

Methodology and Research

Education Preparedness Index in COVID-19 (EPIC)

Edited by
Arusyak Aleksanyan
Mariam Muradyan

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This research provides a comprehensive methodology for the states and smaller entities engaged in planning, management, and delivery of compulsory education for children to assess the level of readiness and resilience in provision of education to school children. The study started at the outbreak of COVID-19 pandemics and considered the experiences of countries at a given period of online, offline and hybrid schools. It is based on international principles of the child right to education and other relevant attitudes. The proposed methodology is a set of indicators, tools, and approaches measuring and analyzing the effectiveness of education policy responses in times of crises. It is of practical use for researchers, experts, scientists, and practitioners interested in education management, child rights to education, policy making and in monitoring and evaluation.

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Abbreviations

CC	Coordination and Cooperation
CPRMWF	Protection of the Rights of All Migrant Workers and Members of their Families
CR	Capacities and Resources
CRC	Convention on the Rights of the Child
CRPD	International Convention on the Rights of Persons with Disabilities
CSO	Civil Society Organization
EPIC	Education Preparedness Index in COVID-19
GDP	Gross Domestic Product
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICPD	International Conference on Population and Development
IMF	International Monetary Fund
INEE	Inter-Agency Network for Education in Emergencies
IT	Information Technology
MOOC	Massive Open Online Course
MSP	Multi-Stakeholder Partnership
OECD	Organisation for Economic Co-operation and Development
PLF	Policy and Legal Frameworks
SDG	Sustainable Development Goals
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund

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BACKGROUND TO EMERGENCY PREPAREDNESS

INDEX IN COVID-19

The outbreak of the COVID-19 pandemic affected various fields globally such as economy, education, tourism, culture, etc. The life of teachers, students and their parents were greatly impacted since almost all educational establishments were closed as a result of the pandemic in order to prevent the spread of the virus.

At the peak of the global lockdown of schools¹ in April 2020, 94% of students (1.6 billion children) were left out of school across the globe, whereas around 700 million children kept studying remotely from home. As a result of all this families and schools faced great uncertainty having to navigate across options of hybrid and distance learning, or no schooling at all (*World Bank 2021*).

It should be noted that more than 460 million children all over the world did not have Internet access, computers or mobile devices to participate in virtual learning while their schools were closed (*Feuer 2020*).

In response to the unprecedented pandemic, countries took steps to rapidly switch to distance learning but due to the lack of connectivity, equipment, relevant methods, clear understanding of distance learning and direct teacher-student interaction, it was particularly challenging for them to ensure that all learners could continue their education and avoid school dropouts.

The abrupt shift from in-person learning to distance learning constituted some challenges to teachers and school administration. Distance teaching requires more work for teachers. Distance education doesn't only mean making amendments in the curriculum, arranging effective online learning, or simply converting the existing face-to-face courses. There are various roles and skills required to sustain the flexible approach in online learning. As it can be seen, teaching online demands better technical skills from teachers, which are more advanced in comparison with old-school skills (*Lasi 2021, 70*).

Relevant competencies and skills of teachers and students for online learning serve as a basis for the effective preparedness for distance learning, which provides a quality educational process during emergencies.

¹Even before COVID-19, the world was experiencing a learning crisis. 258 million children of primary- and secondary-school age were out of school, and the Learning Poverty rate in developing countries was 53% meaning that over half of all 10-year-old children could not read and understand a simple text. According to UNESCO calculations, covering 180 countries and territories, evaluate that about 10.9 million students from primary and secondary levels are at risk of not returning schools or other education institutions of which many of them are girls living in the world's least developed countries where attending school and getting an education is already a struggle (UNESCO 2020b, 5-7).

As it is known, the outbreak of the pandemic not only exacerbated inequalities worldwide but also restricted several internationally recognized human rights including the right of the child to education. In times of public health emergency, education should be child-centered, rights-based, protective, inclusive and participatory.² In this regard, adopting a comprehensive national strategy or action plan for the children with relevant provisions on how to conduct an education in emergencies is highly recommended for the State.³

UN Human Rights Council General Comment N 13 (Article 13) provides that to receive education “in all its forms and at all levels” it should be based on the following interrelating and essential features:

- **Availability** - number of functioning educational institutions, relevant infrastructure, education facilities, etc.,
- **Acceptability** - non-discrimination, physical and economic accessibility,
- **Accessibility** - form and substance, curricula, teaching, methods, minimum educational standards,
- **Adaptability** - flexibility to the needs of the society, particularly the diverse social-cultural needs of students.⁴

According to the UNICEF data, more than 1 billion children were at risk of falling behind due to school closures aimed at containing the spread of the virus (*UNICEF 2020*). This increased the dropout tendencies. As the states have a positive obligation to guarantee the continuity of education, they should undertake necessary steps to avoid dropout tendencies in schools. The COVID-19 crisis and the unparalleled education disruption are far from being over. As many as 100 countries had to announce a date for schools to reopen across the world, governments, unions, parents and children were grappling with when and how to approach the next phase (*UN 2020*).

