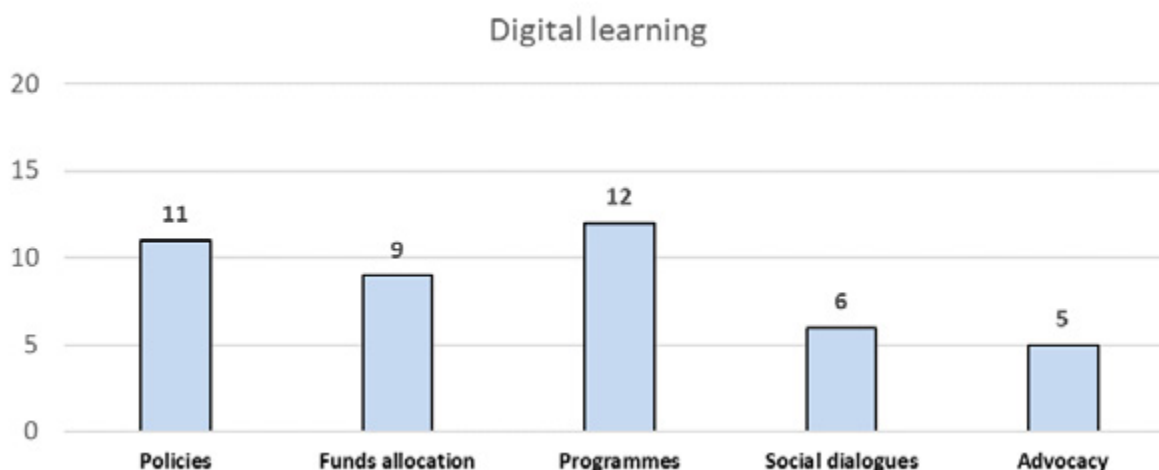
3.2.3 Digital transformation and learning

Eighteen of the 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Digital transformation and learning?'. The following sections review in greater detail responses to the requests for action on the subthemes of: Digital learning and Connectivity.

• *Digital learning: areas of action*

The survey findings suggest that programmatic responses are the most popular in the area of digital learning. Policies are mentioned in 11 of the 18 country responses, however programs are mentioned in 12 country responses, reflecting a marginally greater focus on implementing targeted initiatives to achieve strategic goals in this field.

Figure 7: Programmes are the most common Digital learning action with 12 countries reporting activities out of 18 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• *Digital learning: policy details*

The country-level survey evidence highlights various initiatives aimed at advancing digital learning in the education sector. These include national policies and strategies, learning platforms and resources, hybrid education, and promoting access in schools.

In Bangladesh, significant progress has been made in digital transformation within the education sector, positioning the country as a leader in the global digital transformation initiative launched at the TES. Malaysia is implementing the Digital Education Policy (DEP) to transform the education landscape, aiming to produce a digitally fluent generation. The DEP outlines four objectives, six thrusts, 18 strategies, and 41 initiatives involving students, educators, infrastructure, digital content, and strategic partners. This policy guides the education ecosystem to remain relevant from 2023 to 2030. Jordan is finalizing the national blended learning strategy, employing interactive digital content in classrooms via an advanced e-learning platform. This platform incorporates artificial intelligence for teaching and evaluation, ensuring data security and privacy. Morocco has implemented a 2022-2026 roadmap aimed at establishing a quality public school system for all. As part of this initiative, all primary and secondary classrooms are being equipped with digital projection equipment to enhance the educational impact of teaching resources. By 2022-2023, over 13,000 rooms were equipped with such technology, including 7,500 in primary schools and more than 5,000 in secondary schools.

Palestine's Ministry of Education has adopted a digital transformation policy, learning from the experiences of the Covid-19 pandemic. This policy was further reinforced after the Education Transformation Summit, with a focus on using digital technology and electronic means to improve learning and teaching processes. This includes the adoption of e-learning technologies to support the educational process. Bahrain has implemented a digital empowerment program across all government schools. This includes preparing and issuing guides for digital and distance learning, enhancing teachers' technological skills, training students on the safe use of technology, promoting the production of digital educational content, and employing virtual classrooms through platforms like eduNET. Oman has utilized two primary educational platforms, which became critical during the Covid-19 pandemic. These platforms provide electronic content for all curricula, textbooks, activities, and lessons. They are used interactively, especially during crises and natural disasters, to ensure continuity in education.

Cameroon has been active in implementing digital learning as part of distance learning systems. This includes training trainers and teachers in the development of digital educational content and the hybridization of learning, with programs such as IMAGINECOLE playing a key role. In Mali, the development of distance education is underway within the MIQRA Project framework. In Tunisia, a program for disseminating digital schools is being implemented, along with training modules for distance learning. The Maldives conducts training and exposure programs on digital learning to enhance digital education.

In Syria, the Ministry of Education allows personalized and engaging learning, tailoring the curriculum to students' needs and providing confidential feedback. Guinea is implementing computerized mail management, creating computer centres in schools to facilitate learning through IT tools. Lebanon's Ministry of Education and Higher Education (MEHE) is advancing digital learning by integrating technology into the curriculum, training educators on digital tools, and expanding access to online resources. Yemen is working to introduce the internet in schools, but these efforts require substantial support to be fully realized. Niger focuses on ICT in education.

Overall, the evidence indicates a strong focus on digital transformation in education, with various countries implementing policies and programs to enhance digital learning and infrastructure.

A Policy Spotlight on effective Digital learning: The case of Malaysia

Malaysia's Ministry of Education has launched the Digital Education Policy (DEP) to transform the educational landscape and produce a digitally fluent and competitive generation. This policy, set to be implemented from 2023 to 2030, is structured around four key objectives and is further supported by six thrusts, 18 strategies, and 41 detailed initiatives. These initiatives encompass a wide range of focus areas, including students, educators, educational leaders, infrastructure, digital content, and strategic partnerships.

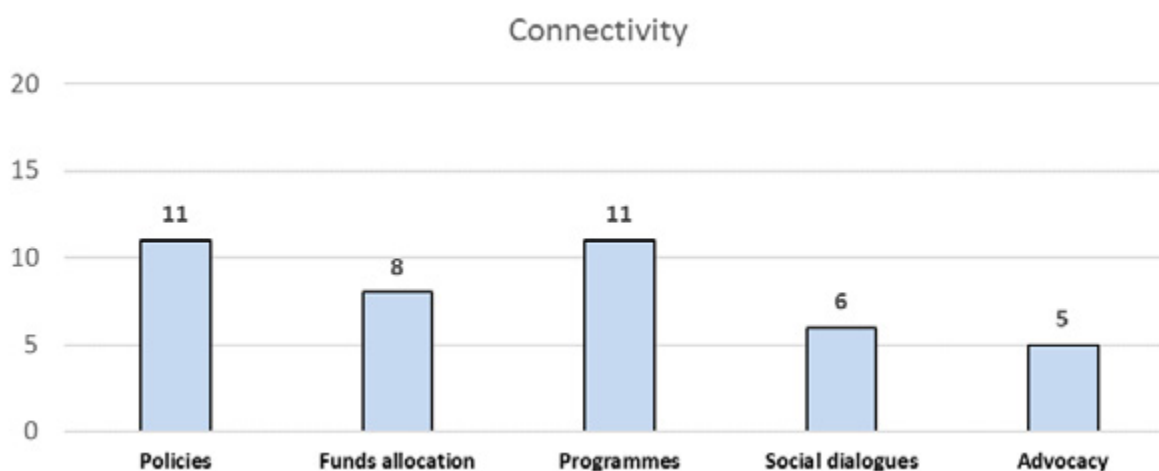
The DEP aims to provide a clear strategic direction for integrating digital technology into Malaysia's education system, ensuring that it remains relevant in the face of rapid technological advancements. By addressing various components of the educational ecosystem, the policy seeks to equip students and educators with the necessary skills and resources to thrive in a digital economy. The comprehensive approach outlined in the DEP is indicative of Malaysia's commitment to fostering a generation that is both competitive and digitally literate.



- **Connectivity: areas of action**

The survey results for connectivity follow a similar pattern to that seen for digital learning, the difference being that funds allocations are a less common action for connectivity in comparison to digital learning. The number of social dialogues and advocacy efforts are the same as those reported for digital learning.

Figure 8: Policies and programmes are the most common Connectivity action with 11 countries reporting activities out of 18 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

- **Connectivity: policy details**

The country-level survey evidence highlights various initiatives aimed at enhancing connectivity. These include national strategies and policies, technical infrastructure, digital platforms, and school and community initiatives.

In Bangladesh, the government has developed a National Blended Education Master Plan to foster innovation. With a public teacher portal of over 500,000 members and a student portal under the Digital Bangladesh initiative, the country is establishing a strong digital education ecosystem. The new curriculum emphasizes digital literacy and citizenship as mandatory subjects. Malaysia's Digital Education Policy (DEP) includes Thrust 4, which outlines strategies to empower infrastructure and infostructure by providing Wide Area Network (WAN) and upgrading Local Area Network (LAN) across educational institutions. These initiatives are being implemented from 2023 to 2030 to enhance digital education delivery for 5.5 million students and teachers. Morocco's digital strategy for the Ministry of National Education, Preschool, and Sports by 2030 aims to create a technologically integrated school system. The strategy has two main objectives: integrating information and communication technologies (ICT) into the construction and implementation of school programs and developing learners' ICT skills. This includes promoting digital culture and generalizing the teaching of computer science.

The Maldives is focused on providing schools with internet connectivity. Jordan annually reviews the technological infrastructure and internet connectivity of schools to ensure optimal service provision at all levels, aiming to provide internet connections and computer equipment in all school facilities. In Tunisia, all educational institutions are connected to the internet. An electronic system allows remote student registration at all educational levels. Digital platforms are unified under the

Tunisia Future Platform, and digital schools and distance learning modules are being implemented. Administrative services are digitized under the General Administration of Information and Electronic Administration, and the national examination system is also digitized. The electronic seal is adopted for baccalaureate diplomas. Guinea has commissioned a national fibre optic network, achieving a 52% internet penetration rate, facilitating easy internet access. In Yemen, e-learning and artificial intelligence initiatives are managed by the General Administration of E-Learning and are progressing well, though additional support is needed.

Cameroon has initiated several digital development actions during the COVID-19 pandemic to improve access to education. These include the establishment of a Distance Education platform, the creation of a Distance Education Centre under MINESEC, and the development of platforms such as *monécolenligne* and *imaginicole*. Additionally, university digital development centres were established to support higher education. Lebanon's Ministry of Education and Higher Education (MEHE) ensures effective communication by providing timely information through websites and social media, offering support services, and partnering with organizations. Events and forums are hosted to connect with the education community and address key issues. Bahrain's Ministry of Education has developed procedural policies to regulate communication between students, teachers, and parents through electronic services. These include the national platform eduNET and the Microsoft Teams application for virtual classes.

Oman's digital transformation project involves re-engineering procedures, evaluating current systems and infrastructure, and implementing improvements based on best practices. The project aims to serve all stakeholders, including students, teachers, parents, and private institutions. The future digital structure will include two main systems: education management, which covers the student life cycle, examination management, and school operations; and enterprise resource planning, which includes human resources, planning and budgeting, asset management, and supply chain management. The government's digital transformation policy provides a financial budget specifically allocated to the Ministry of Education for this purpose.

Niger has a digital education program. In Mali, computer and communication equipment supplies are planned as part of the MIQRA Project. In Gambia, the focus is on the solarization of 1,000 public schools, a project aimed at enhancing the sustainability and energy efficiency of educational institutions. In Palestine, the Ministry of Education has taken steps to strengthen communication with local and international partners. This includes organizing meetings with representatives from the local community to discuss educational challenges and possible solutions, thereby enhancing community participation in the educational process.

Altogether, the evidence shows a strong focus on improving digital infrastructure and connectivity in education to support learning and administration across these countries.

3.2.4 Higher Education and research

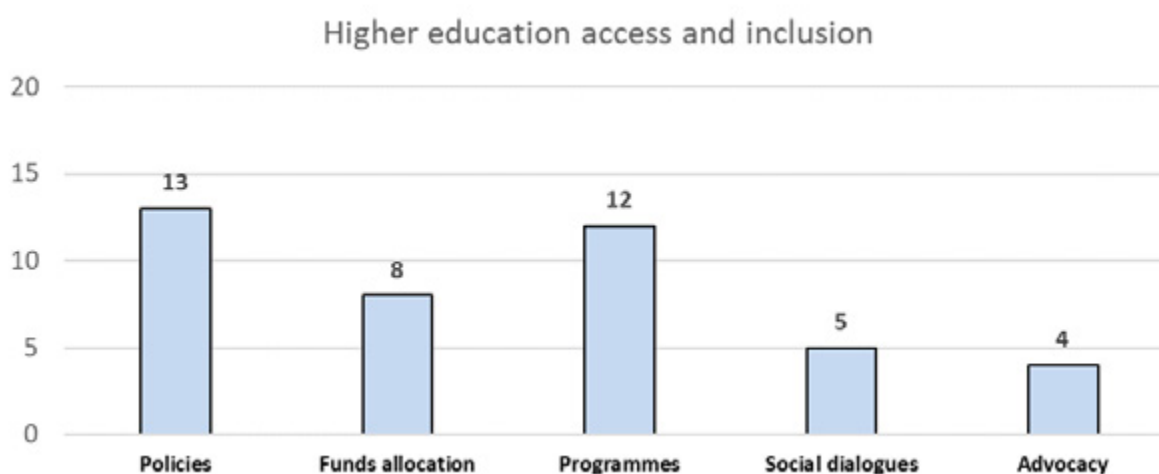
Sixteen of the 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Higher Education and research?'. The following sections review in greater detail responses to the requests for action on the subthemes of: Higher education access and inclusion and Research and development.



- **Higher education access and inclusion: areas of action**

The survey evidence reveals that policy responses are the most common action in the field of higher education access, as they are mentioned in 13 out of 16 country responses. Programmes are noted in 12 country responses, and funds allocations in just eight despite the policy push. These results show how governments are applying both statutory interventions and targeted initiatives to achieve goals in this area.

Figure 9: Policies are the most common Higher education access and inclusion action with 13 countries reporting activities out of 16 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

- **Higher education access and inclusion: policy details**

The country-level survey evidence highlights various initiatives aimed at improving access to and quality of higher education. These include promotion of access, development of infrastructure, quality assurance efforts, and specialised programmes.

In Bangladesh, the government has initiated the establishment of one university in each district as part of higher education decentralization. Unified admission tests for all public universities will begin in the 2023-2024 academic year to enhance access and inclusion. Malaysia has significantly increased access to higher education, reaching a gross enrolment rate of 48% in 2012, with substantial growth in bachelor's, master's, and PhD enrolments. The Malaysia Education Blueprint (Higher Education) 2015-2025 aims to further increase enrolment rates and improve the quality of graduates, institutions, and the overall system. The blueprint outlines aspirations to enhance employability, global university rankings, research output, and international student numbers.

In Morocco, the government has focused on improving access to higher education by enhancing the availability of university programs across the entire country and by professionalizing and specializing these offerings. However, challenges remain in the development of infrastructure and equipment to support these initiatives. In Tunisia, higher education is accessible to students who pass the baccalaureate exam. Public and private universities provide opportunities for obtaining degrees. The Ministry of Education and Scientific Research's budget is 1.34% of GDP, with 206 public and 80 private institutions available. Palestine has implemented a series of measures to facilitate access to and integration into higher education. These efforts include providing scholarships and ensuring that students have clear, comprehensive information about higher education options and requirements.

These steps have helped increase students' chances of success in higher education. Yemen has established a close relationship between the Ministry of Education and the Ministry of Higher Education and Scientific Research, with free scholarships being provided to outstanding students.

In Oman, the Ministry of Education collaborates with the Ministry of Higher Education, Scientific Research, and Innovation to ensure that students who have passed the general education diploma can integrate into various specializations and professional paths, both within and outside the Sultanate. The government provides numerous internal and external scholarships for students who excel in their general diploma results. Furthermore, special efforts are made to empower and qualify children from social security families and those with disabilities by offering them annual scholarships for university studies. In Mali, the opening of new universities in regional capitals is underway, with three new universities created in 2022.

Lebanon's Higher Education Five-Year Plan (2023-2027) focuses on steering the higher education system, improving quality outcomes, and strengthening social responsibility and competitiveness. Priority programs include governance frameworks, funding and performance monitoring, research and innovation, civic engagement, internationalization, and inclusion. Legislation is being drafted to recognize online learning degrees, and to ensure 5% of university budgets must be allocated to research. In Bahrain, the National Strategy for Higher Education emphasizes providing teaching and learning options, improving the links between higher education, vocational education, and continuing education. This strategy prioritizes equality of opportunity as a national priority and has led to the licensing of new higher education institutions and the development of programs that align with labour market needs, thereby enhancing opportunities for students to integrate into higher education.

Guinea offers scholarships and invites experts for training in universities to promote technology transfer. In the Maldives, students who pass three subjects in the GCE A 'levels can join higher education programs. Syria's Ministry of Education has policies to ensure inclusion and equal access to higher education. Comoros focuses on a policy to increase teachers' salaries. Niger implements a higher education policy and program.

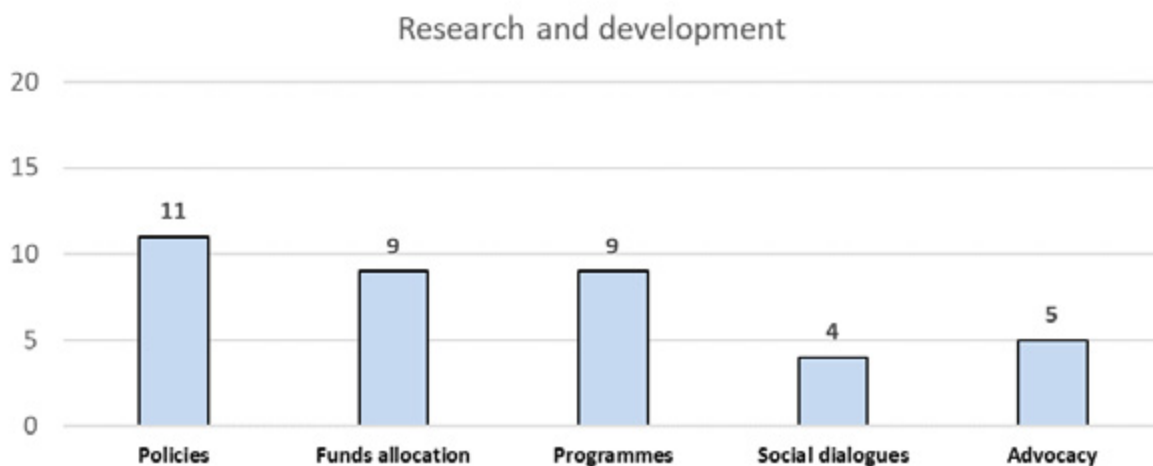
In sum, the evidence shows a strong commitment to expanding access to higher education, improving quality, and ensuring inclusivity through various policies and initiatives across these countries.

• Research and development: areas of action

The survey evidence reveals how research and development is the only subtheme reported here where funds allocations are similar in number to policy and programming actions. This is perhaps unsurprising given the nature of the research and development, but it does serve to underscore the willingness of government to deliver financial resources to support research and development policies and targeted initiatives.



Figure 10: Policies are the most common Research and development action with 11 countries reporting activities out of 14 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **Research and development: policy details**

The country-level survey evidence highlights initiatives to support research and innovation in higher education across different countries. The responses focus mainly on funding and support for research, but also include the integration of research into the education system overall.

In Bangladesh, the University Grants Commission allocates funds annually to support 55 Ph.D. researchers and 10 postdoctoral researchers to foster research activities. Additionally, the UNESCO Chair on Industry Integration in Higher Education has been established at Bangladesh University of Engineering and Technology to promote innovation and international cooperation. Niger implements a higher education and research policy. In Mali, the Competitive Fund for Research and Technological Innovation supports research activities. Guinea awards the Best Prize for Innovation and Discovery to encourage research and promote knowledge. In Tunisia, the Ministry of Higher Education and Scientific Research includes 490 research laboratories and 93 research units across various specializations, such as life sciences, biotechnology, engineering, legal, economic, behavioural, human, and social sciences. Lebanon allocates resources for research projects, encourages the development of new educational methodologies, and facilitates the dissemination of findings to improve educational outcomes and policies.

Relatedly, Yemen's Educational Research and Development Centre is operating effectively despite funding challenges, reflecting ongoing efforts to enhance educational research despite challenges.

Oman has positioned scientific research as a fundamental pillar of its educational system. A Royal Decree has been issued to include scientific research and innovation within the Ministry of Higher Education, reflecting its importance in achieving national visions, formulating policies, and driving societal progress.