² Committee on the Right of the Child. 2008. “Day of General Discussion on the Right of the Child to Education in Emergency Situations”. Accessed 03 March 2021. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

³ Committee on the Right of the Child. 2003. “General Comment No. 5 General measures of implementation of the Convention on the Rights of the Child”. Accessed 01 march 2021. <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPrIC AqhKb7yhsiQql8gX5Zxh0cQqSRzx6Zd2%2FQRsDnCTcaruSeZhPr2vUevjbn6t6GSi1fheVp%2Bj5HTLU2Ub%2FPZZtQWn0jExFW hiBbqgAj0dWBoFGbK0c>.

⁴ Human Rights Council. 2020. “Report of the Special Rapporteur on the right to education. UN Committee on Economic, Social and Cultural Rights, General Comment No. 13: The right to education (Article 13).” Accessed 8 March 2021. <https://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d%29GeneralCommentNo13Therighttoeducation%28article13%29%281999%29.aspx>.

1. MODEL FOR ASSESSING EDUCATION SYSTEM IN EMERGENCIES: METHODOLOGY

1.1 BRIEF INTRODUCTION

In 2019, people all over the world were faced with new realities and adopted new rules of life. One of those realities also affected the education system. Due to the COVID-19 pandemic, many countries in the world initiated emergency remote education applications and systems in order to continue providing education without interruption, aiming for students to continue their learning. Under the crisis of COVID-19 remote/distance learning became a viable alternative to ensure the continuity of the educational process (*Çagatay 2020*).

Under these circumstances, the research aimed at studying the preparedness of the education system to adapt to new realities and to act in crisis conditions.

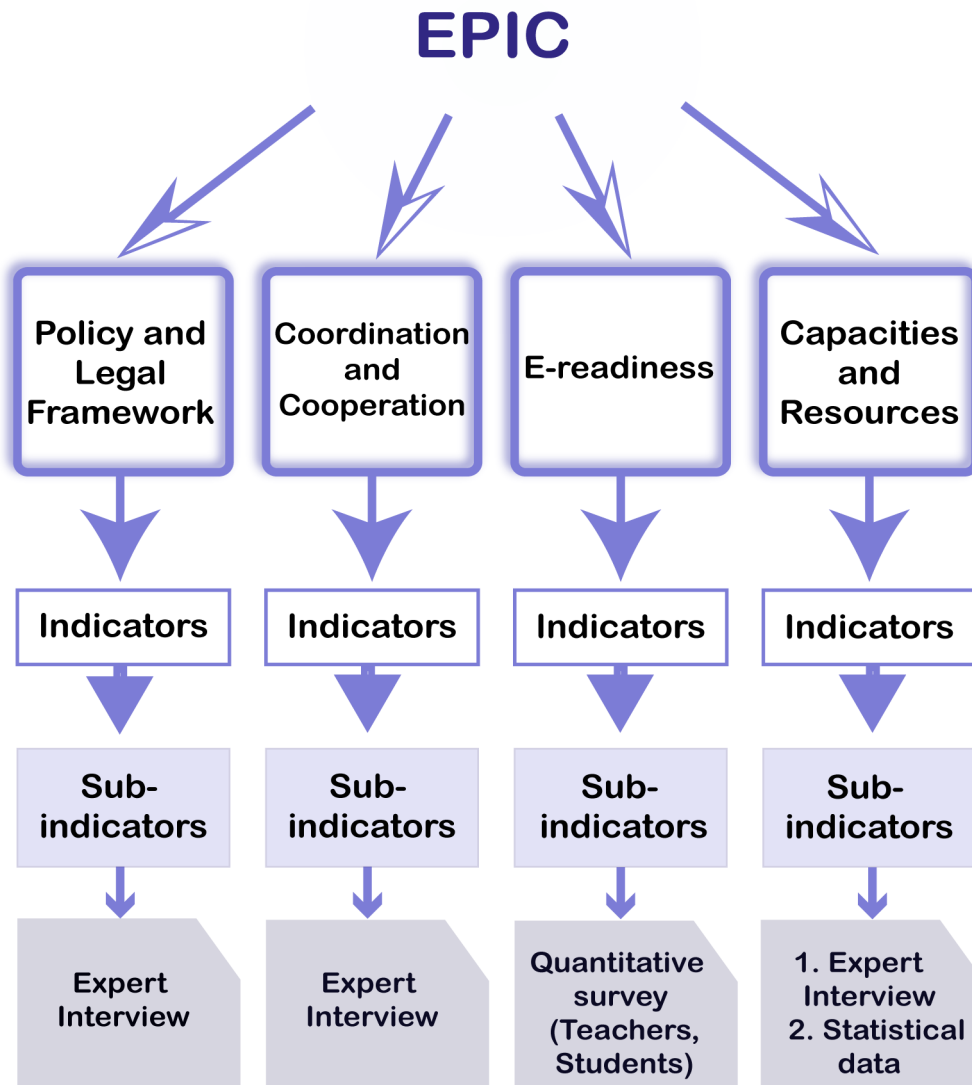
To this end, a group of Armenian experts took the initiative to develop a model for assessing the education system in emergencies - Education Preparedness Index in COVID-19 (EPIC).

The framework for the assessment of preparedness for education in emergencies is a set of indicators, tools, and methods aimed at measuring education system readiness for emergencies and analyzing the effectiveness of education policy responses in times of crisis. The four main thematic areas that the framework covers are as follows:

- **Policy and Legal Framework**
- **Coordination and Cooperation**
- **E-readiness**
- **Capacities and Resources**

Each thematic area incorporates a set of indicators and sub-indicators that allow uncovering the level of achievements and the efficiency level of preparedness within each recommended section.

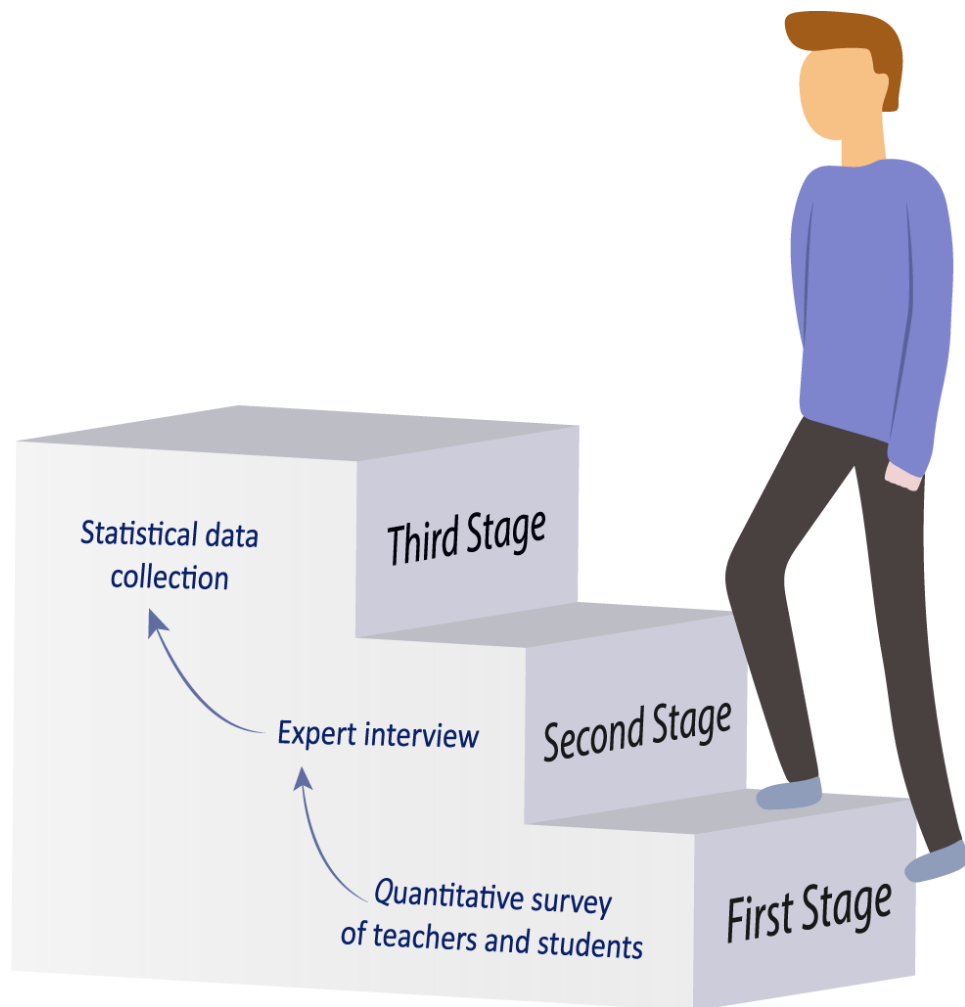
Figure 1. Education Preparedness Index in COVID-19



The calculation and analysis of the index are based on three data sources:

1. Quantitative survey of teachers and students
2. Expert interview
3. Statistical data

Figure 2. Data collection stages



1.2 RESEARCH APPROACH

To achieve the research goals, the triangulation strategy was employed. The strategy is characterized as collecting data by combining qualitative and quantitative methods to avoid the possible biases deriving from the single source of information and help ensure the comprehensiveness of information. The purpose of the triangulation approach is to use diverse methods to assist each other in explaining and interpreting the data. The implementation of the research consists of three stages including both quantitative and qualitative components (see Fig. 2).

Quantitative research

Stage 1: The research includes conducting a representative quantitative survey among students and teachers of secondary schools to assess and calculate the e-Readiness sub-index. The survey covers the following three thematic areas, indicating the readiness of schools for distance education:

- **Technological readiness for distance learning**
- **Social-psychological readiness for e-learning**
- **Cognitive readiness for online education⁵**

Each of the above-mentioned areas has its sub-indicators and a series of relevant questions for teachers and students. We adopted an online standardized questionnaire hosted on Google, the link to which is provided to school administrators who further ensured the dissemination of the data among students and teachers via private messaging systems. The questionnaire includes questions, mainly designed by using a Likert scale. On average, it took the respondents 20 minutes to complete the survey. The responses to these questions were initially collected by the Google drive excel database. After fully completing the survey, all answers were directly exported into an SPSS file and analyzed.