Syria's Ministry of Education encourages teachers and students to conduct research in various fields and has improved teaching and learning management system practices. Cameroon has concentrated on research programs, including the integration of research and development into the education sector strategy and the Educational Management Information System (EMIS). Additionally, Cameroon

is developing business incubators and integrating artificial intelligence into teaching programs, demonstrating a commitment to advancing technological and entrepreneurial education.

Palestine has implemented large-scale evaluation studies, including TIMSS 2023 and LaNA 2023, and analysed the results of PISA 2022, marking Palestine's first participation in this international assessment. Efforts are also underway to prepare test materials for the upcoming National Study in 2024, indicating a strong focus on national educational assessments.

- ***For research and development, the evidence demonstrates a strong commitment to promoting research and innovation in higher education through funding, support structures, and collaboration with universities across these countries.***

A Policy Spotlight on effective Research and development: The case of Bahrain

Bahrain's National Strategy for Scientific Research focuses on five key strategic objectives: establishing governance infrastructure for scientific research, enhancing university research capabilities, integrating academic institutions with international research bodies, improving public awareness of scientific research and innovation, and addressing national research priorities. These objectives are supported by Resolution (206) of 2023, which mandates that private educational institutions in Bahrain must allocate at least 3% of their annual net revenues to scientific research and provide necessary facilities such as libraries, laboratories, and databases to support research activities.

The Higher Education Council's operational plan for 2023-2026 further emphasizes scientific research as a central theme, with various initiatives aimed at implementing these strategic objectives. This plan is part of Bahrain's broader efforts to strengthen its higher education and research sectors, ensuring that the country's scientific research aligns with national priorities and contributes to its development.

3.2.5 Inclusion, equity and gender equality

All 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Inclusion, equity and gender equality?'. The following sections review in greater detail responses to the requests for action on the subthemes of: Inclusion, equity and gender equality; Gender equality, girls' education; and Disabilities, special needs.

- ***Inclusion, equity and gender equality: areas of action***

Based on the replies from 19 of the 20 countries regarding inclusion, equity and gender equality, policy actions are being utilised more than other types of responses in this area. This indicates a strong consensus on the need for robust policy frameworks to guide strategic actions and ensure effective governance around the issue of inclusion. Perhaps surprisingly, given the nature of the theme, social dialogues and advocacy are applied in less than half of the responding countries.



Figure 11: Policies are the most common Inclusion, equity and gender equality action with 14 countries reporting activities out of 19 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• ***Inclusion, equity and gender equality: policy details***

The country-level survey evidence highlights various educational initiatives and policies aimed at improving inclusivity, equality, and access across different countries. These include curricula and systemic reforms, inclusion strategies, and student participation.

In Bangladesh, the introduction of the National Curriculum Framework 2022 and the rollout of a new curriculum from January 2023 focuses on educational transformation. The Learning Acceleration in Secondary Education (LAISE) program (2023-2028) aims to enhance learning, teacher competency, and secondary education systems through curriculum reforms and data management. Initiatives include the Special Education Needs and Disabilities (SEND) Framework for children with disabilities, a gender-inclusive education action plan, and the provision of stipends and free textbooks to encourage higher student participation.

In Gambia, the focus is on implementing the Education Policy 2016-2030, which outlines strategic goals for improving the education sector over this period. Morocco has launched a significant initiative under the “Roadmap 2022-2026,” with a substantial financial commitment of 7 billion US dollars in 2023, increasing annually by 7% until 2027. This initiative aims to reduce the school dropout rate by a third, improve student achievement by increasing the rate of mastery of fundamental skills to 70%, and double the number of students participating in extracurricular activities to reach 50%.

Jordan works on a gender equality policy consistent with national and international strategies, focusing on inclusive education for all groups, including refugee children and students with disabilities. Efforts include developing gender-sensitive curricula and training teachers on inclusion and diversity. In Yemen, the educational policy is structured around three key areas: ensuring equal educational opportunities between genders, expanding education in both rural and urban areas, and training teachers to enhance the quality of education. The Maldives is reviewing policies related to gender and inclusion.

Cameroon emphasizes inclusion and equity in its educational reforms. The government is implementing a National Inclusive Education Policy and a National Gender Policy, alongside a national strategy to combat gender-based violence. These efforts are supported by both external financing and domestic budget allocations to various sectoral administrations. Mali, the Education Sector Plan, PRODEC2, supports initiatives such as school canteens, care for children with special needs, and the schooling of girls.

Egypt is undertaking a comprehensive approach to ensure inclusion and equity in education, focusing on expanding educational infrastructure, providing financial and moral support, developing inclusive curricula, supporting marginalized groups such as girls and people with special needs, and using technology to enhance education. The government is also raising community awareness and working with civil society organizations to support equitable education. Sudan focuses on free education policies and increasing education agreements by 2%. Malaysia's Core 3 initiative aims to minimize multidimensional poverty among students from B40 families by addressing malnutrition, access to devices, and learning spaces.

Lebanon formally endorsed the Inclusive Education Policy on June 20, 2023, aiming to provide inclusive and high-quality education for every child. The inclusive school model is being implemented in 90 public schools, with plans to extend to 120 schools by 2025 and all public schools by 2030, with a funding consideration of USD 80 per child. In Palestine, the Ministry of Education and Higher Education is actively promoting inclusive education by integrating students with disabilities into the mainstream educational system. This effort includes extensive training for teachers, special education supervisors, school principals, parents, and education counsellors on integration mechanisms. Bahrain has made significant strides in supporting students with special needs, including those with mild mental disabilities, Down syndrome, autism, and physical disabilities, as well as students with learning difficulties and chronic illnesses. The Ministry of Education collaborates with the Ministry of Health for diagnostic assessments and has expanded special education programs to better support these students. Finally, Oman guarantees the right to free and compulsory education for all children, with a focus on equal opportunities across all governorates. The country has enacted laws to ensure the rights of disabled children and provides comprehensive care and rehabilitation services to enable them to fully participate in education.

In Tunisia, education is considered a fundamental right, compulsory and free at all levels, and a national priority. The state guarantees quality education on the basis of equal opportunities, with a substantial budget allocation.

Niger is developing an inclusive education strategy with a budget of 23 million. In Syria, the Ministry of Education ensures students have access to rights and opportunities regardless of gender.

The evidence for all 20 of the responding countries demonstrates a strong commitment to educational transformation, inclusivity, and equality through various initiatives, policies, and strategic plans across these countries. These collective efforts underscore a commitment to ensuring comprehensive and equitable education for all, addressing barriers such as gender inequality, disability inclusion, and the needs of marginalized groups. Through curriculum development, policy frameworks, and inclusive practices, these initiatives aim to create supportive educational environments that foster learning and development for every child.



A Policy Spotlight on effective Inclusion, equity and gender equality: The case of Palestine

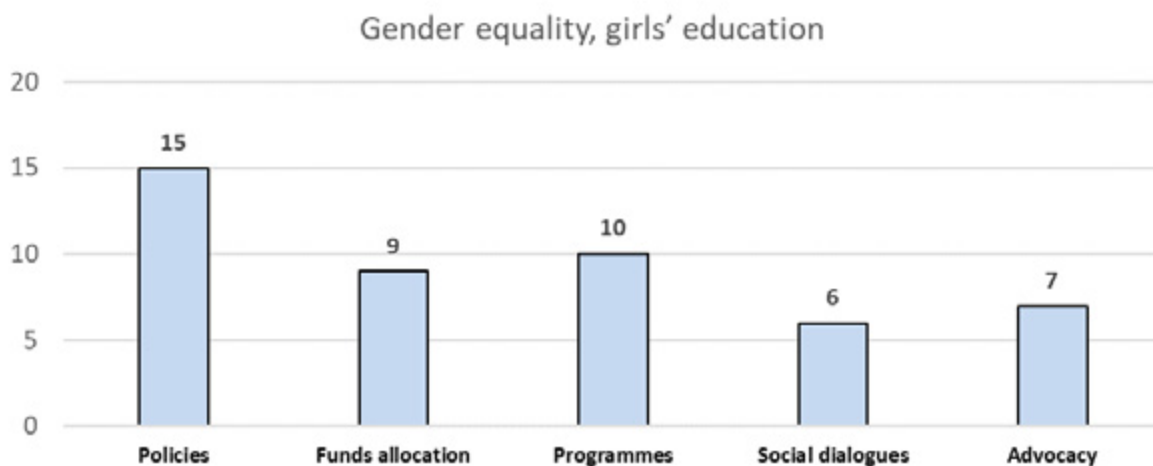
In Palestine, the Ministry of Education and Higher Education (MoEHE) has focused on activating inclusive education policies to ensure that all students, including those with disabilities, are integrated into the educational system. This has been achieved through extensive training programs for teachers, special education supervisors, school principals, parents, and education counsellors, aimed at addressing the challenges of integration and finding effective solutions. In line with its 2020-2023 strategic plan, the MoEHE has also taken significant steps to promote gender equality by developing comprehensive curricula that reflect gender equality and avoid sexual discrimination.

The MoEHE has worked to enhance access to education and improve learning outcomes for students affected by crises, ensuring high enrolment rates even among those forcibly displaced. Efforts have been made to improve the work environment in host schools, provide necessary educational resources, and offer psychological and social support to help children cope with the effects of crises. Additionally, the MoEHE has implemented measures to support students from low-income families by providing textbooks, tablets, and other essential devices. Special attention has been given to marginalized or remote areas through targeted training programs for teachers and school principals. The Ministry has also prioritized the integration of students with disabilities by equipping schools with necessary facilities and aids. Despite challenges posed by sanctions and occupation, the MoEHE has made strides in ensuring students receive nutritious meals, organizing programs to raise awareness about proper nutrition to support their academic and health performance.

• Gender equality, girls' education: policy details

The responses from the survey for gender equality and girls' education that policies dominate the actions undertaken by countries, with 15 of the 19 responding countries reporting this response. Programming and funds allocations are also used in around half of the country cases. That 3 out of 4 responding governments are actioning policies shows a clear preference for statutory interventions to address gender equality.

Figure 12: Policies are the most common Gender equality, girls' education action with 15 countries reporting activities out of 19 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

The strategies for promoting gender equality and educational access vary across different countries. These include active promotion of gender inclusive policies, inclusive initiatives and programme, a focus on girls' education, and broader educational reforms.

In Bangladesh, positive discrimination has significantly advanced girls' education, with girls outperforming boys at various educational levels. Technical education initiatives like Skills-21 and ProGRESS aim to integrate gender equality into teaching, although there is a need to focus on boys dropping out and to boost female participation in STEM and ICT fields. Jordan is committed to gender equality and inclusive education, integrating a gender perspective into its Strategic Plan for Education and establishing the Department for Gender Equality and Strategic Partnerships. This includes monitoring gender, disability, and vulnerabilities, and implementing a gender equality action plan across all educational levels. The Ministry of Education has developed a teacher training program on mainstreaming gender equality, which has been completed by over 10,000 teachers.

Morocco has developed a comprehensive Government Equality Plan (PGE III) in the education system, which is structured around five key objectives: institutionalizing gender equality in the governance and management of the education system, promoting girls' education at the preschool and secondary levels, combating gender-based stereotypes, eradicating gender violence in schools, and improving the representation of women in positions of responsibility. This plan is backed by significant financial investments and is expected to make substantial progress in reducing gender disparities in education. In Tunisia, there is no educational gender disparity in favour of men, with girls having higher schooling rates and a greater number of female teachers. The country's educational sector plans for 2023-2025 and 2026-2035 focus on providing quality, equitable education and achieving economic growth that ensures social justice and gender equality. Oman has achieved gender equality in education, supported by laws, regulations, and policies that promote equal opportunities for all students. This commitment is reflected in the Basic Law of the State, the Children's Law, the Education Law, and other key documents. The Ministry of Education, through its Governance Office, plays a vital role in implementing these policies, monitoring progress, and ensuring that gender equality is maintained across all educational levels.

Bahrain is actively establishing government schools for girls across various educational levels, ensuring that all students have access to free education in an environment tailored to their needs. The Ministry of Education is also working to increase the participation of girls in technical and vocational education, developing new specializations that align with market demands. Mali is revising its national gender policy to improve girls' school enrolment and retention, addressing gender-based inequities linked to parental income and residential areas. Niger has a national strategy to accelerate girls' schooling and training.

In Malaysia, the Ministry of Education's Core 3 initiative targets poverty among students from B40 families, addressing issues like malnutrition and access to learning resources. In Cameroon, gender equality initiatives are integrated into various levels of policy and practice. These initiatives are aligned with the National Development Strategy and the recently updated national gender policy. The education sector strategy emphasizes gender considerations in budget preparation and finance law, with additional support from external funding for gender-focused projects. Palestine's Ministry of Education has implemented measures to promote gender equality as part of its strategic plan for 2020-2023. This includes developing curricula that reflect gender equality, providing continuous training for teachers on gender-sensitive teaching practices, and addressing issues of discrimination within the educational system. In Yemen, gender equality in education is a core policy, ensuring equal educational opportunities for boys and girls across both rural and urban areas.



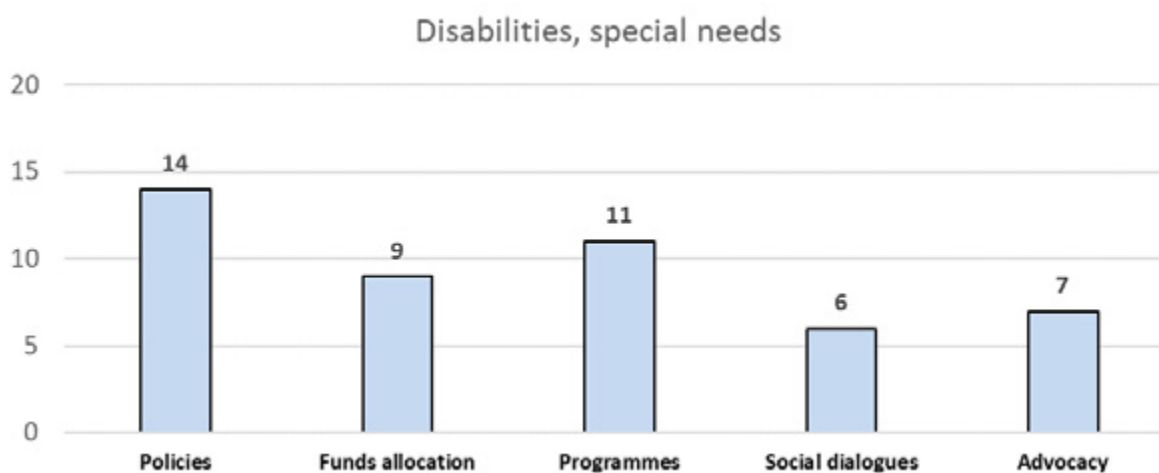
Egypt has launched several programs aimed at promoting gender equality in education. These programs focus on improving access to education through infrastructure development and scholarships, raising community awareness about the importance of girls' education, training teachers to manage gender differences in the classroom, supporting educational policies that promote gender equality, and providing health care and social services to encourage girls to remain in school. Additionally, there are initiatives to increase girls' participation in STEM (Science, Technology, Engineering, Math) fields.

In Syria, schools aim to provide equal access to resources for both genders, ensuring opportunities in sports and STEM education. The Maldives is reviewing its policies related to gender equality and inclusivity. Guinea faces challenges in data collection but is focused on mass schooling for young girls. In Gambia, the implementation of the Education Policy 2016-2030 aims to improve the overall education system, with a focus on achieving gender parity and improving access to education for all children.

• **Disabilities, special needs: areas of action**

The survey findings suggest that policy responses are the most popular in the area of disabilities and special needs. Programmes and funding allocations are mentioned in 11 and 9 of the 18 country responses respectively, however policies are mentioned in 14 country responses, reflecting a marginally greater focus on statutory approaches to inclusion in this case.

Figure 13: Policies and programmes are the most common Disabilities, special needs action with 14 countries reporting activities out of 19 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **Disabilities, special needs: policy details**

The strategies for promoting educational access to children with disabilities and special needs vary across different countries. These include national strategies and frameworks, policy and programme implementation, infrastructure efforts, and integrated support services.

In Bangladesh, a Special Education Needs and Disabilities (SEND) Framework has been developed to include children with disabilities in primary education. The Maldives focuses on policies for inclusivity and allocates funds for relevant programs and infrastructure. Malaysia's Ministry of Education offers special education based on six disability categories, supported by a comprehensive planning framework for 2020-2025, focusing on accessibility, resource enhancement, teaching improvements,

support systems, data management, and governance. The Malaysian government allocates significant funds to support these initiatives, with various stakeholders, including government bodies, NGOs, and individuals with disabilities, playing key roles. Key performance indicators in 2023 showed increased enrolment and inclusivity in education, improved facilities, and higher employment rates for pupils with special educational needs (SEN). Morocco has implemented the 2022-2026 roadmap for a quality public school for all, which includes a National Inclusive Education Program initiated in 2019. This program, supported by Decree No. 2.19.333, prioritizes schoolgirls, orphans, and children with disabilities in scholarship allocations for boarding schools and canteens.

Lebanon's Ministry of Education and Higher Education (MEHE) focuses on policy development for inclusive education, teacher training, adapting curricula, resource allocation, and infrastructure adaptation to support individuals with disabilities. Bahrain has developed a comprehensive policy framework to support the integration of students with special needs into public schools, including specialized programs for various disabilities. Oman offers extensive educational services for individuals with disabilities, supported by the School Education Law and the Integration in Education Project, ensuring equitable and comprehensive education through dedicated resources and specialized schools. Tunisia has reviewed and developed its school integration program for children with disabilities, emphasizing equal opportunities and fairness. The program involves multiple ministries and associations and has achieved positive results in integration, training, and support.

In Gambia, the government has established a Special Needs Directorate to address the educational requirements of children with disabilities. Palestine has focused on integrating students with disabilities into the educational system by equipping schools with necessary facilities and conducting regular budget analyses to sustain these efforts. Jordan allocates budgets to strengthen educational facilities in less fortunate areas, ensuring infrastructure supports children with disabilities. The budget strategy has been revised to be gender-sensitive, aligning with strategic educational goals. Yemen provides educational services for people with disabilities through a general administration and equipped school buildings.

In Cameroon, the government, through the Ministry of Social Affairs and the Ministry of Education, has developed a National Inclusive Education Policy and implemented several programs in collaboration with civil society organizations to address the needs of individuals with disabilities. Egypt has launched several programs to enhance the integration of people with special needs into the educational environment, including inclusive schools, specialized training for teachers, and the development of adaptive educational materials and assistive technologies. Syria aims to meet the educational needs of individuals with disabilities, while Niger has an inclusive education strategy. Mali is developing data collection models for children with disabilities and building school infrastructure and vocational training centres. Guinea faces challenges in data collection but is focused on supporting vulnerable groups. Sudan is developing an integration strategy for teaching people with special needs.

Responding countries are making significant strides in disability inclusion, with initiatives such as comprehensive planning for special education, and infrastructure and policies investments to ensure equal educational opportunities for children with disabilities, which in turn is reflecting a broader commitment to inclusivity.

3.2.6 Early childcare and education

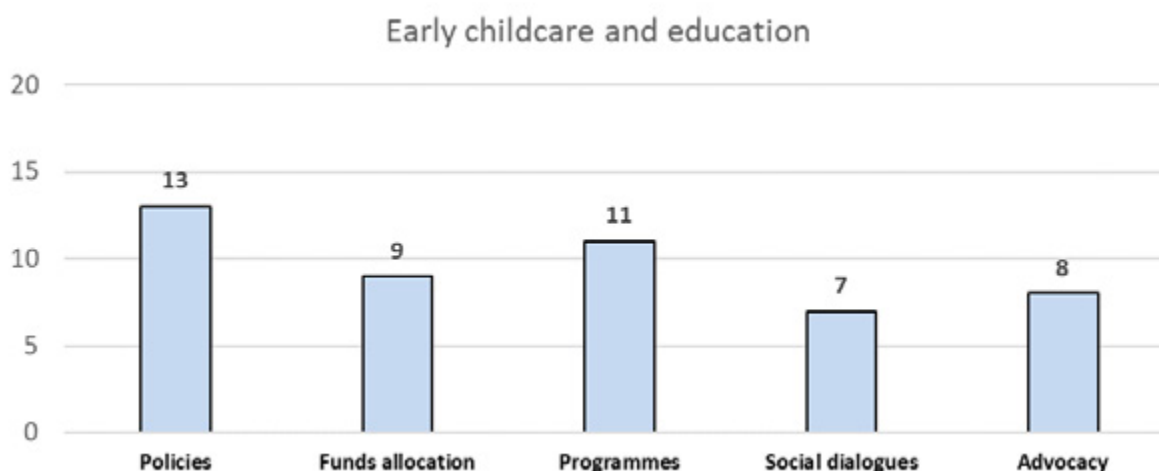
Eighteen of the 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Early childcare and education?'