⁵ For more information on E-Readiness and its Indicators, see Chapter 7, Section 7.2.: “E-READINESS FOR TEACHERS AND STUDENTS” and Annex 3.

Qualitative survey: Experts interviews

Stage 2: As Creswell (2003) noted, the follow-up qualitative data can provide insight into the quantitative data. It allows indicating whether the educational system, in general, is ready to ensure uninterrupted education in emergencies like pandemics. As a qualitative method, interviews with experts was distinguished. The experts were involved based on the relevant experience in policy/strategy developing experience, skills in implementation and monitoring. The interviews will collect information on the policy level readiness of the education system in an emergency. The expert interview questionnaire consists of questions with scaled answers formulated in a closed-form that are later standardized and transformed into appropriate scores. It covers questions related to the existing regulations and policies, capacities, coordination of involved parties, technological availability, and delivered models of e-learning.⁶ To this end, interviews with representatives of the Government, independent experts, involved CSOs and international organizations were conducted. The expert interviews were held by utilizing the snowball sampling technique, which is defined as a non-probability sampling technique and based on referrals by experts to each other to recruit samples required for a research study. This technique is appropriate to utilize in case the final database of experts is not available at the stage of sampling design. The process of expert recruitment was started from the Ministry of Education - the most involved focal points in this regard. Further, they were asked inquiry questions to identify other key players in the field. To collect impartial and well-balanced information, parallelly, renowned independent education experts were recruited to take part in the interviews. In total, around 12 experts were reached out, three per each of the above-mentioned fields. An important approach is the application of the saturation method when the number of experts is determined by the collected information. Thus, as soon as we got to the point when information began to be repeated, we stopped the expert interviews.

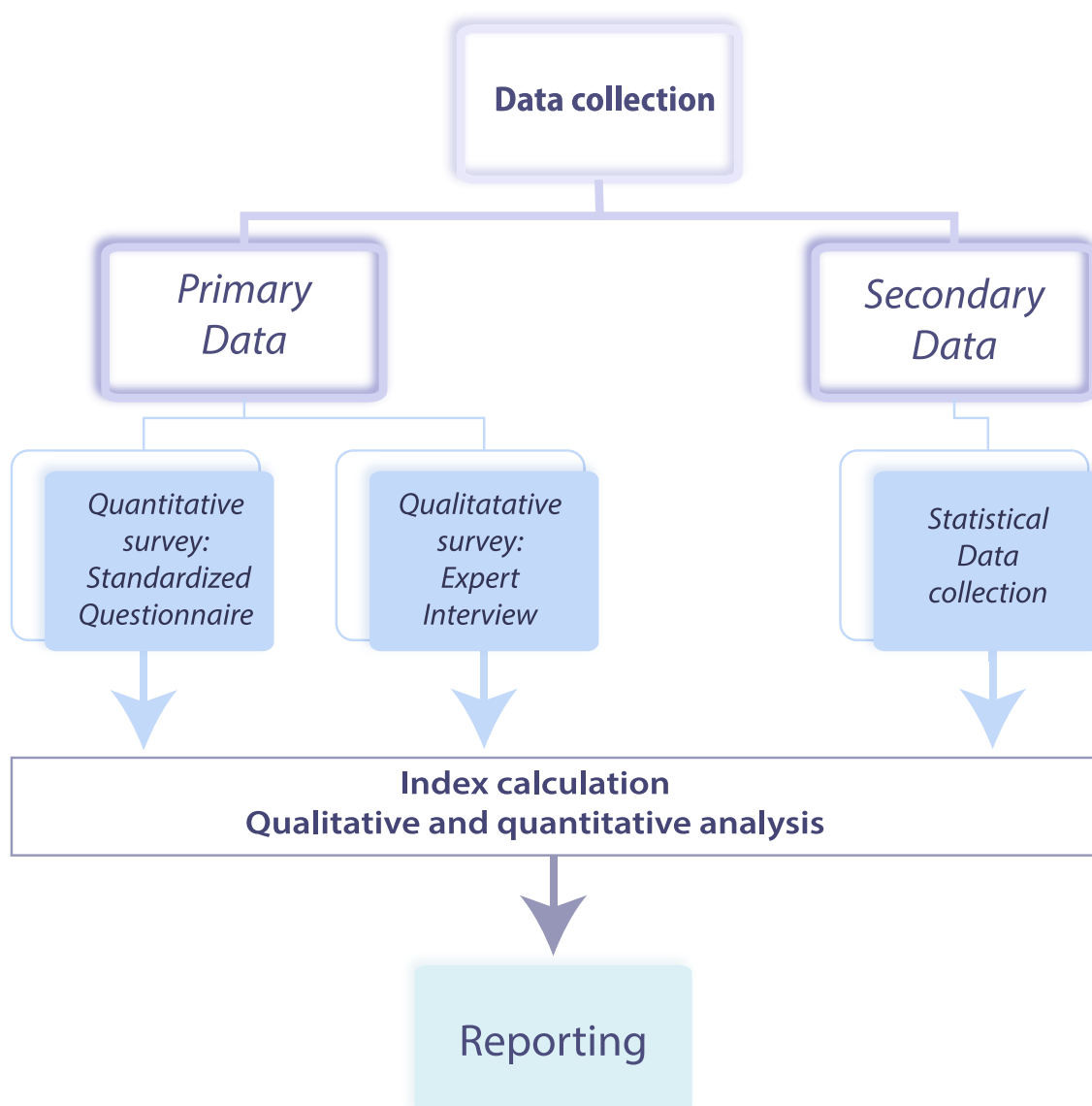
⁶ For more information on the expert interview questionnaires, see Annexes 1, 2, 4.

Statistical data collection

Stage 3: The third stage of the study involves the collection of statistical data (See Table 1, Table 5). In case of missing data for the reporting year, the most recent available data can be collected.

In the final stage, all the data are standardized, on the basis of which the INDEX is calculated on a scale from 0 to 100, where 0 is the lowest level of preparedness and 100 is the highest.

Figure 3. Data collection, analysis, reporting



1.3 EPIC: WEIGHTS AND CALCULATION

Table 1. EPIC: Sub-Indexes, Indicators and Sub-Indicators

Education Preparedness Index in COVID-19		
Sub- Index	Indicator	Sub - Indicator
1. Policy and Legal Frameworks	1. Quality Education: 4As	<ul style="list-style-type: none"> •Availability •Accessibility •Acceptability •Adaptability
	2. Equality	<ul style="list-style-type: none"> •Gender Disparity •Disability •Children of Migrant Workers •Refugees •National or Ethnic, Religious and Linguistic Minorities •Child Labour
	3. Drop-out risks	<ul style="list-style-type: none"> •National education laws, regulations, policies, measurement system ensuring continuity of education •Multi-Sectoral policy (government, school, community, etc.) •School action plan/guideline
	4. Comprehensive national	<ul style="list-style-type: none"> •The legal framework of the strategy/action plan •The efficiency of the strategy/ action plan
	5. Inter-sectoral cooperation	<ul style="list-style-type: none"> •Legal formulation of Inter-sectoral cooperation •The efficiency of Inter-sectoral cooperation
2. Coordination and cooperation	1. Ad Hoc Committee	—
	2. Multi Stakeholders Partnership	<ul style="list-style-type: none"> •Stipulation in national legislation concerning the multi-stakeholders governance body at any level •Structure •Functions, Mandate/ Obligations •Quality

3. E-readiness*	1. Technological Readiness	<ul style="list-style-type: none"> •Students •Teachers
	2. Social-Psychological Readiness	<ul style="list-style-type: none"> •Students •Teachers
	3. Cognitive Readiness	<ul style="list-style-type: none"> •Students •Teachers
4. Capacities and Resources	1. Availability and efficiency of educational technologies	<ul style="list-style-type: none"> •Availability of special portals/ platforms •Payable video conferencing software •Free video conferencing software •Free video conferencing software with limited features
	2. Supporting Resources for educational technologies	<ul style="list-style-type: none"> •Social Media applications and TV/Radio as an additional resource •TV, Radio learning programs •Additional Resources
	3. Reserve Funds	—
	4. Budgeting Opportunities	<ul style="list-style-type: none"> •Allocation of sufficient financial resources •Emergency response section in the budget
	5. Internet Speed	Mobile <ul style="list-style-type: none"> •Download •Upload •Latency
		Fixed Broadband <ul style="list-style-type: none"> •Download •Upload •Latency
	6. Internet Users (%)	—
	7. Government expenditure on education (%GDP)	—

*For detailed information on 1. Technological Readiness E-Readiness, 2. Social-Psychological Readiness and 3. Cognitive Readiness of Teachers and Students, see Chapter 7, Section 7.2.: “E-READINESS OF TEACHERS AND STUDENTS” and Annex 3.

Table 1 presents EPIC Sub-Indexes, Indicators and Sub-Indicators. EPIC has 4 Sub-Indexes, 17 Indicators and 38 Sub-indicators. The scores assigned to the Sub-Indicators transform into scores of Indicators, which in turn form the scores for Sub-Indexes. The calculation of Sub-Indexes and the total EPIC score are determined as follows:

1. Policy and Legal Frameworks (PLF)

- $PLF^7 = (\text{Quality Education:4As} + \text{Equality} + \text{Drop out Risks} + \text{Comprehensive National Strategy} + \text{Inter-sectoral cooperation})/6$

2. Coordination and cooperation (CC)

- $CC^8 = (\text{Ad Hoc Committee} + \text{Multi Stakeholders Partnership})/2$

3. E-readiness

- $E\text{-readiness}^9 = (2 * \text{Technological Readiness} + \text{Social-Psychological Readiness} + \text{Cognitive Readiness})/4$

4. Capacities and Resources (CR)

- $CR^{10} = (\text{Reserve Funds} + 2 * \text{Budgeting Opportunities} + 2 * \text{Internet Speed} + 2 * \text{Internet Users} + \text{Government expenditure on education} + 2 * \text{Availability and efficiency of educational technologies} + \text{Supporting Resources for educational technologies})/11$

$$EPIC^{11} = (20 * PLF + 20 * CC + 30 * E\text{-readiness} + 30 * CR)/100$$

The index is measured from 0 to 100, according to which states are classified in the following way:

0 – 32 is “the lowest level of preparedness”

33 – 66 is “the mid-level of preparedness”

67 - 100 is “the highest level of preparedness”

⁷ PLF=Weighted Average of Sub-Indicators.