- **Early childcare and education: areas of action**

Thirteen of the 18 responding countries report implementing policies in the area of early childcare and education. Eleven countries report implementing programmes. Funding allocations, advocacy and social dialogue, are the less used approaches. Although targeted interventions, in the form of programmes, are popular actions in the area of ECCE the larger number of policies responses reflects a slight preference amongst countries for larger scale statutory actions.

Figure 14: Policies are the most common Early childcare and education action with 13 countries reporting activities out of 18 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

- **Early childcare and education: policy details**

The country-level survey evidence highlights various initiatives focused on pre-primary and early childhood education. These include national frameworks and strategies, infrastructure development, programme implementation, training and regulation, and integrated and inclusive approaches.

In Bangladesh, the government has developed policies focused on pre-primary education using the Convention on the Rights of the Child and the 5A framework: Availability, Accessibility, Acceptability, Adaptability, and Accountability. Pre-primary education is available in over 104 thousand institutions across the country, enrolling over three million students, with 51.4% being girls. Malaysia emphasizes integrated curriculum policies and programs to ensure quality preschool education. The National Standards-Based Preschool Curriculum (NSPC) standardizes curriculum, facilities, and teacher training. All preschools must use the national curriculum, with a new curriculum set for implementation in 2026. This curriculum focuses on communication, socialization, and learning enthusiasm. The initiative is supported by the Malaysia Education Blueprint 2013-2025. Morocco has launched a 2022-2026 roadmap with the goal of creating a quality public school system accessible to all. This plan includes the consolidation of an innovative preschool model managed by selected partners, the generalization of preschool education by 2027-2028, the creation of at least 4,000 new preschool units annually in disadvantaged areas, and the implementation of national assessments and a labelling system for preschool units. Additionally, Morocco is introducing certifying training for all educators to ensure the quality of preschool education.

Jordan emphasizes early education and childhood development through national strategies and increased investment in kindergartens. The Ministry of Education collaborates with various organizations, such as UNICEF and the World Bank, to implement programs like “Kid Smart” which

uses technology in education. The strategy includes licensing facilitation and increasing infrastructure. In Tunisia, preschool education is considered crucial for school success and is provided by multiple national structures, including the Ministry of Education, Ministry of Women, Family, Children and the Elderly, and Ministry of Religious Affairs. The state aims to universalize preparatory education for ages five to six and ensures health and psychological care for all children, including those with disabilities. Bahrain has prepared a regulatory framework for independent early education institutions and is working on several initiatives to increase enrolment in early education, develop training programs for educators, and revise legislation related to private educational institutions. Additionally, Bahrain is developing a national curriculum for kindergartens and is working on a proposal to launch an early intervention service to integrate children with special needs into early education institutions.

Oman has placed significant emphasis on early childhood development across various social, health, educational, and cultural fields, recognizing its importance for the future of society. The topic of childhood is included in the Social Work Strategy (2016-2025), the National Childhood Strategy (2016-2025), and the National Action Plan for Early Education. The Ministry of Education, in collaboration with other government agencies, the private sector, and civil society organizations, is leading efforts to expand early education services in Oman. Key objectives include assessing the current state of early education institutions, preparing a national strategy for early childhood, and developing a phased plan for the expansion of early education services.

Cameroon has finalized a national preschool development policy and is working on early childhood development through various ministerial departments and partnerships with technical financial partners and civil society organizations. The initiatives include a WASH program, a social protection policy for early childhood, and programs focused on infant and young child feeding and the development of the first thousand days at birth. Palestine has developed training programs for kindergarten supervisors, teachers, and parents to enhance the physical, mental, social, and emotional development of children. These programs also focus on learning through play, physical and motor development, language and communication development, and social-emotional development. In Gambia, the focus is on implementing an education policy aimed at improving overall educational standards.

The Maldives provides facilities and opportunities for early childhood learning in all communities. Niger implements a preschool education policy. In Syria, the Ministry of Education aims to regulate care and arrangements for children from birth to compulsory primary school. Lebanon is preparing a strategic plan to upgrade early childhood education (ECE) provision and quality. The plan, based on evidence from field surveys and data, includes costing models and reform recommendations for the ECE segment. In Mali, a training plan for mother educators is being implemented to enable them to provide early childhood education. Guinea focuses on constructing preschool classes to ensure timely school enrolment for young children.

Yemen has established schools and kindergartens for early childhood education but recognizes the need for additional support in this area.

Altogether, the evidence demonstrates a strong commitment to enhancing early childhood education through policies, infrastructure, curriculum development, and collaboration with various stakeholders across these countries.



A Policy Spotlight on effective Early childcare and education: The case of Jordan

In Jordan, significant emphasis has been placed on early education and childhood development through various strategies, policies, and initiatives. Key frameworks guiding these efforts include the National Strategy for Human Resources Development (2016-2025), the Ministry of Education's (MoE) Strategic Plan (2016-2022), with an extension to 2025, and the Economic Modernization Vision (2023-2025). The Ministry of Education has implemented these policies by increasing investment in early education infrastructure, utilizing unused school spaces, and collaborating with charities to expand kindergarten services. Additionally, procedures for licensing kindergarten providers were streamlined, significantly increasing access to early education.

These initiatives have been supported financially by the Ministry of Education's budget, along with contributions from international organizations such as UNICEF, GIZ, USAID, the International Relief Committee, JICA, and the World Bank. Programs like the "Kid Smart" initiative, which integrates technology into early education, have been introduced to enhance the quality of educational services. Efforts have also been made to develop kindergarten curricula, establish quality assurance systems, and increase parental involvement in education. Achieving these goals has required collaboration among government decision-makers, civil society organizations, donors, the private sector, and the local community.

3.2.7 Teachers

Seventeen of the 20 responding countries answered positively to the question: Have you undertaken action in relation to the theme of: 'Teachers?'. The following sections review in greater detail responses to the requests for action on the subthemes of: Teacher training and professional development and Teacher working conditions.

• **Teacher training and professional development: areas of action**

Policies are mentioned in 13 out of 17 country responses, indicating their importance in establishing statutory, sustainable and scaled responses. Funding allocation and programmes are reported in 9 and 10 country responses respectively, underscoring the financial commitment to change and a willingness to support targeted initiatives.

Figure 15: Policies are the most common Teacher training and professional development action with 13 countries reporting activities out of 17 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **Teacher training and professional development: policy details**

The country-level survey evidence highlights various initiatives focused on teacher training and professional development. These include national policies and strategic frameworks, continuous professional development, specialised teacher training centres, and targeted training initiatives.

Bangladesh is enhancing teacher training and professional development to implement a new curriculum, developing ICT competency standards for secondary teachers based on UNESCO ICT-CFT, and integrating Global Citizenship Education (GCED) and Education for Sustainable Development (ESD) into the teacher training curriculum. Morocco’s 2022-2026 roadmap for a quality public school system includes a significant focus on teachers. The policy outlines the approval of a new status for teachers, aimed at improving their material conditions, offering more motivating career paths, and recognizing diplomas through professional exams. This initiative also includes the establishment of a Professorship Institute to regulate the quality of teacher training and ensures that teachers receive at least one week of continuing education each year, tailored to their specific needs. In Gambia, the implementation of the Education Policy 2016-2030 focuses on improving the educational framework, which includes addressing teacher development as a key component. Cameroon is enhancing the working conditions of teachers, particularly those in isolated areas, through the construction of on-call housing. The government is also implementing psychosocial support programs for teachers in crisis areas and improving the management of teachers’ career records through automation. The country has established a National Centre for Training of Trainers and Programme Development, reformed the ENIEG (*École Normale d’Instituteurs de l’Enseignement Général* – where primary school teachers are trained), and organized professional development courses for teachers within companies.

The Maldives has programs for basic teacher training and refresher courses to ensure continuous professional development. In Malaysia, teacher welfare is emphasized as crucial for effective education delivery. The Training Operation Plan is implemented to enhance the competence of Education Service Officers in line with current policies. In Tunisia, teachers undergo diverse training programs, including pre-service and continuous in-service training, within national and regional programs. These programs are provided by specialized inspectors and cover various specializations and areas related to curriculum and pedagogical development. Lebanon prioritizes teacher training through



comprehensive professional development programs, offering workshops and courses to enhance teaching skills. The country collaborates with educational experts and institutions to ensure the relevance and effectiveness of training programs. Palestine's Ministry of Education has implemented various training programs, including specialized professional diploma programs, educational leadership initiatives, and workshops within the continuing professional development framework. These efforts are part of the Ministry's strategic plan for 2021-2023, aimed at enhancing both content pedagogy and general educational practices.

In Oman, the establishment of the Specialized Centre for Vocational Training for Teachers in 2014 has been a significant milestone in the country's efforts to provide quality, equitable, and comprehensive education. The centre offers strategic professional training programs aligned with the Ministry of Education's policies and international developments. These programs range from mandatory training for new teachers to leadership programs for experienced educators, with a focus on enhancing professional development and career motivation. In Egypt, a comprehensive approach has been taken to advance teacher development. This includes reforming the training system, launching digital educational platforms, offering continuing training programs, and developing leadership and management skills. The government has also focused on financial support initiatives, performance evaluation, and development, all aimed at improving the competence of teachers nationwide. Mali is reforming Teacher Training Institutes to transition to a BAC+3 qualification.

In Guinea, there is academic training and continuing education, with a request for funding to support these training programs, especially in Franco-Arabic qualifications. Syria's Ministry of Education has launched programs for teacher training and professional development. Yemen offers training courses for teachers, though these are limited in scope and primarily target urban educators, with rural teachers receiving less attention. Bahrain provides various training programs for newly appointed teachers, in coordination with the Bahrain College of Teachers and other relevant sectors. These programs include enrolment in educational academic programs such as the Educational Diploma Program, the Certificate in Professional Development, and the Higher Diploma in Leadership, all designed to prepare teachers for career advancement.

Across countries, the responses show a strong focus on improving teacher competencies and educational quality through targeted training and professional development across these countries.

A Policy Spotlight on effective Teacher training and professional development: The case of Egypt

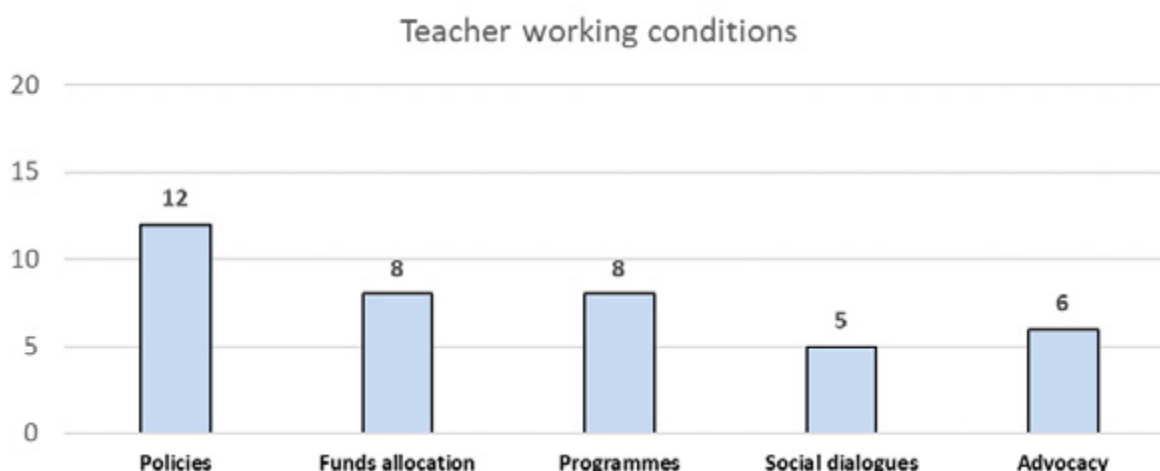
In Egypt, significant efforts have been made to enhance the professional development of teachers as part of a broader strategy to improve the quality of education. Key initiatives include reforming the training system by updating manuals to focus on modern teaching methods and educational technologies and enhancing the skills of national trainers to ensure high-quality training for teachers. Digital educational platforms have been launched, such as the E-Learning Platform and the “Online Teachers” initiative, which provide teachers with access to lessons, resources, and digital training content to improve their skills.

Continuous training programs are also a priority, with workshops and training courses offered regularly, alongside the granting of accredited certificates to acknowledge teachers’ newly acquired skills. Egypt has also forged partnerships with international educational organizations to enhance training quality and share knowledge. Additionally, leadership and management skills are being developed through specialized training programs, while financial support initiatives, including grants and incentives, are provided to encourage participation in these programs. The introduction of modern evaluation systems and data analysis further supports the continuous improvement of teachers’ performance, aligning with the government’s commitment to advancing education in the country.

• **Teacher working conditions: areas of action**

The survey evidence shows that policies are the dominant responses when addressing teacher working conditions. Just a third of responding countries apply social dialogues or advocacy in this area of education policy. These results reflect a clear preference for statutory responses to managing the working conditions of teachers.

Figure 16: Policies are the most common Teacher working conditions action with 12 countries reporting activities out of 15 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).



- ***Teacher working conditions: policy details***

The country-level survey evidence highlights various initiatives aimed at improving the working conditions of teachers. These include general welfare and supports, compensation and incentive programmes, and career development plans,

In the Maldives, funds are allocated to enhance teachers' working environments, aiming to create better conditions for educators. Malaysia emphasizes teacher welfare as central to effective education delivery. The Ministry of Education has established a detailed job description for teachers to guide their duties and responsibilities systematically. Syria's Ministry of Education is working to improve teachers' working conditions, acknowledging the importance of a supportive environment for educators. Lebanon focuses on enhancing teacher working conditions by improving school facilities, offering professional development, and streamlining administrative support. Additionally, the country promotes teacher well-being through partnerships and community initiatives that provide health and wellness programs. In Bahrain, teachers are appointed to schools close to their residences, and the government provides a suitable work environment that supports their ability to deliver educational services creatively. The country also ensures that teachers have appropriate workloads and offers summer and spring vacations. Additionally, Bahrain considers teachers' health conditions by reducing their teaching quotas in cases of illness and providing care hours for those with infant children or sick relatives.

Morocco's 2022-2026 roadmap for a quality public school system emphasizes the importance of teachers by establishing a social agreement between the government and unions on a unified status for teachers, which includes guaranteed state support and salary increases. The policy also ensures that teachers have access to a comprehensive educational toolkit, computer equipment, and digital resources with proven educational effectiveness. Additionally, a new incentive mechanism is introduced to improve teachers' salaries based on their performance. Yemen faces significant challenges in supporting teachers, with low salaries being a major issue. However, there are some efforts to support teachers by providing annual bonuses and other small increases in their salaries. In Cameroon, the government, with support from the French Development Agency (AFD), has improved the working conditions of teachers by building on-call housing for those assigned to isolated areas and implementing psychosocial support programs for teachers in crisis zones. The government has also made efforts to improve the processing and management of teachers' career records by automating advancements and establishing a one-stop shop for the enrolment and recruitment of new teachers. Guinea provides incentives such as bonuses and social housing construction to improve teachers' living conditions.

In Mali, the National Teachers' Policy aims to professionalize teaching, standardize the profession, and establish effective management of teachers across all education levels. Oman emphasizes the importance of the teaching profession through the School Education Law issued in 2023, which highlights the teacher's status and the sanctity of their role. The government monitors and increases budgets annually for the professional development of teachers and celebrates National Teacher's Day on February 24 each year. The Ministry of Education also focuses on training teachers and providing ongoing programs and activities related to teaching and learning. Palestine's Ministry of Education has focused on creating better working conditions for teachers by providing continuous professional development and training. This initiative is part of the Ministry's strategic plan for 2021-2023, which includes comprehensive training programs implemented by various public departments specializing in teacher education.

In Tunisia, while teacher working conditions are generally considered good, there are challenges related to infrastructure, equipment shortages, and the high cost of living. Efforts are being made to improve conditions financially, morally, and pedagogically. In Gambia, the Education Policy 2016-2030 provides a framework for improving the education sector, including initiatives to support teachers. Niger is *implementing a teaching policy*.

Overall, the evidence suggests a strong commitment across these countries to improving the working conditions of teachers, recognizing the impact of a supportive environment on educational quality and teacher effectiveness.

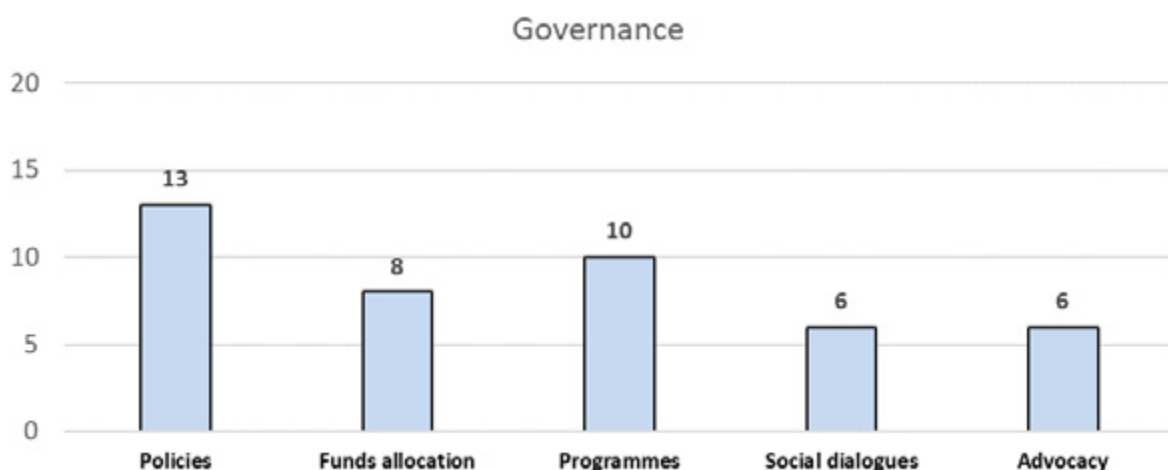
3.2.8 Governance

Sixteen out of 20 countries responded positively to the question: Have you undertaken action in relation to the theme of: ‘Governance and finance?’. Responses in relation to governance are covered below.

- **Governance: areas of action**

The survey evidence highlights a focus on policy in the area of governance. Policies are mentioned in 13 out of 16 country responses. Programmes are the next most popular form of action and are mentioned in 10 country responses each. These choices reflect only a slight preference for establishing statutory responses to governance needs.

Figure 17: Policies are the most common Governance action with 13 countries reporting activities out of 16 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

- **Governance: policy details**

The country-level survey evidence highlights initiatives focused on governance, transparency, and accountability in the education sector. These include governance frameworks and strategies, governance systems and reforms, and system modernisation.

In Bangladesh, all education-related organizations and institutes sign the Annual Performance Agreement (APA) to ensure transparency and accountability. The APA includes five action plans: National Integrity Strategy (NIS), Grievance Redress System (GRS), E-governance, Innovation, and Right to Information (RTI), designed to establish better governance. Malaysia is guided by the Malaysia



Education Blueprint 2013-2025, which covers education from preschool to post-secondary levels. In Tunisia, governance is a strategic goal within the educational sector plan for 2023-2025 and beyond. The “Central Governance Cell” was created in the Ministry of Education to ensure transparency and access to information. A law passed in 2016 guarantees the right to access information and administrative documents.

In Morocco, the 2022-2026 roadmap for a quality public school system aims to establish several mechanisms to improve governance. These include creating a national dashboard for monitoring the implementation of the roadmap, establishing an internal quality assurance system, and setting up an impact assessment system for innovative initiatives. The plan also seeks to integrate planning, programming, budgeting, and execution processes while promoting accountability through new contracts with Regional Education and Training Academies (known by the acronym AREF). Additionally, integrated school projects aligned with strategic objectives are being implemented to foster progress in schools. Oman has placed governance as a priority in its tenth five-year plan (2021-2025), supported by the School Education Law issued by Royal Decree No. 331/2023. The law provides an institutional and legal framework for the educational process, incorporating principles of justice, integrity, participation, accountability, transparency, efficiency, and effectiveness. The Ministry of Education in Oman is implementing several strategic programs to build an effective governance system, enhance monitoring processes, raise data quality, and improve performance management. This includes developing a computerized performance management system, enhancing administrative and financial control, and updating policies and regulations to align with best practices in the educational sector.

In Syria, the Ministry of Education has established independent functions for risk management, compliance, internal audit, and actuarial roles, forming a governance system to ensure adequate and independent control. In Mali, new regional inspections and academies are being operationalized to bring school administration closer to beneficiaries. The States General of Education recommends institutional reform in the education sector. Jordan has developed a plan to enhance the educational information management system, supporting decision-making at all administrative levels. The system is published on the Ministry’s official website, with ongoing work to implement its policies. Cameroon has reorganized its system for steering and monitoring sectoral strategies to improve the governance of its education system. The national committee for monitoring and evaluating the implementation of the SND30 (CNSE-SND30) has been established by decree, with the objective of unifying and harmonizing the monitoring of public policies. The country is also strengthening financial governance as part of a broader public reform program.