⁸ CC=Simple Average of Sub-Indicators.

⁹ E-readiness=Weighted Average of Sub-Indicators

¹⁰ CR=Average/Weighted Average of Sub-Indicators.

¹¹ EPIC=Weighted Average of Indicators.

1.4 METHODOLOGICAL NOTES: EXPLANATION ABOUT THE CALCULATION OF SCORES FOR THREE TYPES OF DATA¹²

All data are standardized by the following formula:

Formula 1. Data standardization

$$X' = \frac{x_i - \min\{x_i\}}{\max\{x_i\} - \min\{x_i\}} \times 100$$

where $\min\{x_i\}$ is the lowest value the variable X can attain

$\max\{x_i\}$ is the highest value the variable X can attain

After standardization of the data are ranged on a scale from 0 to 100, where 0 is the lowest value and 100 is the highest.

Scoring system for expert interview answers:

As mentioned above, the expert interview questionnaire consists of questions with scaled answers where

No = 0,	with a standardized value of 0
To some extent = 1,	with a standardized value of 50
Yes = 2,	with a standardized value of 100

The final answer to each question is defined by the mode.

Table 2. Example 1

Example	Sub-index 2: Coordination and cooperation									
Indicator	Questions for Expert Interview								Answers	
Ad Hoc Committee	Do national education laws, regulations and policies provide for the establishment of a coordinating body to ensure the continuity of education in emergencies?								Yes /No	
	Expert Answer									Summarized answer/mode ¹³
	Exp 1	Exp 2	Exp 3	Exp 4	Exp 5	Exp 6	Exp 7	Exp 8	Exp 9	Exp10
	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Yes=2, which standardized value is 100										

¹² An Excel file with integrated formulas is attached to the Index/Tool. The calculation will be carried out automatically when filling in the data.

¹³ In case the mode is not a qualified majority of answers, researchers should reach the experts on the second round and repeat the circles until they get homogeneous responses.

In the same way, we count the answers to the second question answers for this indicator, and then calculate the final score for Ad Hoc Committee Indicator, which is the simple average of two scores:

Table 3. Example 2

Example	Sub-index 2: Coordination and cooperation		
Indicator	Questions for Expert Interview	Summarized answers/ mode	Standardized Scores
Ad Hoc Committee	Do national education laws, regulations and policies provide for the establishment of a coordinating body to ensure the continuity of education in emergencies?	<div>Yes</div> <div>No</div>	100
	How effective is the coordinating body in ensuring the continuity of education in emergencies?	<div>Very well</div> <div>To some extent</div> <div>Not at all</div>	50
Ad Hoc Committee = $(100+50)/2=75$			

E-readiness data calculation

Data calculation for each question

No (negative context)=0	Percentage of answers *0
To some extent=Qi%/2	Percentage of answers/2
Yes (positive context) =Qi%	Percentage of answers

Table 4. Example 3

Example	Sub- index 3: E-readiness		
Indicator	Questions for Students	Answers of Students	50
Ad Hoc Committee	Q1: Do you feel confident to use a digital device (computer/telephone/ tablet) for your earning purposes?	<div>Yes–50%</div> <div>To some extent-30%</div> <div>No–20%</div>	<div>15(30/2)</div> <div>0(20*0)</div>

	Q2: Do you feel confident to use the Internet for your learning purposes?	Yes – 30% To some extent- 60% No- 10%	30 30 (60/2) 0 (10*0)
<p>Q1=50+15+0=65 Q2=30+30+0=60 In the same way, we count all the questions of this sub-indicator (in this case, totally 10 questions)</p>			
<p>Technological Readiness/Students=$(Q_1+Q_2+\dots Q_{10})/10$ Technological Readiness/Teachers=$(Q_1+Q_2+\dots Q_{10})/10$ <i>Technological Readiness</i>=($TR_{Students} + TR_{Teachers}$)/2</p> <p>Social-Psychological Readiness/Students =$(Q_1+Q_2+\dots Q_n)/N$ Social-Psychological Readiness/Teachers =$(Q_1+Q_2+\dots Q_n)/N$ <i>Social-Psychological Readiness</i>=($SPR_{Students} + SPR_{Teachers}$)/2</p> <p>Cognitive Readiness/Students =$(Q_1+Q_2+\dots Q_n)/N$ Cognitive Readiness/Teachers =$(Q_1+Q_2+\dots Q_n)/N$ <i>Cognitive Readiness</i>=($CR_{Students} + CR_{Teachers}$)/2</p>			

Standardization of statistical data

While standardizing the data the minimum and maximum values of each variable are identified by calculating the world average of the three minimum and three maximum values recorded in recent years (3 years). X_i is the value of a variable (e.g. Internet Users, %) for a given country for the reporting year.