Lebanon’s Ministry of Education and Higher Education (MEHE) aims to strengthen governance, transparency, and resilience at various levels through evidence-based planning, decision-making, and comprehensive governance reforms. The school information management system (SIMS) is set to expand into an educational management information system (EMIS) as part of key reforms over the next 3 to 5 years. In Palestine, the Ministry of Education has incorporated a governance program into its strategic plan for 2021-2023. This program defines policies and procedures for data usage and storage, as well as the authority of stakeholders to access this data, ensuring compliance with laws and regulations related to data protection.

Guinea is modernizing and digitalizing its administration for efficient management of personnel and the population. Bahrain has been a pioneer in applying modern administrative foundations and principles. Since 2011, the Council of Ministers has focused on disseminating and strengthening governance concepts to enhance government performance and safeguard public funds. The Ministry of Education in Bahrain follows up on these efforts through a government performance monitoring system, which

tracks the achievement of governance tasks and prepares periodic reports on progress. Yemen has emphasized legal control, inspection, and accountability in its educational governance, ensuring that all procedures adhere to legal standards.

In sum, countries are actively working to improve education governance through strategies such as transparency and accountability, and enhancements to educational information management systems to support evidence-based decision-making.

Policy Spotlight on Effective governance: The case of Morocco

In Morocco, the “2022-2026 Roadmap for a Quality Public School for All” policy is currently being implemented, focusing on several key initiatives to strengthen the governance of the education system. Among these initiatives are the creation of a national dashboard for monitoring and decision-making, the establishment of internal quality assurance and impact assessment systems, and the integration of planning, programming, budgeting, and execution processes. Additionally, new contracts have been formed with the Regional Education and Training Academies (AREF) to increase accountability, and Integrated School Projects (PEI) have been launched to align with strategic objectives, aiming to foster progress in as many schools as possible.

A critical component of this roadmap is the “Massar” education information system, which has been in development since 2014. Massar plays a pivotal role in strategic planning, monitoring, and continuous improvement within the Moroccan education system. The system is fully integrated across all governance levels—central, regional, provincial, and local—facilitating a bottom-up approach that ensures information flows effectively from schools to central management units. Massar supports evidence-based decision-making and meets the planning needs of various education system levels, as well as the requirements of ministerial departments and national and international partners.

3.2.9 Youth engagement

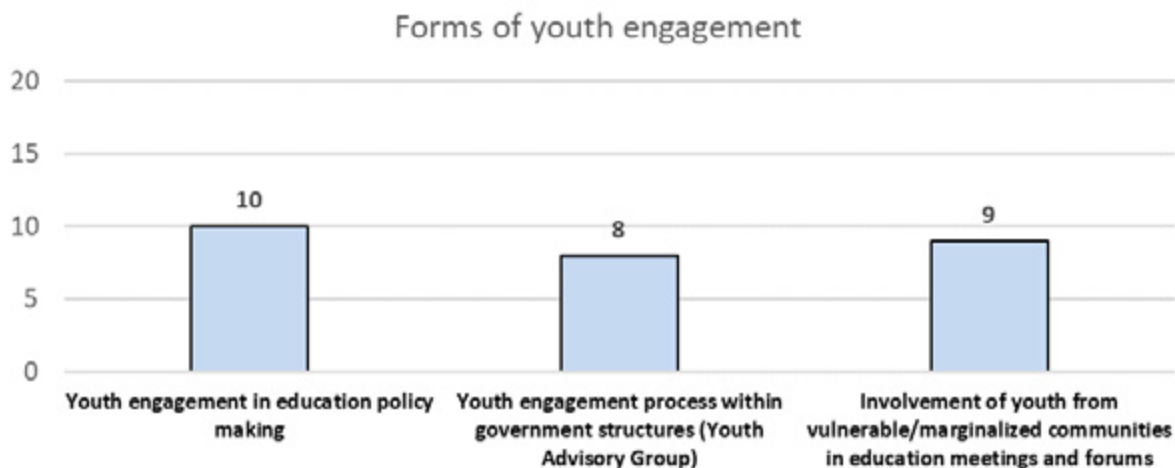
Sixteen out of 20 countries responded positively to the question: Have you undertaken action in relation to the theme of: ‘Youth engagement?’.

• Youth engagement: areas of action

The survey responses indicate that there is significant emphasis on youth engagement in education policymaking across in 13 of the 20 responding countries. Of those 13 countries, 10 responses specifically highlight meaningful youth engagement in policymaking, while eight mention the presence of a youth engagement process within the government structure, such as a youth advisory group. Additionally, nine country responses emphasize the involvement of youths, particularly from vulnerable and marginalized communities, in key education-related meetings and forums.



Figure 18: Engagement in education policymaking is the most common form of youth engagement applied with 10 countries reporting activities out of 13 countries in total



Source: Author calculation of ICESCO Secretariat survey (see Appendix 2).

• **Youth engagement: policy details**

The country-level survey evidence highlights various initiatives aimed at engaging youth in educational policymaking and development. This includes through global and national initiatives, youth leadership and participation programmes, youth engagement in policy development, and youth involvement in other initiatives.

In Bangladesh, youth leaders have participated in global discussions on SDG 4 and Transforming Education and are set to organize national discussions with support from UNESCO Dhaka and the Bangladesh National Commission for UNESCO. In Oman, youth receive significant attention from the leadership and government, with a focus on their role as agents of change. Oman Vision 2040 prioritizes youth by setting strategic goals that emphasize their involvement in national initiatives. The government ensures that young people have ample opportunities to express their opinions and develop essential skills such as communication, innovation, and critical thinking. Youth institutions across the country facilitate their participation in various events and seminars, including those organized by the Ministry of Education and the Ministry of Higher Education, Scientific Research, and Innovation. This involvement was particularly evident during the national consultations on transforming education, where young people played a leading role.

Malaysia has implemented the GenMADANI program (*Generasi Medani* or the civil generation), which focuses on character building among students, instilling values like leadership, unity, and discipline. The program targets students at different educational levels through camps lasting three days and two nights. Jordan implements Student Parliamentary Councils through annual elections in schools. These councils enhance students' democratic awareness and contribute to educational development plans and regulations. In Morocco, young people actively participated in the consultation phase of the 2022-2026 Road Map. The creation of student councils at the school level provides a democratic platform for students to address issues and develop educational projects. Additionally, Morocco has had a Children's Parliament since 1999, chaired by Her Royal Highness Princess Lalla Meryem, where 3,700 child Parliamentarians have been trained to engage in parliamentary activities. Cameroon has implemented a National Youth Policy that stipulates youth involvement in policy development through bodies like the National Youth Council of Cameroon (CNJC). This policy ensures that young

people have a voice in shaping the policies that affect their lives. Yemen has involved young people in decision-making processes through their parliamentary councils, which aim to familiarize them with parliamentary life and encourage their participation in governance.

The Maldives is conducting forums to engage youth and gather their views and ideas for policymaking. Tunisia uses a participatory approach in formulating educational policies, involving students, government bodies, civil society, and economic parties in the decision-making process. In Mali, young people are involved in meetings focused on reopening schools in insecure areas. In Palestine, the Ministry of Education, through its strategic plan, has involved young people by highlighting their role in educational policy and society. This includes various training programs such as citizenship, social auditing, and youth forums. These programs are designed to engage young people in educational initiatives that reflect their needs and interests.

In Syria, the Ministry of Education has provided students with opportunities to participate meaningfully in activities that build their strengths and responsibilities. Guinea encourages young people to learn trades and prioritizes youth in sustainable development efforts.

In summary, the survey evidence suggests a strong focus on youth engagement across these countries, with various programs and initiatives designed to include young people in educational policy and development processes.

Policy Spotlight on effective youth engagement: The case of Yemen

Ensuring meaningful participation of youth in educational policymaking is an essential part of education policymaking in Yemen, particularly for those from vulnerable and marginalized communities. Youth participation in Yemen involves young people in key education-related meetings and forums, providing youth with a platform to voice their concerns and contribute to decisions that impact their lives. Additionally, youth engagement is being established within government structures, such as through the establishment of a Youth Advisory Group, to ensure that youth perspectives are considered in shaping educational policies.

3.3 Challenges to achieving further educational transformation

Countries emphasize the need for comprehensive policies and strategic frameworks to guide educational transformations, such as in TVET and skills for work, physical and mental health, COVID-19 recovery, digital transformation, and inclusion and gender equality. When there is a lack of robust policies, it can hinder progress in these areas. Additionally, challenges in aligning curricula with labour market needs, as highlighted in the case of vocational education in several countries, further underscore the need for continuous adaptation to evolving economic demands.



Financial resources are frequently highlighted as essential for supporting initiatives across various educational domains, including digital learning, teacher training, and vocational education. Insufficient funding and resource allocation pose significant challenges to the implementation and sustainability of programs. The survey findings indicate that funding allocations are often inadequate, particularly in areas such as research and development and higher education access, leading to a call for innovative financial strategies like the creation of special savings for education and the adoption of results-based budgeting. This would improve efficiency in public education spending and strengthen the capacity of civil servants in financial planning.

Engaging stakeholders and fostering collaboration through social dialogues and advocacy is seen as crucial for achieving educational goals. A lack of meaningful engagement and consensus-building among stakeholders can impede progress and implementation efforts. Indeed, Bangladesh called for a new social contract for education to facilitate the transformation of their education system. Other countries have called for the amplification of youth and student voices in education system decision-making and/or sustained participation of teachers and educators in decision-making. However, the findings reveal that social dialogues and advocacy efforts are less common, particularly in areas such as physical and mental health and safety, which could limit the effectiveness of these initiatives.

Enhancing digital infrastructure and connectivity is necessary for supporting digital transformation and learning. Countries face challenges in providing adequate infrastructure and internet connectivity, especially in low-income areas. For some countries, efforts will need to be made to strengthen or digitize the Education Management Information System (EMIS) to support policy development, as prioritized by Guyana, Jordan, Lebanon, and Yemen. The lack of sufficient digital infrastructure, as seen in countries like Yemen and Niger, remains a significant barrier to educational progress.

Similarly, effective data collection and management are crucial for monitoring progress and informing decision-making. Challenges in data collection, as seen in Guinea and Mali, can hinder the ability to assess needs and measure the impact of educational initiatives. Moreover, the lack of reliable data, particularly in areas like gender equality and disabilities, poses challenges for inclusive education.

Improving teacher competencies and working conditions is essential for delivering quality education. Countries face challenges related to teacher training, professional development, and working conditions, which can affect educational outcomes. The evidence shows that teacher welfare, including adequate compensation and professional development opportunities, is often insufficiently addressed, as seen in countries like Yemen and Tunisia, where teachers face significant financial and infrastructural challenges.

Ensuring inclusion and equity in education, particularly for marginalized groups, children with disabilities, and girls, remains a significant challenge. Countries need to address systemic barriers and ensure that all students have equal access to educational opportunities. However, the survey evidence reveals that efforts to engage decision-makers in advocating for disability inclusion are not as prevalent, which may limit the impact of these initiatives.

Challenges are also evident in building additional educational services beyond the boundaries of mainstream schooling. There is a need to emphasize and act on the important role of early childhood care and education. And in the face of uncertain futures, a need to strengthen emergency preparedness through capacity building in disaster-risk reduction and climate-change adaptation within the education sector. Furthermore, the survey highlights the need for more targeted actions in higher education, particularly in research and development, where funding allocations are often inadequate.

4. Supporting next steps in transforming education

As ICESCO member states' education systems seek to transform education, lessons can be learned from evaluations of recent innovations in transformative education practices and policies in the region. This section of the report introduces a comprehensive literature review that examines promising practices and innovative strategies in transforming education, particularly within ICESCO member states. By exploring what has worked in the region, this review complements the previous sections of the study, which have analysed national commitments, surveyed priorities, and reviewed recent policy action among ICESCO member states.

In particular, the literature review seeks to enrich the evidence base of the report by highlighting promising policies and practices in the region and, in doing so, facilitate knowledge exchange. By integrating the literature review with the broader findings of this report, countries can better understand the pathways to educational transformation and leverage these insights to enhance their own education systems.

Box 2 introduces the literature review methodology (see Appendix 4 for the search terms), before section 4.1 to 4.4 summarise the recent literature on transformative education, greening education, education in emergencies, and digitalisation and AI.

4.1 Transforming Education in ICESCO member states

Fifteen papers were identified that met the study criteria on transforming education. The studies were published between 2015 to 2024, covering transforming education within Bahrain, Jordan, Nigeria, Saudi Arabia, Sudan, Suriname, and the United Arab Emirates. Two multi-country studies on Arab countries and one multi-country study African countries, including many ICESCO member states, was included. One of the included papers focuses on Islamic Education curriculum.

The papers employ diverse methodologies, with mostly qualitative designs.

This first section of the literature review focuses on the principal themes of Transforming Education that are not covered in subsequent sections of greening education, education in emergencies, and digitalisation and AI. The themes addressed include Contents and methods; Higher education and research; Inclusion, equity, and gender equality; and Teachers. Global citizenship education – as a goal for TE, and an SDG target – is also included.

4.1.1 Content & Method - Skills for Work

The global agenda for Transforming Education, especially in Technical and Vocational Education and Training (TVET) and skills for work, aligns with several studies on educational advancements. These studies emphasize significant progress and ongoing transformations in nursing and accounting education to meet evolving socio-economic needs.





Box 2: Literature review methodology

A literature review was undertaken to identify evidence from academic and policy sources on the perceived opportunities and challenges to transforming education in ICESCO member states. The review sought to identify empirical studies examining policies and interventions at the national level, as implemented by or in collaboration with member state governments.

Four searches were run, one each in the areas of transforming education, greening education, education in emergencies, and digitalization and AI. A set of search terms were used to produce searches to identify the relevant papers. To determine the specific search terms, trials of combinations of search terms were done to assess the relevance and quantity of results. Once the terms providing the most relevant hits were established, searches were run on google scholar. Books, book chapters, dissertations or theses were all excluded from this search.

The literature review was limited to open access studies published in the past ten years (2014-2024). While geographic boundaries were not explicitly set, search terms were used to try to identify papers from the Islamic World, different ICESCO member state regions and similar contexts. Hits were limited to 200 papers per search.

To address a limited geographic coverage and representation of ICESCO member states from the first round of searches, four additional, geographically targeted searches were conducted to identify papers from countries not covered in the original search. This supplementary search was limited to 150 hits per theme.

To refine the initial hits, a screening of the papers was undertaken by hand, whereby titles and abstracts were reviewed to determine the papers' relevance and whether they would then be quality-assured and mapped. This process is meant to ensure that the search terms were pertinent to the study, the geographic location is clear, the language is readable by the reviewer, and that the reported outcomes are analysed in the paper.

After the initial screening by hand, papers were subject to a final quality assurance process where they were rigorously assessed for conceptual coherence, methodological coherence, scientific validity, and ethics. Studies that did not pass the quality assurance process were excluded from this report but noted by the authors. Accepted papers were systematically mapped on their findings and key attributes.

A total of 1400 studies were reviewed with a final 52 studies passing the quality assurance and being mapped. Of these studies:

- 15 studies were on transforming education
- 9 studies were on greening education
- 17 studies were on education in emergencies
- 11 studies were on digitalization and AI

It should be noted that seven of the seventeen studies on education in emergencies were identified from previous literature reviews and included as they were deemed relevant for this review.



The studies included in this review cover a range of countries and study settings, including Bangladesh, Cameroon, Côte d'Ivoire, Guyana, Indonesia, Iraq, Kuwait, Lebanon, Malaysia, Morocco, Nigeria, Palestine, Saudi Arabia, Somalia, Sudan, Suriname and countries in the Gulf Cooperation Council (GCC). Multi-country studies were also reviewed, including a multi-country study on Saudi Arabia, Jordan, Kuwait, Libya, Morocco, a study on Burkina Faso, Mali and Niger, and several studies on Jordan, and Lebanon. Additionally, these studies utilized a variety of methodological designs, including experimental, quasi-experimental, mixed-methods, qualitative and systematic reviews.

While the review searched for empirical studies examining policies and interventions at the national level, very few studies were identified that meet this criterion and the quality assurance process. While this limits what can be said about policies and programs that transform education, the identified gaps in research provide insight into areas where further investigation is needed. Where studies are conducted and what evidence base there from where can be seen as a valuable finding in itself.

Oraibi's et al. (2022) study on nursing in Saudi Arabia, under Saudi Health Vision 2030, highlights the critical role of nursing in the healthcare framework. It reveals a shift from traditional technical training to a holistic approach that bridges theory and practice, enhancing professional competencies and strengthening the link between academic institutions and healthcare services.

The transformative journey of nursing education in Bahrain, as documented by Awadhalla, Al-Mohandis, and Al-Darazi (2018), showcases the successful implementation of competency-based, student-centred programs. Key strategies include integrating health-related functions in the curriculum, collaboration between education and nursing services, and continuous faculty development, ensuring graduates are well-equipped for modern healthcare demands.

Alsharari's (2017) study on accounting education in Jordan explores how educational practices adapt to and influence broader economic conditions. Using a constructivist approach, the research reveals that accounting education in Jordan is deeply intertwined with the country's socio-economic landscape. It highlights the need for a curriculum that reflects privatization and economic challenges, equipping students to navigate a dynamic environment.

These studies underscore the importance of aligning educational strategies with socio-economic goals, a principle central to the global agenda for Transforming Education. By integrating technical skills, practical training, and cultural responsiveness, these educational transformations develop a skilled and adaptable workforce capable of addressing contemporary challenges.

4.1.2 Higher Education and Research

Higher education is a key part of the global agenda for Transforming Education, promoting inclusive, equitable quality education. It develops a skilled workforce, advances knowledge, and drives socio-economic progress. The agenda supports internationalization, fostering idea exchange, academic mobility, and qualification recognition. Global Citizenship Education (GCED) helps learners address global issues and promotes peaceful coexistence.

Alsharari (2018) highlights the UAE's rapid progress as an "education hub" driven by neoliberalism, quality assurance, and internationalization. However, the author notes a tension between international prestige and local skill development, with governance of diverse institutions being a challenge. Regional integration could enhance internationalization efforts in the GCC.

Al-Agtash and Khadra (2019) present a framework for evaluating higher education internationalization in the Arab region, emphasizing mobility, program cooperation, partnerships, internships, and research collaboration. The German Jordanian University exemplifies successful internationalization, showing how student and staff mobility, joint curricula, and exchanges contribute to skill development and cultural integration.

4.1.3 Inclusion, Equity and Gender Equality

The global agenda for Transforming Education, with a focus on inclusion, equity, and gender equality, is closely aligned with recent studies examining education and gender dynamics in various regions. These studies illustrate the transformative potential of education in driving socio-economic and gender empowerment, albeit with varying degrees of success across different contexts.

Tzannatos (2024) explores the intricate relationship between education, gender, and social transformation in Arab countries. Despite economic and political constraints, there has been noteworthy social progress, although this progress remains uneven. Tzannatos argues that the slow pace of change may be due in part to the education system's inability to fully reach lower-income groups and the limited opportunities provided by the economic system. The author also notes that the perspectives of Arab women, shaped by their economic and legal conditions, are rational responses to their environment. As nations in the region become wealthier and more educated, there is a corresponding increase in support for democracy and civic engagement, alongside a decline in patriarchal values.

Similarly, Yaylali (2023) delves into Sudan's 1998 education reform. This reform aimed to improve educational outcomes and the welfare of women and children by extending and mandating primary education. While the reform led to higher primary education completion rates and increased women's participation in the labour force, it did not significantly enhance overall education participation rates. Yaylali identifies several challenges, including geographical disparities in educational infrastructure, economic barriers, and cultural norms that often conflict with formal education policies. The study recommends that education reforms be complemented by investments in infrastructure, particularly in rural areas, and by policies addressing issues like child labour and early marriage. The involvement of NGOs is also highlighted as crucial in challenging prevailing norms and supporting broader participation in education.

In the context of Saudi Arabia, Ahmed (2020) examines the progress of women's education and its impact on women's empowerment. Since the 1960s, significant efforts have been made to increase girls' access to education and reduce the gender gap. By the 1980s, education became accessible to all Saudi girls, leading to increased female enrolment in universities. Ahmed underscores the Saudi government's substantial commitment to gender equality and empowerment through education, demonstrating a proactive approach to fostering gender equality.