Table 5. Variables of statistical data and sources

Variable	Source
1.Reserve Funds	National Statistical Services
2.Internet Speed - Download - Upload - Latency	Speed -test Global Index: https://www.speedtest.net/global-index
3.Internet Users (%) ¹⁴	International Telecommunication Union (ITU): https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx
4.Government expenditure on education (% of GDP)	World Bank Indicators: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS

¹⁴The variable "Internet Users" has three dimensions. The overall score for this variable is the average of the standardized data of these dimensions. Values of the "Latency" have the opposite meaning other than "Download" and "Upload". The highest values indicate the worst situation, the lowest values the best. In this case, the minimum and maximum values in the formula are swapped.

2. RIGHT TO EDUCATION

The right to education as one of the economic, social and cultural rights obliges the states to undertake all necessary measures by using the maximum of available resources.¹⁵ The states must ensure freedom from discrimination in education and must provide free, compulsory primary education – regardless of the resources available to the government.¹⁶

The requirements of the right to education vary when we consider different levels of education. While considering primary education, the main requirement is to have compulsory and free education. This engages direct and indirect costs related to the education. The compulsory nature of education refers to all the related stakeholders, including governments and parents, who are required to eliminate all sorts of discrimination, such as income based or attendance-related barriers. Furthermore, it is the duty of the state to progressively expand and improve the education system and successively insert free education at all the levels of education- primary, secondary, higher, and fundamental.¹⁷

To help states understand their obligations, the former United Nations Special Rapporteur on Education, Katarina Tomasevski, developed the following “4” as a scheme identifying the essential features of quality education.¹⁸

- (a) Availability, which requires that functioning educational institutions (including sanitation facilities for both sexes and safe drinking water) be available, as well as trained teachers, teaching materials, computer facilities and information technology;
- (b) Accessibility, meaning that educational institutions and programmes have to be physically and economically accessible to everyone, without discrimination;
- (c) Acceptability, meaning that the form and substance of education, including curricula and teaching methods have to be acceptable to students and, in appropriate cases, parents; this is subject to the educational

¹⁵ See, CESCR, General Comment No. 3: The Nature of States Parties Obligations, UN Doc. E/1991/23(SUPP), 1 January 1991, paras 2, 9.

¹⁶ Committee on Economic, Social and Cultural Rights.1991. General Comment No. 3: The Nature of States Parties Para 5.

¹⁷ United Nations General Assembly. 1989. International Convention on the Rights of the Child. Article 28.

¹⁸ UN Commission on Human Rights.1999. Preliminary Report of the Special Rapporteur on the Right to Education. Paras. 51–74.

objectives required by article 13(1) of the Covenant and such minimum educational standards as may be approved by the state under the articles 13(3) and (4).

- (d) Adaptability, which demands that education be “flexible so it can adapt to the needs of changing societies and communities and respond to the needs of students within their diverse social and cultural settings”.¹⁹

As stated above, the International Covenant on Economic, Social and Cultural Rights and the Convention on the Rights of the Child do not contain provisions on possible derogations from this right. During a public health emergency, such as COVID-19, state parties of the following Conventions should undertake appropriate actions to guarantee the fulfilment of this right. Even though COVID-19 forced the member states to close schools and to limit the scope of the right to education, however, state parties are not waived from their international obligations. They should guarantee the fulfilment of the right during the COVID-19 pandemic.

It is worthy to note that the states’ measures, in essence, must be necessary to combat the public health crisis posed by COVID-19 and be reasonable and proportionate. Emergency measures and powers adopted by the States parties to address the pandemic should not be abused, and should be lifted as soon as they are no longer necessary for protecting public health.²⁰

3. RIGHT TO EDUCATION AS INTERNATIONAL HUMAN RIGHT

The right to education is enshrined in numerous international and regional human rights instruments. Article 26 of the **Universal Declaration on Human Rights** stipulates that everyone has a right to education and makes it mandatory for state parties to provide free education at least at the elementary and

¹⁹ UN Committee on Economic, Social and Cultural Rights, 1999. General Comment No. 13: The right to education (Article 13). Accessed 04 March 2020. <https://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d%29GeneralCommentNo13The righttoeducation%28article13%29%281999%29.aspx>.