Faniran, Onwudiwe, and Adebayo (2019) provide a critical analysis of youth literacy in Nigeria, highlighting the socio-economic and cultural factors that shape educational outcomes. Their study reveals that gender, particularly in Northern Nigeria, plays a crucial role in educational disparities, with cultural norms significantly restricting girls' access to education. The study calls for policies that



improve education quality in lagging regions, increase access for girls, and target disadvantaged households, aligning with global efforts to achieve Sustainable Development Goal 4. The findings suggest that addressing these challenges through comprehensive and culturally sensitive policies can significantly advance the goal of achieving universal literacy and educational equity in Nigeria.

These studies collectively emphasize the need for a holistic approach to education reform that considers both structural and cultural barriers, recognizing the complex interplay between education, socio-economic status, and gender in different regional contexts.

4.1.4 Teachers

Teachers occupy a central role in every education system, crucially upholding the right to education and profoundly influencing students' learning and well-being. The successful transformation of education depends on cultivating well-trained, professionalized, and empowered teachers who are motivated and adequately supported. These educators must not only transmit knowledge but also guide students in becoming critical thinkers capable of global thinking and local action, fostering global citizens committed to building a sustainable, just, peaceful, and inclusive world.

The necessity for reform in teacher education programs to meet the demands of Transformative Education is well established. Ori and Blanchard (2015) emphasize that Suriname's educational policies are currently misaligned with the requirements of sustainable development, jeopardizing the country's progress in the global information society. They advocate for comprehensive reforms in school curricula and teacher education, proposing the integration of theory with practice, the establishment of partnerships between schools and training institutions, and the adoption of mentoring systems. These reforms, aligned with the principles of Agenda 21, aim to position teacher education as a cornerstone of sustainable development in Suriname.

Globally, the quality of education is closely linked to the qualifications of teachers. However, significant disparities exist, particularly in low-income countries where the percentage of teachers meeting the minimum required qualifications is substantially lower. This underscores the urgent need for improvement in teacher education, as highlighted by the UIS-Teacher Task Force (2021).

Al-Zahrani (2015) underscores the importance of integrating technology into teacher education in Saudi Arabia, identifying a gap between policy and practice. His recommendations for innovative, technology-based pedagogical models and effective leadership align with the global agenda for Transforming Education, which emphasizes the necessity of comprehensive teacher training in technology, including ICT skills and cybersecurity. The alignment of these recommendations with the 2023 Global Education Monitoring Report and the 2024 report on Transforming Education towards SDG4 underscores the vital role of well-prepared teachers in shaping the future of education, particularly in the context of digital societies.

4.1.5 Global Citizenship Education

Transforming education is fundamental for achieving the Sustainable Development Goals (SDGs), particularly SDG Target 4.7, which emphasizes Education for Sustainable Development (ESD) and Global Citizenship Education (GCED). The Transforming Education agenda promotes GCED to enable learners to comprehend global challenges and collaborate on solutions, thereby fostering peaceful coexistence globally (UNESCO, 2023c).

Astani and Hadisaputra (2024) contribute to this discourse by examining the integration of peace education within the Islamic education curriculum. Their qualitative study, based on a systematic literature review, identifies five key approaches: a Curriculum Based on Dialogue, which encourages open dialogue for understanding and conflict resolution; Values-Based Education, which embeds core values such as tolerance and empathy within the curriculum; Life Skills Programs, which aim to enhance life skills in individuals affected by post-conflict situations; National Curriculum Modification, which adapts national curricula to incorporate peace education elements; and a Multiculturalism-Based Curriculum, which fosters respect for diversity and promotes multicultural understanding.

In a similar vein, Njodzela (2023) argues for the integration of peace and education as foundational pillars for transforming learning processes in Africa. He posits that when education is intertwined with peace principles, it becomes a powerful tool for nation-building and social integration. However, the efficacy of African educational institutions has been hampered by challenges such as corruption, poor governance, and conflicts. To counter these obstacles, Njodzela advocates for systemic educational reforms, emphasizing that peace education should be central to institutional activities. The values inherent in peace education—discipline, order, solidarity, equality, and respect for diversity—are essential for cultivating a culture of peace within communities. Njodzela further stresses the importance of administrative and religious leaders in implementing these reforms in a manner that is sustainable and respectful of the continent's unique cultural context. Njodzela also calls for a comprehensive approach to peace education, including targeted campaigns, academic initiatives, and extensive teacher training on peace-related topics. By embedding peace at the core of the educational system, he envisions an Africa where citizens are not only educated but also imbued with the values necessary for peaceful and productive living, thereby contributing to long-term peace and stability across the continent.

These strategies underscore the potential of peace education to be effectively integrated into diverse educational settings, enriching its conceptual framework and promoting harmonious co-existence. Transformative education, which encompasses both ESD and GCED, is therefore vital in cultivating responsible global citizens.

4.2 Greening Education in ICESCO member states

Greening Education contributes to achieving the Sustainable Development Goals (SDGs), specifically SDG Target 4.7 on Education for Sustainable Development (ESD). ESD is the Transforming Education agenda's response to the urgent challenges the planet faces, addressing environmental, social, and economic issues holistically to prevent catastrophic global warming. ESD for 2030 programme aims to foster the necessary personal and societal transformation by acting as a global advocate, strengthening government capacities, and promoting quality Climate Change Education (CCE). Through knowledge sharing, policy guidance, technical support, and innovative non-formal education programmes, the Transforming Education agenda encourages transformative approaches.

Nine papers on greening education were included that met the study criteria. The studies were published between 2014 to 2024. The studies were conducted in a range of countries, namely Cameroon, Guyana, Indonesia, Pakistan, Palestine, Saudi Arabia and Suriname. One multi-country study on the Middle East and North Africa region was also included. The papers employ diverse methodologies, including qualitative and quantitative designs.

The production of academic research on greening education and its publication has concentrated on recent years. Since the Paris Accord of 2015, there has been growing awareness and political action from all stakeholders, making it crucial to focus on updated literature. This is particularly true for publications that address the problem within the framework of Transforming Education. These



factors explain why the literature reported here, except for one study from 2015, ranges from 2021 to 2024. The recency of the material that passed both the first and second phases of screening is a notable finding. Another characteristic of this research is the scarcity of country-specific papers, with the topic being addressed globally instead. The review of the literature is structured around the key pillars of transforming education: greening schools; greening curriculum; greening teacher training and education systems' capacities; and greening communities.

4.2.1 Greening schools

The vision for greening schools globally is to ensure that all educational institutions—from early childhood education through to adult education—achieve green school accreditation. This includes teacher training and higher education institutions. The overarching goal is for every country to adopt a green school accreditation scheme, with a target of at least 50% of schools, colleges, and universities achieving such accreditation and operating sustainably (UNESCO 2024c).

An example of this vision in practice is found in the research by Altassan (2023) at King Saud University. Altassan presents a comprehensive framework for environmental sustainability in educational institutions, integrating solar energy, behaviour change, and recycling practices. The framework involves the use of solar photovoltaic (PV) systems, water repurposing for irrigation, and organic waste recycling to create a micro-ecosystem within schools. This approach is in alignment with Saudi Arabia's Vision 2030, which emphasizes environmental awareness, clean energy adoption, and operational cost reduction. The success of this initiative relies on collaboration among schools, municipalities, and recycling bodies, as well as financial support and awareness campaigns. Altassan's research underscores the critical role of educational institutions in promoting sustainable practices and combating climate change, highlighting the importance of collective efforts and supportive policies to cultivate environmentally conscious individuals and communities.

Similarly, the Green School project in Suriname, launched in October 2013, marks a significant advancement in integrating sustainable environmental education within the nation's primary schools. Funded by the Suriname Conservation Foundation and the State Oil Foundation for Community Development and executed by the Suriname Waste Management Foundation (SUWAMA), this initiative is designed to instil sustainable practices and foster positive behaviour towards biodiversity among young students (Somwaru, 2016). This project stands out from traditional curricula by emphasizing practical, hands-on activities, such as school gardens and environmental brigades. These activities not only enhance students' understanding of biodiversity, waste management, water conservation, and energy efficiency but also promote teamwork, social skills, and creativity. The project has successfully recognized 286 out of 333 primary schools as "Green Schools," reflecting a cultural shift towards environmental stewardship among Suriname's youth (Somwaru, 2016). Despite some challenges, particularly in measuring water and energy usage improvements, the Green School project has significantly impacted students' environmental behaviour, providing a solid foundation for future advancements in environmental education. The potential formal incorporation of this program into the national curriculum could ensure the sustainability and expansion of these efforts, fostering a new generation committed to environmental sustainability.

4.2.2 Greening curriculum

The vision for greening the curriculum emphasizes a life-long learning approach that integrates climate education into school curricula, vocational and technical education, workplace skills development, and pedagogical practices. The objective is to significantly increase the number of countries incorporating climate education at pre-primary, primary, and secondary levels, aiming to more than

double the current participation of approximately 45%. This vision is exemplified by Salem and Najihah (2023), whose study “Overcoming the Climate Change Challenges through Vocational and Technical Education Programs” explores how vocational and technical education (VTE) can address climate change challenges. Their research, based on a descriptive study involving Palestinian VET lecturers and experts, highlights significant gaps in the existing VET curriculum and resources. They advocate for aligning the curriculum with global sustainability goals and labour market demands, emphasizing the necessity of policy discourse and empirical updates among VET stakeholders. The study concludes that expanding VTE programs, enhancing training, and integrating updated content are essential for fostering positive transformation. Collaboration between VTE professionals and governments is crucial to draft legislation aligned with UNESCO principles, ensuring that curricula are continually revised to equip students with the skills needed to mitigate natural disaster risks.

The discussion about climate change has been a decade-long engagement, as evidenced by Bynoe and Simmons (2014) in their evaluation of Guyana’s curriculum. Their study, involving a curriculum audit, teacher surveys, and policy reviews, reveals a significant gap in climate change coverage within the existing Science and Social Studies curricula. Despite challenges such as curriculum overload, lack of teacher incentives, and the absence of a cohesive policy framework, teachers are eager to incorporate climate change education. Bynoe and Simmons emphasize the need for a national policy to ensure a structured and coordinated approach, along with comprehensive teacher training to equip educators with the necessary skills and knowledge. They advocate for partnerships between educators and practitioners to enhance resource availability and contextualize climate change issues. Their findings underscore the global relevance of preparing future generations to address climate change, with specific insights valuable for Caribbean educators facing similar challenges.

4.2.3 Greening teacher training and education systems’ capacities

Greening teacher training, which integrates climate education into both pre-service and in-service programs, is a crucial step in enhancing the capacities of school leaders and educational stakeholders. The primary aim is to ensure that every school leader and at least one teacher per school are equipped to incorporate climate education into their teaching practices. UNESCO’s *Including Transformative Education in Pre-Service Teacher Training: A Guide for Universities and Teacher Training Institutions in the Arab Region* serves as a key resource in the Arab context, offering guidance on how to effectively embed climate education within teacher training programs.

An initial review of recent literature revealed a dearth of studies that comprehensively assess the effectiveness of policies or practices in greening teacher training. However, a more focused search incorporating specific country contexts brought forward notable contributions, particularly in the area of in-service training. One significant study is Mbah’s (2024) article, *Discrepancies in Academic Perceptions of Climate Change and Implications for Climate Change Education*, which examines the impact of diverse academic perspectives on climate change education (CCE) at a university in Cameroon. Mbah’s research highlights the varied perceptions held by academics, which range across scientific, cultural, and observational viewpoints. This diversity underscores the need for a flexible and inclusive educational framework that can accommodate these differing perspectives to enhance the effectiveness of CCE. The study is grounded in Paulo Freire’s (1970) concept of critical consciousness, advocating for an educational approach that encourages learners to critically engage with the complexities of climate change. A key contribution of Mbah’s study is the proposal of a comprehensive framework that integrates scientific data, cultural contexts, and local environmental observations. This framework is particularly relevant for educational settings in the Global South, where there is a growing recognition of the importance of incorporating indigenous knowledge into environmental education.



Mbah's study also emphasizes that academic perceptions play a significant role in shaping the content and delivery of CCE, and that addressing these perceptions is crucial for developing effective climate education programs. While the study is based on a single case at a Cameroonian university, limiting its generalizability, it provides valuable insights into the intersection of academic perceptions and CCE. The proposed framework offers a practical approach for educators to foster critical thinking and informed decision-making among students. This research not only contributes to the broader discourse on CCE but also suggests directions for future studies, advocating for a more inclusive and contextually nuanced approach to climate education that empowers educators and students alike.

4.2.4 Greening Communities

The vision for greening communities is to engage the entire community by integrating climate education into life-long learning, particularly through community learning centres and learning cities. The goal is for all the countries to report at least three different ways learning opportunities are made available for adults outside the formal education system, helping them develop the skills, attitudes, and actions needed to foster community resilience to tackle climate change.

Information is crucial in addressing climate change, making education essential. Research demonstrates that a more educated person is more aware of climate change and more willing to act. The paper "Does Higher Education Lead to Lower Environmental Pollution? New Evidence from MENA Countries Using Econometric Panel Data" by Zouine et al. (2024) investigates the relationship between higher education and environmental pollution in MENA countries from 2000 to 2018. Using panel unit root tests, Kao cointegration test, fixed effect GLS, FMOLS, and DOLS, the study examines the effects of higher education, globalization, GDP per capita, and population on CO₂ emissions. The findings indicate that while higher education, globalization, and population contribute to lower CO₂ emissions in the long term, economic growth increases emissions, challenging the EKC hypothesis for the MENA region.

The study highlights significant policy implications, urging governments to invest in higher education and incorporate environmental education into academic curricula. Recommendations include creating exchange and scholarship programs, fostering collaboration among MENA higher education institutions, and aligning educational initiatives with the United Nations' strategic development objectives. The research advocates for innovation and scientific research in environmental fields, with governments providing financial incentives and encouraging partnerships between academic and commercial sectors. Enhancing higher education funding, promoting sustainable practices, and improving environmental awareness are crucial for mitigating CO₂ emissions. Policymakers are encouraged to integrate these findings into educational programs and research efforts to address environmental challenges in the MENA region.

Further reinforcing this point, the study "Evaluating the Impact of Environmental Education on Ecologically Friendly Behaviour of University Students in Pakistan: The Roles of Environmental Responsibility and Islamic Values" by Begum et al (2021) examines how environmental education influences the ecological behaviour of university students. Using data from 413 students, the study found that environmental education positively impacts students' environmentally friendly behaviours, mediated by a sense of environmental responsibility and moderated by Islamic values. Students who receive environmental education tend to adopt eco-friendly behaviours, and those with strong Islamic values are more likely to engage in such behaviours. The research emphasizes the importance of integrating both formal and informal environmental education to foster sustainability and highlights the role of Islamic values in promoting ecological responsibility among Muslim students. These findings underscore the critical role of environmental education in guiding students towards sustainable

practices and suggest higher education institutions should promote environmental education and consider incorporating religious values in ways that are legally and culturally appropriate.

A significant body of literature has emerged, focusing on the assessment of policies in various countries to determine their readiness to support transformative education approaches, particularly in greening education. This growing interest is evident in studies like those by Tang (2024) and Essa and Harvey (2022), which provide critical insights into the integration of climate change education (CCE) and Education for Sustainable Development (ESD) within national education frameworks.

Tang's (2024) study offers a comprehensive analysis of climate change education (CCE) within Indonesia's climate change and education policy frameworks. Through thematic analysis of 20 climate change policy texts, twelve K-12 education policy texts, and seventeen expert interviews, the study highlights significant discrepancies between the two policy domains. Four main themes emerge: the marginalization of CCE, lack of synergies between policies and stakeholders, predominant economic values, and an optimistic future outlook. The analysis reveals that current policies inadequately integrate CCE, with a primary focus on economic development over sustainability goals. Despite these challenges, the study presents a positive future outlook for CCE in Indonesia, driven by the introduction of the Merdeka Curriculum. This curriculum emphasizes learner-centric, action-oriented learning and reduces curriculum overload, allowing more flexibility for integrating CCE. The Pancasila Student Profile Strengthening Project (P5) further supports this by promoting global citizenship, creativity, and critical thinking, aligned with the Sustainable Development Goals (SDGs). Notable initiatives include plans for a dedicated CCE curriculum, pilot programs starting in 2024, and the Disaster Safe Education Unit program, which incorporates CCE into formal education through a participatory, risk-informed approach. Additionally, the Adiwiyata green schools award program fosters environmental awareness and sustainable practices among students and communities. The study underscores the urgent need for a cohesive approach to CCE policymaking, balancing economic development with sustainability goals, and integrating CCE into formal education. It calls for further research in diverse socio-economic and environmental contexts to enhance the understanding of CCE policies globally.

4.3 Education in Emergencies

Seventeen papers were identified that met the study criteria on Education in Emergencies (EiE). The studies were published between 2017 to 2024, covering policies and interventions related to education in emergencies in Afghanistan, Côte d'Ivoire, Iraq, Palestine, Malaysia, Saudi Arabia, Somalia, and Uganda. Three multi-country studies including Jordan and Lebanon, one multi-country study on Kuwait, Lebanon, Morocco, Palestine, Qatar and one multi-country study on Mali, Niger and Burkina Faso were included. Unfortunately, no studies from the Latin American region were identified. Eight of the papers study Syrian refugees in Lebanon, and most of the identified papers studied EiE in host countries, indicating a significant research interest in this area.

The methodologies employed in these studies are diverse. The studies consist of six quantitative studies, including one quasi-experimental and three experimental (randomized controlled trials) studies, and nine qualitative studies, including three case studies. Many qualitative studies utilized methods such as interviewing and conducting focus groups.

Various EiE interventions implemented in host countries, such as educational curriculum and programs, school enrolment interventions, and e-learning interventions, have been found to positively impact students and teachers across educational levels. The use of such interventions is seen at a time when EiE is expanding, particularly regarding increased engagement and collaboration with non-state actors. The following review is structured around the key themes of programs for EiE; access to EiE; inclusion and gender equality in EiE; and policies and actors in national emergencies.



4.3.1 Programs for Education in Emergencies

Targeted social-emotional programs and remedial curriculums can be effective in improving social-emotional and academic outcomes for children in emergency situations (Brown et al., 2023; Forsberg and Schultz, 2022 ; Kim et al., 2023). In a study of the universal psychosocial program *Better Learning Program Level 2 for* elementary school students in Palestine, Forsberg and Schultz (2022) found positive effects on children's self-perceived academic functioning, well-being, self-regulation, self-efficacy, executive function, stress-related symptoms, and hope. This also had spillover effects on their Arabic and math grades in the following semester.

However, the duration of remedial programs should be carefully considered. Studying a social-emotional learning program for Syrian refugees in Lebanon, Brown et al (2023) found that while different durations of programs all have positive outcomes, resources might be allocated more effectively by including more children rather than extending program duration.

Additionally, it is important to consider how EiE programs can be implemented in a conflict sensitive way, to avoid reinforcing or exacerbating existing tensions. Shanks (2019), in a study on schooling for internally displaced children in Iraq, found that educational provision for internally displaced people (IDP) intersects with debates on territorial control, issues of equality, and identity-driven security. As such, the author suggests education provision for IDPs must be carefully designed for those who receive it and for the general population.

4.3.2 Access to Education in Emergencies

Despite a variety of effective programs to support children in *Education in Emergencies* (EiE), access remains a significant issue. Cash transfer programs are one intervention can be effective in addressing this issue. The cash transfer program *Min Ila* for displaced Syrian children in Lebanon has been found to increase household expenditure on education, time spent in schools, school attendance and children's subjective well-being (de Hoop, Morey and Seidenfeld, 2019; UNICEF Office of Research Innocenti and American Institute for Research, 2018). The piloted program was implemented by the Ministry of Education and Higher Education, in collaboration with UNICEF, and points to a successful approach to increasing EiE access for girls and boys.

Notably, issues with accessing education among displaced and refugee populations also extends to adolescents and youth, and tertiary level education. In a study on Syrian refugee youth in Jordan, Lebanon, and Türkiye, Fincham (2020) found that nearly all participants considered the higher education provision for refugees adequate in terms of the range and depth of programs. However, despite the expansion of opportunities through various strategies, such as scholarships, TVET, non-formal learning programs, and online learning, concerns about accessibility and adaptability remain.

A successful approach to addressing access to EiE across education levels is e-learning. For example, the remote early learning programme *Ahlan Simsim* was found to improve developmental outcomes of the 5 to 6-year-old refugee children in Lebanon who attended the program (Global Ties for Children, 2023). This provides evidence that remote education models can work within early age groups and that caregivers can be engaged successfully in early learning, regardless of their education levels. E-learning was also found to be as effective as face-to-face education among Najran University students by Rajab (2018), who studied the effectiveness of e-learning in war zones in Saudi Arabia.

Access to EiE is often contingent on the provision of teachers. In a study on resilient refugee education in Malaysia for teachers of refugees, O'Neal et al. (2017) found that peer-delivered trainings were as effective as professionally delivered trainings, pointing to an effective and efficient way to reach more teachers in this field. EiE interventions for children can also have positive spillover effects on teachers.

4.3.3 Inclusion and Gender Equality in Education in Emergencies

Access to education in emergencies can also be dictated by a child's gender, with girls and boys often facing different opportunities and barriers depending on cultural, social, and economic factors. Various interventions to provide children with education in emergencies include gender equality components or are specifically designed to be gender-responsive and inclusive.

A report by UNICEF (2021) presenting solutions to keeping girls learning in situations of emergency, highlighted various successful examples of gender-responsive EiE interventions in ICESCO member states.³

One of these case study demonstrates that existing educational programs for marginalized groups of children can be successfully adapted in emergency situations for both girls and boys. Following school closures as a result of the Covid-19 pandemic, in crisis settings in Burkina Faso, Mali and Nigeria, the already established PASS+ programme was adapted to the new emergency context. The programme, implemented by Educate a Child, Plan International Canada, and Strømme Foundation included a nine-month accelerated learning program (speed schools) for out-of-school children aged 8 to 12, and Second Chance classrooms for primary-age students in high-need areas. In response to Covid-19, the programme shared gender-responsive, self-guided booklets to provide learning continuity for girls who had been enrolled in the speed schools, focusing on reinforcing pre-pandemic skills, literacy, numeracy, and providing psychosocial support. Over 9,600 learners benefited from the intervention, with 75% completing all exercises and 90% (91% girls, 89% boys) taking the primary school placement exam, facilitating their reintegration into formal education (UNICEF, 2021). The programme was found to have played an instrumental role in minimizing school dropouts and supporting learning continuity for children in the three countries.

Another programme, implemented by Plan International and Dubai Cares, aimed to support refugee families and host communities in Adjumani and Yumbe, Uganda. The cross-sectoral program sought to tackle demand and supply side barriers to education faced by adolescent girls through engaging with both communities and schools (UNICEF, 2021). Key interventions included building sex-segregated latrines, supplying teaching and learning materials, and providing gender-responsive teacher training. The programme worked to raise awareness in communities on the importance of girls' education, and to encourage their active participation and development of sustainable skills. This also included a component on involving adolescent boys as advocates for gender equality. The intervention was found to improve school attendance, particularly among girls and marginalized children. Additionally, the quality of education in targeted primary schools increased, and community management structures were found to become more gender equitable (UNICEF, 2021).

Similarly, programs including radio-based education can be used to improve student learning outcomes in foundational subjects, such as literacy, mathematics and social studies. UNICEF (2021) suggests such programming can be used to target out-of-school children, to supplement formal



3 While the report from UNICEF presents its methodological approach, it should be noted that the evaluation methods for the chosen case studies are not included in the report, and therefore these findings may need to be interpreted with caution.

classroom-based teaching, and to reach conflict-affected children, including girls. An example can be seen in the Somali Interactive Radio Instruction Programme (SIRIP) which was implemented in Somalia by USAID and Education Development Centre. Evaluations of the program have demonstrated that SIRIP has been successful in advancing gender equality, reaching 131,901 girls through their learning materials, outreach and trainings. The program's success was also attributed to their requirement that participating schools and learning centres sought to reach gender equity in school enrolment, which involved increasing awareness about the importance of girls' education. Radio-based education programming can therefore be seen as an intervention that can effectively and often cheaply improve the educational outcomes of children and girls in conflict-affected, hard to reach and other emergency situations.

While policies and programs are crucial for ensuring girls have access to quality education in emergencies, it is almost important to consider the influence of community factors. A study investigating the effect of conflict spillover on education access among girls and boys in Afghanistan, using data from 2005-2007, found that community resilience – members' collective commitment expressed through financial contributions – could support girl enrolment rates (Utsumi, 2022). However, a significant difference was found between larger and smaller communities, with community resilience positively affecting girls' enrolment only in larger communities.

4.3.4 Policies and Actors in National Emergencies

While much of the empirical research examines EiE in the context of host countries, internally displaced peoples or refugee populations, national emergencies may come unexpectedly, as in the case of the COVID-19 pandemic. In a study on the educational policies and decision-making of Kuwait, Lebanon, Morocco, Palestine, and Qatar during the COVID-19 pandemic, Arar et al. (2023) found that, while prioritizing health, the policies implemented led to unequal outcomes for children. The authors suggest that to prevent education policies in emergencies from resulting in or exacerbating existing inequalities, countries must enhance their capacity and strengthen their systems – not only as host countries to vulnerable groups of children, but to protect their all of their citizens from any emergencies that can occur.

Although educational institutions often serve as safe spaces for children and students during emergencies, they themselves can also be vulnerable to destruction in such situations. Johnson and Hoba (2015) studied the rebuilding of the public university, Université Félix Houphouët-Boigny in Côte d'Ivoire, which was destroyed as a result of a highly contested Presidential election in 2013. Their case study explored the process of rebuilding the university in the conflict's aftermath and analysed the interplay between Government, university and student actors, focusing on the implementation of decisions, policies, and practices resulting from their interplay. The study found that the Ministry of Higher Education, in acting to centralize its authority over the rebuilding process, at times caused resentment from other policy actors who felt disenfranchised. Challenges to the reconstruction process included insufficient collaboration and differing working cultures among the various actors, as well as different ambitions to rebuild the university versus to reform it. The authors conclude that while rebuilding processes are often dependent on the involvement of local and state actors for effective policy formulation and decision-making, successfully coordinating different actors is one of the biggest challenges to post-conflict reconstruction.

It should be noted that non-state actors are playing increasingly large roles as stakeholders in EiE (Mccarthy, 2017; Menashy and Zakharia, 2017; Zakharia, 2020). Menashy and Zakharia (2017) find a recent surge in private sector participation in the education of Syrian refugees, as organizations

increasingly fund the education sector, develop and distribute technological innovations and provide professional development to education workers. Similarly, in a study of Syria refugees in Jordan, Lebanon, and Türkiye, Zakharia (2020) suggests that corporate elites are emerging as global policymakers in EiE, shaping discourse through high-level policy forums, events, and the governance of global funds. While the expansion of actors and stakeholders shaping EiE may increase the access to and availability of it, this comes with important considerations for government and policymakers who have to navigate relationships with emerging actors.

4.4 Digitalization and Artificial Intelligence in ICESCO member states

Eleven papers were identified on digitization and artificial intelligence (AI) that met the study criteria. The studies were published between 2019 to 2024 and were conducted in Bangladesh, Indonesia, Malaysia, Morocco, Nigeria and Saudi Arabia. A systematic review on countries in the Gulf Cooperation Council was also included as well as a systematic review on Saudi Arabia, Jordan, Kuwait, Libya, Morocco. Unfortunately, no studies from the Latin American region were identified.

A range of methodologies were employed by the studies to examine digitalization and AI in education. The included studies consist of one qualitative study, three systematic reviews, two mixed-methods studies, and six quantitative studies. This range of methodologies provides a comprehensive view of the current research landscape on the topic.

Notably, no quality assured studies were identified in the literature review process that directly assessed the impact of a national policy or intervention with digitalization or artificial intelligence in education systems. The limited number of identified studies and the nature of the included ones may be explained by the novelty of digitalization and artificial intelligence in educational systems. Interestingly, of the included studies, all but one systematic review examines digitalization and AI in the context of higher education institutions, perhaps indicating a lack of research on digitalization and AI in other levels of education. The following review organized around the key themes of teaching, learning and education systems; perceptions of digitalization and AI readiness; and inclusion and equality.

4.4.1 Teaching, Learning and Education Systems

Digitalization and the integration of AI are widely recognized as transformative processes for the educational system. The Covid-19 pandemic highlighted the growing necessity for countries to implement online learning systems. Consequently, the urgency to develop policies and reinforce systems for widespread digitalization and AI integration has become evident.

The use of artificial intelligence in higher education institutions has been found to have positive effects on learning, teaching and educational systems. In a systematic review investigating characteristics of AI among Gulf Council Cooperation countries Bahrain, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar, and United Arab Emirates, Fadlemula and Qadhi (2024) found 32 studies on the topic. As indicated by the studies reviewed, AI applications were found to enhance educational outcomes, support decision-making, and advance institutional systems. Notably, no studies reported any negative impacts from their use.

However, the study also highlights the importance of addressing barriers related to AI in higher education for technologies to be appropriately and effectively integrated. Authors suggest that challenges related to the structural complexity of the Arabic language, poor technology skills, inadequate technology infrastructure, and resistance to leveraging traditional approaches in education much be addressed (Ibid).



Alotaibi and Alshehri (2023) examines the opportunities and challenges that arise from the adoption of AI-based learning outcomes in Saudi Arabia's higher education institutes. The authors find that AI has the potential to address significant educational challenges, transform learning methodologies and teaching, and to accelerate progress toward the 2030 goals. However, the study also highlights certain challenges associated with the implementation of AI-based learning in the higher education context of Saudi Arabia, underscoring the need for teachers to acquire new technological skills to effectively utilise AI in a pedagogical manner.

4.4.2 Perceptions of Digitalization and AI Readiness

Overall, digitalization, and in particular the use of artificial intelligence technologies, is not yet widely implemented, yet studies indicate a widespread positive perception of their application in higher education institutions (Herawati et al., 2024; Mohd et al., 2019). Studying the role of educational technologies in teaching the Arabic language to Malaysian university students, Mohd et al (2019) finds that students at large want their teachers to integrate technological apps and tools into their Arabic lessons. Through analysing student survey responses, it is clear that while some students still prefer traditional teaching methods, 85.6% of the participants agree that the use of technology will improve their Arabic learning experiences (Mohd et al., 2019).

Georgina (2023) also finds positive perceptions to digitalization in a study on the use of French to Igbo computer-aided translation tools among French language students in higher education institutions in South-Eastern Nigeria. Exploring students' exposure to and utilization of translation tools, the findings suggest that while some students use the tools sporadically, many integrate them regularly into their translation work for improved accuracy and efficiency. The study also highlights the range in individual preferences for computer-aided translation tools and suggests higher education institutions should support students in using the tools efficiently.

Similar sentiments are found regarding artificial intelligence, despite the emerging understanding of artificial intelligence and its potential implication for education. In a study exploring student perceptions of the use of artificial intelligence in education in Bengkulu University, Indonesia, Herawati et al (2024) find that most students hold a positive view of integrating AI into learning. The participating students from the Faculty of Teacher Training and Education express their view of AI as a tool that can increase access to educational resources and enrich their learning experiences.

While perceptions of integrating artificial intelligence and digitalising education may be positive, students and faculty members at higher education institutions are prepared to varying degrees for further digitalization of their institutions and for artificial intelligence technologies to be implemented in their learning and teaching (Alnasib, 2023).

Alnasib (2023) examined the readiness of faculty members at King Faisal University in Saudi Arabia to integrate artificial intelligence into their teaching practices. The study revealed that while faculty members on average believed their institution was prepared to implement AI, their individual readiness to incorporate AI was significantly correlated with their attitudes towards and perceived benefits of AI. Additionally, variations in AI readiness were observed based on gender, age, and teaching experience, with men, those aged 31-40, and educators with either lower or higher levels of teaching experience demonstrating the greatest readiness for AI integration. However, despite favourable attitudes towards AI, the faculty members were only moderately prepared to integrate it into their teaching due to limited AI knowledge, inadequate resources, and insufficient understanding of its benefits.

4.4.3 Inclusion and Equality

Digitization, through the expanding use of e-learning and web-based platforms present both opportunities and challenges for student inclusion in higher education institutions.

Studies suggest e-learning and web-based learning can enhance teaching and inclusive learning in higher educational systems and serve to foster academic excellence through providing engaging content, interactive online learning environments, and comprehensive support systems (Airaj, 2022; Almakky, 2024). Studying the nexus between translation challenges for Arabic-speaking students and web-based learning in higher education institutions in Saudi Arabia, Almakky (2024) finds that well designed web-based learning environments can ameliorate the online learning processes for students struggling with translation-related issues. The study suggests that implementing such technology can support Arabic-speaking students in addressing English language barriers.

In a systematic review on student assistive technology for dyslexia in Jordan, Kuwait, Libya, Morocco, and Saudi Arabia, Alsswey, El-Qirem & Tarawneh (2021) found that technology can play an important role in improving students' reading skills. The study found that while serving to improve performance and learning abilities of students with dyslexia, certain elements of assistive technology, such as visual design, benefitted all users, including those without specific learning needs. Therefore, it can be concluded that elements of assistive technology meant to enhance inclusion for students with different learning needs could in fact benefit all students. The systematic review did not mention what levels of education their reviewed papers studied.

Notably, the authors emphasize that while their systematic review searched for papers from all Arab countries, only ten papers were identified, from Jordan, Kuwait, Libya, Morocco, and Saudi Arabia. Of these papers, half were conducted in Saudi Arabia, pointing to a disparity in research coverage and suggesting assistive technology for dyslexia may be an understudied subject in the region.

Airaj's (2022) study on teaching and learning models in the period of the Covid-19 pandemic at Cadi Ayyad University in Morocco also finds that e-learning can positively impact academic teaching and learning in higher educational systems, particularly through the use of cloud computing technology in combination with project-based learning. However, the study also points to challenges that may arise in e-learning that can impact students differently depending on their circumstances, such as affordable internet access and internet speed which can impact how students can access and interact with online resources.

A similar study on the use of technology in higher education institutions during the Covid-19 pandemic was conducted in Bangladesh by Alam and Forhad (2023). The study investigated the effect of technology access on academic achievement among undergraduate university students. Half of the study participants had gained access to smartphones in 2020 during the pandemic through a soft loan program provided by the Bangladesh Government, which offered financial support for smartphone purchases. Only students who did not have a smartphone were eligible for the loan which was considered interest-free and was to be repaid in instalments. Through comparing the academic achievement of students who had access to government-provided smartphones and those who did not, the intervention was found to reduce educational achievement differences between higher and lower socioeconomic students. The authors conclude that technology, such as smartphones, can reduce academic disparity despite different socio-economic backgrounds (ibid).



Finally, a study by Alshraah et al., (2024) investigates the role of technological integration in advancing education quality and gender parity in Saudi Arabia, aligning with Vision 2030. Study results suggest that a significant proportion (55.7%) have access to quality education, with 56.7% utilizing digital tools to enhance teaching and learning. Of the surveyed participants, 85.0% recognize the importance of digital literacy and online education in expanding educational opportunities. However, 75.9% of participants are aware of prevalent gender disparities, noting that limited access to digital tools hinders equality.

5. Key findings and recommendations

From the initial commitments made by countries to evidence of the dynamic nature of making commitments for transforming education, there are patterns in TES priorities by country groupings, as well as practical examples of promising policy reforms in both the survey results and from the literature.

To summarize the learning, this section asks what the main findings and the promising practices are (drawing from the TES data, surveys and the literature, survey), and provides high-level recommendations before setting out an evidence-informed roadmap for transforming education in the Islamic World.

5.1. Main findings and promising practices

The data and survey responses reported here show a significant emphasis on **digital transformation and learning** across ICESCO member states reflects a strong commitment to adapting education to the digital age. Countries like Bangladesh and Malaysia have implemented robust national strategies for digital learning, showing widespread adoption of digital platforms. However, and more broadly, survey responses reveal persistent challenges in infrastructure, particularly in low-income countries, where connectivity issues hinder the effective implementation of digital learning strategies. The literature corroborates these findings, with studies from Saudi Arabia (Oraibi et al., 2022) and other countries emphasizing the need for improved digital infrastructure to support digital learning initiatives. However, while the data on TES commitments indicate a broad commitment to digital transformation, the literature suggests that the success of these efforts is uneven, particularly in areas with inadequate infrastructure.

The data and survey responses covering the areas of **governance and finance** have shown how many countries prioritize strengthening educational governance and securing sustainable financing. The survey data highlights the drive for improvements in domestic financing and education governance structures to ensure the efficiency and effectiveness of public education spending. The literature supports these priorities, with studies like those from Morocco (Alsharari, 2018) and Oman illustrating successful governance reforms through transparency initiatives and performance management systems. However, the literature also identifies financial constraints as a significant challenge, with some countries, such as Pakistan, facing difficulties in securing adequate funding due to their debt burden.

A strong commitment to **inclusion, equity, and gender equality** is evident, with countries like Jordan and Palestine implementing policies aimed at reducing gender disparities and promoting equitable access to education. However, gaps remain in fully integrating these principles into national policies, particularly in reaching marginalized groups. Studies like those by Tzannatos (2024) and Yaylali (2023) align with the data, showing that while there is progress in promoting gender equality, structural barriers continue to limit the reach of these reforms, especially in lower-income regions. The literature also highlights the need for targeted interventions to overcome these barriers and ensure broader inclusion.

Countries such as Egypt, Oman, and Morocco have made significant strides in improving **teacher training and professional development**. The focus on modern teaching methods and educational technologies is evident, alongside efforts to enhance working conditions for teachers. The literature supports these findings, emphasizing the importance of aligning teacher education with sustainable development goals. For instance, Ori and Blanchard (2015) in Suriname, and Al-Zahrani (2015) in Saudi Arabia, both highlight the need for comprehensive reforms in teacher education to better prepare educators for the demands of digital societies.

In the area of **early childhood care and education (ECCE)**, the TES data and surveys show how countries like Bangladesh, Jordan, and Oman have developed comprehensive strategies to expand access to ECCE, focusing on improving the quality of early learning environments. However, challenges in funding and implementation persist across some member states, particularly in low-income countries. The literature supports these observations, with studies emphasizing the importance of early childhood education in laying the foundation for lifelong learning. However, similar to the data findings, the literature notes that effective implementation remains a challenge due to financial constraints.

Finally, efforts to **green schools**, including initiatives to integrate environmental sustainability into school operations and curricula, are gaining traction among ICESCO member states. Countries such as Saudi Arabia and Suriname have implemented comprehensive frameworks to promote sustainability in educational institutions. Saudi Arabia, for example, has integrated solar energy, recycling practices, and behaviour change initiatives into schools as part of its Vision 2030 strategy, as noted by Altassan (2023). In Suriname, the Green School project has significantly impacted students' environmental behaviour, fostering a culture of sustainability within primary schools (Somwaru, 2016). The literature reinforces these findings, highlighting the importance of greening schools as a key component of education for sustainable development (ESD). Studies like those by Altassan (2023) in Saudi Arabia and Somwaru (2016) in Suriname illustrate the successful integration of environmental sustainability practices in schools, which not only promote ecological responsibility among students but also support national sustainability goals. The literature emphasizes the need for educational institutions to adopt green practices, such as the use of renewable energy and waste recycling, to mitigate environmental impacts and foster a generation of environmentally conscious citizens.

5.2 Building a road map for transforming education

Based on the main findings related to priorities, promising practice and challenges to transforming education, a set of key recommendations drawn from the survey responses and literature are presented below. Building from the key recommendations, a 'roadmap for the future of transforming education' is then presented.

5.2.1 Key recommendations for transforming education systems in the Islamic World

Strengthen Digital Infrastructure: Both data and literature underscore the need for substantial investment in digital infrastructure, particularly in low-income and rural areas. Governments should prioritize connectivity improvements and the development of national strategies that ensure equitable access to digital learning tools. This recommendation is critical to overcoming the infrastructure challenges identified across this report.



Enhance Governance and Financing: the literature highlights the need for results-based budgeting and transparent financial management in the education sector. Countries should continue to adopt best practices in governance, as demonstrated by successful cases in Morocco and Oman. This approach will help to address the financial constraints that hinder the effective implementation of educational reforms.

Promote Inclusive and Equitable Education: Both countries themselves, and the literature, emphasizes the importance of integrating gender equality and inclusion as part of transforming education. Countries should implement targeted interventions to address the structural barriers identified in both the survey responses and studies like those by Tzannatos (2024). This includes improving access to education for marginalized groups and ensuring that national policies reflect a commitment to equity.

Expand and Enhance Teacher Development: The emphasis in the TES commitments on improving teacher training aligns with the literature's call for comprehensive reforms in teacher education. Countries should focus on modernizing teacher training programs, integrating technology, and establishing continuous professional development systems. This is essential for cultivating a well-prepared teaching workforce that can meet the challenges of modern education, as highlighted by Ori and Blanchard (2015) and Al-Zahrani (2015).

Increase Investment in Early Childhood Education: The need for expanded access to ECCE is a shared priority in both the data and literature. Countries should focus on securing sufficient funding for early childhood programs and ensuring their effective implementation, particularly in low-income regions. This recommendation is crucial for building a strong foundation for lifelong learning and addressing the funding challenges identified in both the data and literature.

Promote Greening of Schools: Both data and literature advocate for the expansion of greening initiatives in schools across ICESCO member states. Governments should develop and implement national green school accreditation schemes, aiming to integrate environmental education and sustainable practices into all educational institutions. This includes promoting the use of renewable energy, enhancing waste management systems, and incorporating sustainability into the curriculum. Countries should also encourage collaboration between schools, municipalities, and environmental organizations to ensure the success of these initiatives, as demonstrated by the positive outcomes in Saudi Arabia and Suriname (Altassan, 2023; Somwaru, 2016).

5.2.2 A roadmap for moving from commitments to practices for transforming education

This roadmap provides a phased approach to transforming education systems in the Islamic World, focusing on foundation setting, systemic integration and inclusion efforts, continuous improvement, and global leadership. Each of the four phases builds on the successes of the previous one, ensuring a comprehensive and sustainable transformation.

Phase 1 can focus on **'foundation' setting** (0-2 Years) and be time used for establishing a solid foundation for educational / digital infrastructure, enhancing governance, securing sustainable financing, and modernizing teacher training. During this phase, countries should conduct national audits to identify gaps in educational / digital infrastructure, launch public initiatives to improve educational services and internet connectivity in underserved areas, and develop national strategies to ensure equitable access to education services including to digital learning platforms. Simultaneously, governance structures can be improved by adopting efforts to increase efficiency in spending, such as results-based budgeting and transparent financial management systems. Positive experiences in Algeria,

Egypt, Guyana, and Tajikistan, and successful models from countries like Morocco and Oman can serve as frameworks for these reforms. Additionally, teacher education curricula could be updated to include digital literacy and greening teacher training amongst other modern pedagogical methods. Such training can be delivered through continuous professional development (CPD) programmes aligned with later ambition for gender equity, inclusion, expansion of ECCE, and efforts to promote green schools.

Phase 2 would deliver on **systemic integration and inclusion (3-5 Years)** and could focus on integrating gender equality and inclusion into the education system, expanding access to early childhood education (ECCE), and promoting the greening of schools. In each case, efforts to achieve these targets will be optimised by the system strengthening undertaken in the foundation setting phase. Countries can implement targeted interventions to eliminate barriers to education for marginalized groups, ensure national policies reflect commitments to equity, and strengthen monitoring systems to track progress in gender equality and inclusion metrics. For ECCE, it is crucial to ringfence sufficient funding, particularly in low-income and rural areas, and deliver the services against quality benchmarks for early childhood education. Moreover, environmental sustainability can be integrated into school operations through the development of national green school accreditation schemes – learning from examples in Saudi Arabia and Suriname - the promotion of renewable energy use, and the incorporation of environmental education into the curriculum.

Phase 3 can revisit the education systems to assess new modalities for **continuous improvement and innovation and scaling good practice (5-9 Years)**. This phase would likely call for the ongoing enhancement of educational/digital infrastructure, the sustainability and scalability of proven practices from earlier Phases of the roadmap. With foundational conditions for transforming education in place, and efforts to promote inclusion, early learning and sustainable schools in action, government can focus on systemic improvements, innovations and scaling. Regular upgrading of digital infrastructure can keep pace with technological advancements and implement feedback mechanisms to continuously improve digital learning environments. More research and evidence will be needed at this stage to inform new practices and policies as contexts and conditions will have largely changed following the implementation of Phases 1 and 2. This can be built through collaboration with universities and research institutions, and can include the evaluation of previous phases, with the successful pilots and programmes implemented in these steps of the roadmap scaled-up (and or adapted if necessary) during this phase.

The final phase of the roadmap, phase 4, offers an opportunity for an **evaluation of the combined efforts to transform education and promote global leadership (10+ Years)**. Although it is in the interest of countries to conduct regular evaluations of all initiatives, throughout the phases of the roadmap, and use data-driven insights to refine and scale successful programmes (see also joint monitoring activities in Section 5.3), evaluation is also required to understand the consolidated effects of the TES actions undertaken, by country, and the successes seen, and challenges met during implementation. Natural policy experiments and process evaluations are examples of methods that can answer ‘the what’ and ‘the how’ of systems reforms, and the results of these studies can then be shared with the global community to contribute to global knowledge on education reform writ large. Building on their own concerted efforts to transform education systems, ICESCO member states can aim to position themselves as global leaders in education transformation by sharing successful models with the international community, leading global initiatives, and advocating for global policies that support equitable and sustainable education systems worldwide.





5.3 Monitoring activities regarding TES commitments in ICESCO member states

This report has uncovered a good deal of variability in evidence needed by countries to meet their ambitions to transforming education. This is accentuated by a tendency for ICESCO members states which have less evidence available to them to report more commitments than those with more available evidence. How might ICESCO support joint monitoring activities to address the gaps in the evidence base, and the differences seen by country?

ICESCO may wish to coordinate efforts to fill gaps in the evidence base across its membership and encourage member states (through convenings or working groups) to actively share good practices and new studies that can be of benefit to other members. This is likely to accelerate efforts to transform education systems in ICESCO member states – specifically those presently underserved by evidence. Such efforts may take the form of regularising the survey developed for this report to capture changes in the commitments as progress is made over time and complement this with expanding the catalogue of publications and data hosted by the organisation on ‘what works?’ on its website.

ICESCO might also seek to define a set of baseline indicators – through which progress on transforming education in the Islamic World may be measured specifically – and regularly collect these in collaboration with member states. Such baseline measures could be presented in a regularly update online dashboard, and include policy developments collected in the ICESCO TES survey and complement these with outcomes or other contextual measures related to the five transforming education tracks, such as: 1) teaching conditions (satisfaction) and qualifications, 2) learning outcomes and youth employment, 3) inclusion and equity in participation and learning outcomes, 4) equity in expenditures on education and children, and 5) equitable access to digital learning.

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Appendices

A1. Initial country commitments to Transforming Education by themes and subthemes

Theme	Sub-theme	N	Countries
Content and methods	Curricular content - what to learn	28	Algeria, Azerbaijan, Bahrain, Bangladesh, Cameroon, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Guinea-Bissau, Guyana, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Morocco, Niger, Oman, Saudi Arabia, Senegal, Sierra Leone, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates
	Education for sustainable development/ greening education	14	Algeria, Bahrain, Bangladesh, Comoros, Egypt, Guinea-Bissau, Iraq, Kazakhstan, Libya, Malaysia, Qatar, State of Palestine, Syrian Arab Republic, United Arab Emirates
	Pedagogical approaches - how to teach & learn	18	Algeria, Bahrain, Bangladesh, Benin, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Guinea-Bissau, Kyrgyzstan, Mauritania, Morocco, Qatar, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates
	STEM	12	Azerbaijan, Bangladesh, Benin, Cameroon, Comoros, Guinea-Bissau, Malaysia, Qatar, Senegal, State of Palestine, Tajikistan, United Arab Emirates
	TVET and skills for work	33	Azerbaijan, Bahrain, Bangladesh, Benin, Brunei Darussalam, Cameroon, Comoros, Côte d'Ivoire, Egypt, Gabon, Gambia, Guinea, Guinea-Bissau, Iraq, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Mali, Mauritania, Morocco, Niger, Oman, Qatar, Saudi Arabia, Senegal, Sierra Leone, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates
	21st Century skills	18	Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Kyrgyzstan, Malaysia, Oman, Saudi Arabia, Senegal, Syrian Arab Republic, Uganda, United Arab Emirates
	Socio emotional learning and values education	12	Bahrain, Bangladesh, Egypt, Kazakhstan, Libya, Malaysia, Morocco, Saudi Arabia, State of Palestine, Syrian Arab Republic, Uganda, United Arab Emirates
	Assessment methods	10	Bangladesh, Djibouti, Egypt, Guinea-Bissau, Morocco, Nigeria, Qatar, Saudi Arabia, State of Palestine, Yemen
	Physical/mental health and safety	29	Bangladesh, Benin, Brunei Darussalam, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Guinea-Bissau, Guyana, Iraq, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Morocco, Niger, Nigeria, Qatar, Senegal, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates, Yemen
	Foundational learning	11	Burkina Faso, Egypt, Gambia, Guinea-Bissau, Kyrgyzstan, Mali, Morocco, Nigeria, Saudi Arabia, Tajikistan, Uganda
Comprehensive sexuality education	2	Sierra Leone, Uganda,	

Theme	Sub-theme	N	Countries
COVID19-recovery	COVID-19 recovery	18	Algeria, Bahrain, Bangladesh, Benin, Comoros, Djibouti, Egypt, Guyana, Jordan, Kuwait, Malaysia, Qatar, Saudi Arabia, Senegal, Sierra Leone, State of Palestine, Uganda, United Arab Emirates
Digital transformation and learning	Digital learning	36	Algeria, Azerbaijan, Bahrain, Bangladesh, Benin, Brunei Darussalam, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Guinea-Bissau, Guyana, Iraq, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mali, Niger, Nigeria, Qatar, Saudi Arabia, Senegal, Sierra Leone, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates, Uzbekistan, Yemen
	Connectivity	25	Bahrain, Bangladesh, Benin, Comoros, Egypt, Gambia, Guinea, Guinea-Bissau, Guyana, Iraq, Kuwait, Kyrgyzstan, Malaysia, Mauritania, Morocco, Nigeria, Oman, Qatar, Senegal, Sierra Leone, State of Palestine, Tajikistan, Uganda, United Arab Emirates, Yemen
	Digital regulation	4	Guinea-Bissau, Iraq, Kyrgyzstan, Uzbekistan
Early childhood care and education	Early childcare and education	16	Azerbaijan, Bahrain, Bangladesh, Egypt, Jordan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mauritania, Morocco, Nigeria, Saudi Arabia, Sierra Leone, Syrian Arab Republic, Tajikistan
Governance and financing	Data management	50	Algeria, Djibouti, Egypt, Guyana, Jordan, Kyrgyzstan, Malaysia, Morocco, Oman, Qatar, Senegal, Sierra Leone, Tajikistan, Yemen, Algeria, Azerbaijan, Bahrain, Bangladesh, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Guinea, Guinea-Bissau, Guyana, Iraq, Jordan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mali, Mauritania, Morocco, Niger, Nigeria, Oman, Qatar, Senegal, Sierra Leone, State of Palestine, Tajikistan, Uganda, United Arab Emirates, Yemen
	Governance	28	Algeria, Bangladesh, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gambia, Guinea, Guinea-Bissau, Iraq, Jordan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tajikistan, United Arab Emirates, Yemen,
	International aid	1	Guinea-Bissau
Higher Education and research	Research and development	8	Algeria, Bangladesh, Egypt, Gambia, Guinea-Bissau, Kuwait, Qatar, United Arab Emirates
	Higher education access and inclusion	8	Azerbaijan, Egypt, Guinea-Bissau, Kazakhstan, Libya, Oman, Sierra Leone, United Arab Emirates
	International mobility	2	Azerbaijan, Saudi Arabia



Theme	Sub-theme	N	Countries
Inclusion, equity & gender equality	Disabilities, special needs	24	Algeria, Bahrain, Benin, Brunei Darussalam, Burkina Faso, Comoros, Côte d'Ivoire, Egypt, Iraq, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mali, Morocco, Qatar, Sierra Leone, State of Palestine, Tajikistan, United Arab Emirates, Uzbekistan, Yemen
	Inclusion and equity (general)	33	Algeria, Bangladesh, Benin, Brunei Darussalam, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Guinea, Guinea-Bissau, Guyana, Jordan, Kazakhstan, Kyrgyzstan, Malaysia, Morocco, Niger, Oman, Qatar, Saudi Arabia, Senegal, Sierra Leone, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates, Uzbekistan, Yemen
	Financial support and incentives	11	Azerbaijan, Bangladesh, Benin, Burkina Faso, Côte d'Ivoire, Egypt, Guyana, Jordan, Morocco, Nigeria, Sierra Leone
	Poverty/low-income groups	9	Azerbaijan, Burkina Faso, Guyana, Iraq, Kyrgyzstan, Mali, Sierra Leone, State of Palestine, United Arab Emirates
	Gender equality, girls' education	22	Bangladesh, Benin, Brunei Darussalam, Comoros, Côte d'Ivoire, Djibouti, Egypt, Guinea-Bissau, Guyana, Iraq, Jordan, Kuwait, Kyrgyzstan, Mali, Niger, Qatar, Sierra Leone, State of Palestine, Uganda, United Arab Emirates, Uzbekistan, Yemen
	School meals and nutrition	14	Bangladesh, Benin, Burkina Faso, Côte d'Ivoire, Egypt, Guyana, Iraq, Jordan, Kyrgyzstan, Libya, Malaysia, Niger, United Arab Emirates, Yemen
	Refugees, displaced persons and migrants	8	Burkina Faso, Guyana, Iraq, Jordan, Kazakhstan, Niger, Uganda, Yemen
	Rural and remote residents	10	Côte d'Ivoire, Egypt, Iraq, Kazakhstan, Kyrgyzstan, Mali, Niger, Sierra Leone, Tajikistan, Uzbekistan
	Cultural and linguistic minority	7	Djibouti, Guinea-Bissau, Guyana, Oman, Syrian Arab Republic, Uganda, Uzbekistan
Teachers	Teacher certification and qualification	10	Algeria, Benin, Cameroon, Guyana, Iraq, Kuwait, Libya, Morocco, Nigeria, Saudi Arabia
	Teacher training and professional development	32	Algeria, Azerbaijan, Bahrain, Bangladesh, Benin, Brunei Darussalam, Cameroon, Comoros, Djibouti, Egypt, Gabon, Guinea-Bissau, Iraq, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Mali, Mauritania, Morocco, Niger, Qatar, Saudi Arabia, Sierra Leone, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, United Arab Emirates, Uzbekistan, Yemen
	Teacher working conditions	22	Algeria, Azerbaijan, Bangladesh, Brunei Darussalam, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, Gabon, Guinea, Guinea-Bissau, Malaysia, Mali, Morocco, Niger, Nigeria, Oman, State of Palestine, Syrian Arab Republic, Tajikistan, Uganda, Yemen
	Teacher supply and deployment	20	Bangladesh, Benin, Brunei Darussalam, Cameroon, Comoros, Côte d'Ivoire, Egypt, Iraq, Kazakhstan, Libya, Mali, Morocco, Niger, Nigeria, Qatar, Saudi Arabia, Sierra Leone, Syrian Arab Republic, Uganda, Yemen

Theme	Sub-theme	N	Countries
Youth engagement	Youth engagement	8	Kyrgyzstan, Malaysia, Mauritania, Niger, Oman, Sierra Leone, State of Palestine, United Arab Emirates

Source: UNESCO, 2023d. Dashboard of Country Commitments and Actions to Transform Education. retrieved from <https://www.unesco.org/sdg4education2030/en/articles/all-you-need-know-about-dashboard-country-commitments-and-actions-and-global-survey-country-actions?hub=25>

A2. Country questionnaires

Links to the country surveys by language can be found here:

ICESCO Secretariat Survey in Arabic

https://drive.google.com/file/d/1OJVTgd5GDoyvos2HU5R3RiY0gq4X6R_K/view.

ICESCO Secretariat Survey in English

<https://drive.google.com/file/d/1qrQzzGhUyxYast1B5VyssZp7N4OSv2LR/view>.

ICESCO Secretariat Survey in French

<https://drive.google.com/file/d/1JgQLLb-D57p5BoCn8xzYA76h7JjIXwtO/view>.



A3. Analysis of National Statements of Commitment for ICESCO member states (countries with survey responses)

Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
People's Republic of Bangladesh		<p>Inclusion and equity</p> <ul style="list-style-type: none"> • Introduction of new National Curriculum Framework 2022 and rolling out of new curriculum from January 2023 with a focus on educational transformation. • A new secondary education project 'Learning Acceleration in Secondary Education' (LAISE) program is to be implemented from 2023 to 2028, • Developed and finalized a Framework for inclusion of children with disabilities in primary education. • Developed Gender and inclusive education action plan for primary education. • Stipends are being provided to students of different levels and free textbooks are being distributed from pre-primary to secondary level students. <p>Teachers</p> <ul style="list-style-type: none"> • Appointment of teachers in 2022 -from primary to tertiary level. • The government gives 100 percent of the basic salaries to the teachers of non-government institutions. • Drafting of a comprehensive teacher's professional development and competency framework for secondary education <p>Governance</p> <ul style="list-style-type: none"> • All education related organizations and institutes sign the Annual Performance Agreement (APA). Under this agreement, there are 5 action plans: National Integrity Strategy (NIS), Grievance Redress System (GRS), E-governance, Innovation and Right to Information (RTI) which are designed to establish better governance.
	Digital learning	<p>Digital transformation and learning</p> <ul style="list-style-type: none"> • a National Blended Education Master Plan was developed to catalyse an innovative Bangladesh. • a public teacher's portal with more than 500,000 member teachers and a student portal under Digital Bangladesh initiative, • Bangladesh is well ahead of creating the foundation of digital education ecosystem. • The new curriculum has emphasized on digital literacy and digital citizenship
	Gender gaps in higher and technical education	<p>Early childhood care and education</p>
	Climate resilient	<ul style="list-style-type: none"> • The policy formulation process regarding pre-primary education was focused on the Convention on the Rights of the Child and the 5A framework: Availability, Accessibility, Acceptability, Adaptability and Accountability. • Pre-primary education is introduced in over hundred and four thousand institutions covering all parts of Bangladesh, enrolling over three million students out of which 51.4% are girls.
	Research and development	<p>Higher education and research</p> <ul style="list-style-type: none"> • As part of the decentralization of higher education, the government has initiated the establishment of one university in each district • Unified admission tests for all public universities will be starting from the 2023-2024 academic year to ensure access and inclusion.
	Budget for education	<p>COVID19- recovery</p> <ul style="list-style-type: none"> • Capitalizing the remote learning initiatives, standard digital contents have been produced for all key subjects • Government is working to develop a digital learning eco-system under National Blended Education Master Plan. • Government also focusing on National student assessment • Providing supplementary materials and remedial/catch-up education if necessary. • Government has already transformed education curriculum and adopted experiential pedagogy, formative assessment and competency-based approach • Conducting formative/diagnostic assessment of learning and making remedial programmes available to learners • More than 200,000 at risk of dropout learners have received catch-up learning support for six to 9 months through a COVID response project.

Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Republic of Maldives	Education to vulnerable groups, equitable access to lifelong, affordable, and quality higher education	Inclusion and equity Review of gender, inclusion, Teachers: Raising teachers' salaries, encouraging school leavers to join the teaching field Early childhood In all communities there are facilities and opportunities to cater to early childhood learning Governance No response
	School-based tvet	Digital transformation and learning Providing schools with internet connectivity
	Quality teacher training	Early childhood care and education In all communities there are facilities and opportunities to cater to early childhood learning
	"healthy" and "green" schools	Higher education and research All students who pass 3 subjects in the GCE A'level can join Higher Education programs
	State-of-the-art national digital learning platforms	COVID-19 recovery Decided to continue education virtually by providing internet facilities and prepared lessons and decided to conduct them Youth engagement
	education spending	Conducting forums with youth engagement to get their views and ideas to make policies



Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Malaysia	<p>Inclusive, Equitable, Safe and Healthy Schools</p> <p>Learning and Skills for Life, Work and Sustainable Development</p> <p>Digital literacy and the use of remote learning modalities</p> <p>Financing of Education</p> <p>Role of young people</p> <p>Strengthen partnerships</p>	<p>Inclusion and equity</p> <ul style="list-style-type: none"> Minimizing multidimensional poverty among students producing a guideline for establishment and registration of alternative learning centre (ALC) for refugees' children specifically Rohingya. <p>Teachers</p> <ul style="list-style-type: none"> adopting Teacher Recruitment Policy and reduce the issue of shortage of teachers. Subject Cluster was developed to give wider opportunities to non-education graduates to apply and become educators <p>Governance</p> <p>Malaysia Education Blueprint 2025-2030</p> <p>Digital transformation and learning</p> <p>Digital Education Policy (DEP) outlines strategies and initiatives to support the Empowerment of Infrastructure and Infostructure to be implemented from 2023 to 2030</p> <p>Early childhood care and education</p> <ul style="list-style-type: none"> National Standards-Based Preschool Curriculum (NSPC) is developed, and all preschools or kindergartens in Malaysia including public and private sectors are required to use the national preschool curriculum, The National Preschool Curriculum 2026, which has been designed, encompasses six integrated areas of learning aimed at producing students who have the ability to communicate, socialize confidently and have the desire to learn. <p>Higher education and research</p> <ul style="list-style-type: none"> Malaysia now ranks third among ASEAN countries in master's and PhD enrolment The Malaysian Education Blueprint (Higher Education) will build on the five aspirations: access, quality, equity, unity, and efficiency. By 2025, the Ministry aspires to increase access to and enrolment in higher education (tertiary enrolment rates from 36% currently to 53% (and higher education enrolment from 48% to 70%), The Ministry's aspiration covers three aspects: quality of graduates, quality of institutions, and quality of the overall system. <p>COVID19- recovery</p> <p>Malaysia Education Blueprint 2025-2023 - Annual Report</p> <p>Youth engagement</p> <ul style="list-style-type: none"> The MADANI Generation Character Building Program or is a program based on efforts towards the character building of students who have the values of leadership, unity, perseverance, patriotism, integrity, discipline, cooperation, and mutual respect between races and religions. The implementation of the MADANI program is in the form of a camp at a district or state co-curricular school/centre as well as other appropriate premises.

Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Syrian Arab Republic	<p>Curriculum and pedagogy reform</p> <p>Morality, equality and justice, democracy and human rights</p> <p>Project based learning, social emotional learning,</p> <p>Digital transformation</p> <p>Financing education</p>	<p>Inclusion and equity</p> <p>Students have access to rights or opportunities regardless of gender.</p> <p>Teachers</p> <p>The Ministry of education has made some appointments according to desired needs.</p> <p>Governance</p> <p>The Ministry of Education in Syria has established different functions: independent risk management function, compliance function, internal audit function and actuarial function.</p> <p>Digital transformation and learning</p> <p>No response</p> <p>Early childhood care and education</p> <p>The ministry of education in Syria has aimed to regulate arrangements that provides and care for children from birth to compulsory primary schools.</p> <p>Higher education and research</p> <p>The ministry of education in Syria has policies for achieving inclusion in higher education; to ensures equal access to higher education.</p> <p>COVID-19 recovery</p> <p>The ministry of education in Syria has provided programs to overcome covid19.</p> <p>Youth engagement</p> <p>The ministry of education Syria has helped students to participate in meaningful opportunities and roles which enable them to build on their strength and take on responsibilities.</p>
Union of Comoros	TBC	<p>Inclusion and equity</p> <p>No response</p> <p>Teachers:</p> <p>No response</p> <p>Governance</p> <p>Nor response</p> <p>Digital transformation and learning</p> <p>No response</p> <p>Early childhood care and education</p> <p>No response</p> <p>Higher education and research</p> <p>The policy of increasing teachers' salaries</p> <p>COVID-19 recovery</p> <p>Program to eliminate COVID19</p> <p>Youth engagement</p> <p>Nor response</p>



Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Republic of Niger	TBC	<p>Inclusion and equity</p> <p>inclusive education strategy currently being developed; amount millions (23000000))</p> <p>Teachers:</p> <p>Recruitment and deployment stratum</p> <p>Digital transformation and learning</p> <p>No response</p> <p>Early childhood care and education</p> <p>preschool education policy</p> <p>Higher education and research</p> <p>higher education policy and program</p> <p>COVID-19 recovery</p> <p>ensure educational continuity</p> <p>Youth engagement</p>
Republic of Mali	TBC	<p>Inclusion and equity</p> <p>The continued implementation of the Education Sector Plan)Ten-Year Education and Vocational Training Development Program (PRODEC2) through the care of children with special educational needs , schooling and keeping girls in school, etc.</p> <p>Teachers:</p> <p>National teachers’ policy has been developed to “Provide a framework for the professionalization of teachers, the standardization of the profession and the establishment of concerted and effective management of teachers at all levels of the education system.</p> <p>Governance</p> <ul style="list-style-type: none"> • The operationalization of new regional inspections and new academies continues with a view to bringing the school administration closer to the beneficiaries. • The States General of Education recommends an institutional reform of the Education sector <p>Digital transformation and learning</p> <p>Supplies of computer and communication equipment (radios, telephone) are planned as part of the MIQRA Project</p> <p>Early childhood care and education</p> <p>A training plan for mother educators is being implemented to enable mothers to provide early childhood education</p> <p>Higher education and research</p> <p>The opening of new universities in regional capitals is underway.</p> <p>COVID-19 recovery</p> <p>Establishment and implementation of remedial courses, accelerated learning programs and the reopening of schools in a safe and secure environment and development of distance education.</p> <p>Youth engagement</p> <p>In areas of insecurity, young people are involved in meetings for the reopening of schools closed due to insecurity</p>

Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
<p>Republic of Guinea</p>	<p>TBC</p>	<p>Inclusion and equity</p> <p>No response</p> <p>Teachers</p> <p>There is a recruitment for 10,000 community contract teachers at the level of the Local Civil Service</p> <p>Qualification of the education system</p> <p>Governance</p> <ul style="list-style-type: none"> • Modernization and digitalization of administration • Efficient management of personnel and the population <p>Digital transformation and learning</p> <p>The commissioning of the fibre optic network throughout the national territory with easy access to the internet</p> <p>Early childhood care and education</p> <p>The construction of preschool classes to enable little ones to start school on time.</p> <p>Higher education and research</p> <p>Scholarships, Invitations of experts for training in place in universities across the country</p> <p>COVID-19 recovery</p> <p>Raising awareness of post-COVID-19, for better health of the population</p> <p>Youth engagement</p> <p>Encouraging young people to learn trades</p> <p>Prioritizing young people for sustainable development</p>
<p>Republic of the Sudan</p>	<p>No commitment document</p>	<p>Inclusion and equity</p> <p>Education for all, free education policy, and increase the spending on education by 2%</p> <p>Teachers:</p> <p>No response</p> <p>Governance</p> <p>No response</p> <p>Digital transformation and learning</p> <p>No response</p> <p>Early childhood care and education</p> <p>No response</p> <p>Higher education and research</p> <p>No response</p> <p>COVID-19 recovery</p> <p>Adhering to health directives and implementing them within daily school programs</p> <p>Youth engagement</p> <p>No response</p>



Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Hashemite kingdom of Jordan	Learning loss issues	<p>Inclusion and equity</p> <ul style="list-style-type: none"> • Providing educational opportunities for all regardless of race, gender and religion, and the Constitution guarantees this right. • Integrating people with disabilities in schools. • Providing education for refugee children. • Promoting gender equality in education. • Provide training for teachers on inclusion and diversity in education. • Integrating gender into the national curricula and textbooks • A study entitled “Strategies to Ensure Safety and Well-Being of Students During Their Arrival to and from School” was carried out.
	Blended learning and ed-tech issues	<p>Teachers</p> <p>No response</p>
	Pre- and in-service teacher training	<p>Governance:</p> <ul style="list-style-type: none"> • A plan to support and develop the “educational information management system” • Activating the system of collecting and employing data in accordance with the approved open government data classification policy, • A policy document has been published about the educational information management system • executive plan to implement the policy document has been developed
	National Diagnostic Assessment.	<p>Digital transformation and learning</p> <ul style="list-style-type: none"> • The Ministry annually studies and reviews the readiness of the technological infrastructure of schools and the Internet connection service to ensure the optimal provision of services at all administrative levels, • Provide Internet connection service and the necessary computer equipment in all school facilities and classrooms.
	Areas /students under conflict	<p>Early childhood care and education</p> <ul style="list-style-type: none"> • National strategy for human resources development (2016-2025). • The Ministry of Education’s strategic plan 2016-2022, with its extension to 2025. • Economic modernization vision (2023-2025). • Complete assimilation strategy. • Granting licenses to entities providing kindergarten services. • Various programs have been implemented in the field of early education and childhood development, including the “Kid Smart” , • Kindergarten curricula and a quality system were also developed, and programs were developed for parents’ participation in their children’s education.
	Main streaming	<p>Higher education and research</p> <p>No response</p>
	Gender Equality in Education	<p>COVID19- recovery</p> <ul style="list-style-type: none"> • Television lessons have been produced with the aim of broadcasting them on the Darsak platform, and work is still underway to film lessons • The Learning Bridges Program is a blended educational program with the aim of supporting and accelerating the learning of students from the fourth to the tenth grade. • Core Concepts and Outcomes curricula to focus on strengthening core concepts • There is also a need to prepare evaluation studies to measure the impact of these curricula on students. • Teachers were trained on therapeutic interventions.
	Enabling, safe, healthy, and accessible learning environments	<p>Youth engagement</p> <ul style="list-style-type: none"> • Student Parliamentary Councils: The Ministry of Education works to hold student elections every year in public and private schools • Student parliamentary councils play an important role in supporting the educational process and strengthening the connection between the school and local community institutions. • Elected students participate in preparing development plans for schools.
	Education Management Information System	
	TVET	
	Inter-ministerial coordination and partnership	
	Financing education	

Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
<p>Republic of Tunisia</p>		<p>Inclusion and equity</p> <ul style="list-style-type: none"> • Considering education as a fundamental right for all without discrimination or exclusion on the basis of sex, social origin, region, colour, religion or belief, • Public education is free at all levels, and it is the duty of the State to enforce it . • The Education Sector Plan 2023-2025 and the Strategic Plan 2026-2035 insist ensuring quality and equitable education for all • Rates of schooling of girls exceed those of boys at all educational levels. <p>Teachers</p> <ul style="list-style-type: none"> • Circumstantial vacancies in the ranks of teachers are paid at the beginning of each academic year • Teachers who are graduates of Tunisian universities must obtain teaching profession and trained before being a teacher • For the primary education stage, applied license certificate in educational sciences has been established • Teachers are subject to training program; such training is important and represents one of the pillars of improving quality of education <p>Governance</p> <ul style="list-style-type: none"> • A central cell was created in the Ministry of Education, which is the “Central Governance Cell,” and its branches were created in various departments • The right of access to information and administrative documents was approved by the Tunisian government. <p>Digital transformation and learning</p> <ul style="list-style-type: none"> • All educational institutions are connected to the Internet. • Establishing an electronic system to register all students remotely at all educational levels. • The various digital platforms have been gathered under one platform, the Tunisia Future Platform. • Initiating the completion of training modules for distance learning. • Digitizing various administrative services under the supervision of the General Administration of Information and Electronic Administration and the National Centre for Educational Technologies. • Establishing a system for electronic correspondence between central and regional structures. • Digitizing the national examination system. - Adopting the electronic seal on baccalaureate diplomas. <p>Early childhood care and education</p> <ul style="list-style-type: none"> • Pre-school education is considered one of the learning paths and an important factor in ensuring the best chances of school success. • at the age of five, the preparatory year for the primary stage. • This type of education is provided by many parties in the country (public and private sectors) • Ensuring health and psychological care for all children, including those with disabilities. <p>Higher education and research</p> <ul style="list-style-type: none"> • Higher education is available to every student who has passed the general education stage and passed the baccalaureate exam, • Private universities enable students to obtain a university degree that enables him to enter the labour market. • The budget percentage of the Ministry of Education and Scientific Research reached 1.34% of the gross domestic product (2022 budget). <p>COVID19- recovery</p> <ul style="list-style-type: none"> • Forming a leadership and management committee within the ministry to coordinate with all national and international organizations within the framework of participatory and • Forming a regional committee in each state, supervised by the Governor, and coordinating its work by the Regional Delegate for Education • Adopting pedagogical measures to ensure that students continue their studies. • Providing logistical supplies to prevent the Corona virus. <p>Youth engagement</p> <p>A significant number of young people, such as students, and university graduates, were involved in formulating the educational sector directions and policies.</p>



Country	Main areas of commitment	Policies, strategies, and financial commitments in relations to the main themes
Republic of Lebanon		<p>Inclusion and equity</p> <ul style="list-style-type: none"> The Inclusive Education Policy was formally endorsed and launched in June 2023, aiming to provide inclusive, safe, and high-quality educational environments for every child, no matter their background. The inclusive school model implemented in 90 public schools, is expected to be extended with a target of 120 inclusive public schools in 2025 and all public schools by 2030. Teachers Ensure the provision and appointment of teachers Provide necessary resources and support to create effective learning environments and regularly evaluate teacher performance to maintain high standards in education. In 2023, MEHE launched its reform road map that includes the professionalization of teaching
	Professionalizing teaching	<p>Governance</p> <ul style="list-style-type: none"> Strengthened governance, transparency, and resilience at central regional, and school levels, Evidence-based planning, decision-making, monitoring, and reporting are based on sound sector data analysis, and sharing Staff capacities are strengthened at school, regional, and central levels a data-driven approach, and unification of data for all education segments, via SIMS
	Education as a right for all children	<p>Digital transformation and learning</p> <p>As the Ministry of Education and Higher Education (MEHE) in Lebanon, we ensure effective communication by providing timely information through our website and social media, offering support services and partnering with organizations. We also host events and forums to connect directly with the education community and address key issues.</p>
	Reforming curricula	<p>Early childhood care and education</p> <ul style="list-style-type: none"> Upgrade of the provision and quality of ECE, based on an action plan until 2030 implementing field survey and demographics and financial data about ECE sector. a reform action recommendation related to changes of laws regulating this education segment.
	Research and evidence	<p>Higher education and research</p> <ul style="list-style-type: none"> The Higher Education 5YP (2023-2027) contains 3 strategic pillars:
	Digital transformation	<p>Pillar 1: Steering the Higher Education System.</p> <p>Pillar 2: Improving relevance and quality outcomes.</p> <p>Pillar 3: Strengthening Social Responsibility and Competitiveness.</p>
	Sustainable funding to education	<p>The priority programs are:</p> <ol style="list-style-type: none"> Implement a new Governance Framework for Lebanon Higher Education System. Increase Funding and Monitor Performance Develop a strong university-based research, development and innovation system at the national and institutional level. Service-to-Society and Civic Engagement. Internationalization and Strategic Partnerships Equality, Diversity and Inclusion
	TVET	<ul style="list-style-type: none"> Drafting and signing legislation related to online learning recognition degrees. According to the law 285 for Higher Education, 5% for the from the University's budget must be allocated to research
		<p>COVID19- recovery</p> <p>After the COVID19- crisis, the Pre-service and In-service Training Bureau has developed a -5phase plan for learning recovery for cycle 1 and cycle 2 teachers</p>
		<p>Youth engagement</p> <p>No response</p>

Country	Main areas of commitment
State of Palestine	Distance learning and ICT Quality Education Green, healthy and sustainable schools Life skills and citizenship education Student clubs and student parliaments STEAM approach Teacher quality and teaching profession Financing education
Republic of Azerbaijan	Financing education ECD sector Steam approach Participation in international large-scale assessments TVET Higher education Areas under conflict
State of the United Arab Emirates	Entrepreneurship and innovation Digital transformation in the education sector Nutrition and physical and mental health Collaborative strategic coalitions in education Curriculum reform Inclusive education Higher education sector Public funding
Republic of Uzbekistan	Inclusive, equitable, safe and healthy schools Learning for life, and sustainable development Quality and relevance of education Teacher quality Digital transformation



Republic of Uganda	<p>E-learning</p> <p>Marginalized students and groups</p> <p>Prevention and response to violence in school</p> <p>Sexual reproductive health education and psychosocial support</p> <p>Teachers' profession and conditions of work</p> <p>Curriculum reform</p> <p>Public private partnership to mobilize local resources to education</p>
Islamic Republic of Iran	<p>moral and a family-oriented education</p> <p>national priorities, regulations,</p> <p>Islamic principles, religious norms,</p> <p>Traditions and values</p>
Kingdom of Bahrain	<p>Digital learning, AI in learning and 21st century skills</p> <p>International large-scale assessments</p> <p>Curriculum reform</p> <p>Teacher quality</p> <p>Higher education</p> <p>ECD</p> <p>Financing education</p>
Brunei Darussalam	<p>Safe and healthy learning environment for all</p> <p>Remedial and learning support initiatives</p> <p>Inter-agency cooperation and coordination</p> <p>Quality educators and school leaders</p> <p>Empowered teaching workforce</p> <p>Multi-lingual education</p> <p>Quality and inclusive education</p>
Republic of Benin	TBC
Burkina Faso	TBC
Republic of Tajikistan	<p>Inclusive, equitable, safe and healthy schools</p> <p>Learning and skills for life, work and sustainable development</p> <p>Professional development and capacity building of teachers</p> <p>Modern skills (skills in it and stem),</p> <p>Languages and remote employment opportunities</p> <p>Public resources in education</p>

People's Democratic Republic of Algeria	TBC
Republic of Djibouti	TBC
Kingdom of Saudia Arabia	<p>ECD</p> <p>Teaching profession and teacher quality</p> <p>Curriculum reform</p> <p>E-learning</p> <p>Higher education</p> <p>Financial support</p>
Republic of Sierra Lion	<p>Promoting accelerated learning</p> <p>Sexuality education,</p> <p>ECD</p> <p>School infrastructure</p> <p>Data-guided catchment area modelling</p> <p>Curriculum reform</p> <p>Teacher training</p> <p>Management System for general and higher education</p> <p>Education for marginalized children</p> <p>Data- and Evidence-Based Delivery</p> <p>Public Financing</p>
Republic of Senegal	TBC
Republic of Iraq	<p>Access disparities and barriers</p> <p>Climate change</p> <p>Construction of new schools</p> <p>TVET</p> <p>Gender equity</p> <p>Informal and flexible learning tracks</p> <p>Teachers' education and the teaching profession</p> <p>Education financing:</p> <p>ICTS and digital learning</p>



Sultanate of Oman	<ul style="list-style-type: none"> Teacher quality Youth engagement Inclusive school environment Digital learning TVET Financing education
Republic of Gabon	TBC
The Republic of the Gambia	<ul style="list-style-type: none"> Resilient education system Foundational literacy and numeracy Inter-ministerial and private-public partnership Digital learning platforms Welfare and professional development of the education workforce TVET and entrepreneurship education Financing of education as a public good
Republic of Guyana	<ul style="list-style-type: none"> Inclusive education Remote learning Learning loss Rural, hinterland and migrant communities Curriculum reform Schools' nutrition Teacher quality
Republic of Guinea Bissau	TBD
Republic of Kazakhstan	<ul style="list-style-type: none"> Inclusive safe and healthy Schools Curriculum reform Vulnerable groups Teacher quality and teaching profession Digital learning Financing education

<p>State of Qatar</p>	<p>Education as a public good Teachers' role as knowledge producer Public financing Digital transformation policies and mechanisms Educational outputs and labour market Practical guidance to the academic staff</p>
<p>Kyrgyz Republic</p>	<p>Inclusive and equitable quality education for all Improving student learning outcomes Quality teaching personnel. Effective digital learning platforms Financial investments in the education system</p>
<p>Republic of Cameroon</p>	<p>TBC</p>
<p>Republic of Cote d'Ivoire</p>	<p>TBC</p>
<p>State of Kuwait</p>	<p>ECD Partnership Gender equity Financing education Donation to other countries</p>
<p>State of Libya</p>	<p>Professional development for teachers and employees National curriculum reform Efficiency and accountability for education finances Inclusive schools School feeding TVET ECD Environmental education, climate literacy and global citizenship education Digital education Teacher licensing system School establishment, and maintenance</p>



Arab Republic of Egypt	<p>High-quality Education for All</p> <p>Accountability for results</p> <p>Curriculum reform</p> <p>Methods of examination and assessments.</p> <p>Programming and coding education</p> <p>CED</p> <p>Adequate and professionally high-quality educators</p> <p>TVET</p> <p>Partnerships</p> <p>Financial resources</p>
Kingdom of Morocco	TBC
Islamic Republic of Mauritania	TBC
Republic of Yemen	<p>Attractive and positive school environment</p> <p>School health and nutrition</p> <p>Community participation</p> <p>Construction and infrastructure rehabilitation</p> <p>Out-of-school children</p> <p>Capacity building and living conditions of teachers</p> <p>Digital education</p> <p>Educational management information system (EMIS)</p> <p>National fund to support education</p> <p>Coordination and harmonized mechanisms</p>
Federal Republic of Nigeria	<p>Information technology as teaching tool</p> <p>Learning outcomes and accelerating skills development</p> <p>Institutionalization of national and school-based assessment</p> <p>Teaching standards and teacher qualification framework</p> <p>Increase domestic education expenditure.</p>

Note: Afghanistan, Chad, Indonesia, Pakistan, Suriname, Somalia, and Togo are not included in the Table as these countries did not submit written commitments to UNESCO.

A4. Literature review search terms

	Query
Transformation in Education	(intitle:education transformation) AND (intitle:transform OR 'transformation of education') AND (intitle:policy OR intervention OR program OR effect) AND (intext: Islam OR Arab OR 'ICESCO' OR 'middle east' OR 'north Africa' OR gulf OR 'Islamic country' OR 'OIC')
Greening Education	(intitle:education) AND (intitle:greening OR climate change OR green transition) AND (intext:policy OR intervention OR program OR effect) AND (intext:Islam OR Arab OR ICESCO OR middle east OR north Africa OR gulf OR Islamic country OR OIC)
Education in Emergencies	(intitle:education in emergencies OR EiE OR learning OR crisis OR conflict) AND (intitle:intervention OR program OR policy OR effect) AND (intext: Islam OR Arab OR ICESCO OR middle east OR north Africa OR gulf OR Islamic country OR OIC)
Digitalization & AI	(intitle:education) AND (intitle:digitalisation OR 'AI' OR artificial intelligence) AND (intitle:policy OR intervention OR program OR effect) AND (intext: Islam OR Arab OR ICESCO OR middle east OR north Africa OR gulf OR Islamic country OR OIC)







      
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