²⁰ Human Rights Council. 2020. Report of the Special Rapporteur on the right to education, paras 10.

fundamental stages of life. It also requires state parties to make elementary education compulsory. According to the Universal Declaration, the key purposes of education is human development and the strengthening of respect for human rights and fundamental freedoms.²¹

The right to education is also stipulated in the **International Covenant on Economic, Social and Cultural Rights** (ICESCR). The ICESCR enumerates the steps that state parties should undertake to realize the right to education. The Covenant stipulates that primary education shall be compulsory and available for free to all. State parties should undertake the necessary steps for school development. Parents should have the freedom to choose schools for their children. Children should have the opportunity to pursue education programs according to their religious and moral convictions, etc.²²

Article 10 of the **Convention on the Elimination of All Forms of Discrimination against Women** (CEDAW) stipulates that the states parties shall take all appropriate measures to eliminate discrimination against women to ensure their rights on equal bases. It also stipulates that both male and female students should have equal access to the same curricula, examinations, teaching staff with qualifications of the same standard, school premises and equipment of the same quality. It also created an obligation for state parties to reduce female dropout rates from the schools and programmes for girls and women who have left school prematurely.²³

Article 24 of the **International Convention on the Rights of Persons with Disabilities** (CRPD) guarantees the right of persons with disabilities to education. This Article obliges state parties to provide instruction in an inclusive, non-discriminatory and equal manner. State parties should undertake necessary steps to ensure that persons with disabilities are not excluded from the education systems based on disability. Persons with disabilities shall have access to an inclusive, quality and accessible primary education. Persons with disabilities shall receive the support required within the general education system to facilitate their effective education. Effective individualized support measures

²¹ United Nations General Assembly. 1948. Universal Declaration of Human Rights. Article 26. Accessed 07 March 2020. <https://www.un.org/en/about-us/universal-declaration-of-human-rights>.

²² United Nations General Assembly. 1966. International Covenant on Economic, Social and Cultural Rights. Article 13. Accessed 01 March 2021. https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-3&chapter=4.

²³ United Nations General Assembly. 1979. International Convention on the Elimination of All Forms of Discrimination Against Women, Article 10, 19 December 1979. Accessed 02 March 2021. <https://www.un.org/womenwatch/daw/cedaw/>.

must be provided in environments that maximize academic and social development, consistent with the goal of full inclusion.²⁴

According to Article 12.4 of the **International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families** (CPRMWF), State parties must respect migrant worker parents and legal guardians' liberty to choose religious and moral education for their children in conformity with their convictions.

Article 30 of the Convention stipulates that each child of a migrant worker shall have the fundamental right to access education based on equality of treatment with nationals of the state concerned. As per Article 45 of the Convention, members of the families of migrant workers in the state of employment shall enjoy equality of treatment with that state's nationals while accessing educational institutions and services. Institutions' admission requirements, regulations and services should be the same.²⁵

According to Article 22 of the **International Convention Relating to the Status of Refugees, the Contracting States** shall accord to refugees treatment as favourable as possible, and, in any event, not less favourable than that accorded to aliens generally in the same circumstances, concerning education other than elementary education and, in particular, as regards access to studies, the recognition of foreign school certificates, diplomas and degrees, the remission of fees and the award of scholarships.²⁶

According to Article 4 of the **Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities**, states should, where appropriate, take measures in the field of education to encourage knowledge of the history, traditions, language and culture of the minorities existing within their territory. Persons belonging to minorities should have adequate opportunities to gain an understanding of society as a whole.²⁷

²⁴ United Nations General Assembly. 2006. International Convention on the Rights of Persons with Disabilities. Article 24. the UN General Assembly, 13 December 2006. Accessed 07 March 2020. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>.

²⁵ United Nations General Assembly. International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families. Articles 12, 30, 45. Accessed 12 March 2020. <https://www.ohchr.org/en/professionalinterest/pages/cmw.aspx>.

²⁶ United Nations General Assembly. 1951. International Convention Relating to the Status of Refugees, Article 22. Accessed 05 March 2021. <https://www.ohchr.org/en/professionalinterest/pages/statusofrefugees.aspx>.

²⁷ United Nations General Assembly. 1992. Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities. Article 5. Accessed 03 March 2020. <https://www.ohchr.org/en/professionalinterest/pages/minorities.aspx#:~:text=1.-,Persons%20belonging%20to%20national%20or%20ethnic%2C%20religious%20and%20linguistic%20minorities,and%20without%20interference%20or%20any>.

The United Nations Convention on the Rights of the Child (CRC) provides two articles concerning the right to education. According to Article 28 of the CRC the states recognize the right of the child to education and the possibilities of its implementation, such as by defining different means and principles of receiving education (equal opportunities, availability, the frequency of attending schools, etc.). Article 29 of CRC targets the education goals in relation to the child development, individual qualities, virtue, physical and mental development of the child, cultural peculiarities and many others. The consideration of the EPIC covers mostly Article 28 of the CRC, which obliges its member states to make primary education compulsory and available to all²⁸ and Article 28(c) guaranteeing the accessibility of the education programs by all means. State parties should undertake appropriate measures to encourage attendance in schools and decrease dropout rates. This will also help to create an education framework, which will ensure the full development of the child.

4. RIGHT TO EDUCATION AS NATIONAL OBLIGATION

All countries have a legal foundation, generally consisting of a founding document, such as a constitution, and the laws passed by the national legislature and other levels of lawmaking authority. These laws function in a hierarchy, which determines how they rank in authority and how the authority and scope of each level are derived from the constitution (*Wheeler 1911, 66-83*). Different countries have different legal systems and hierarchies of the norms. The differences are associated with governing systems.

As a supreme law, the state should adhere to the constitutional law, and it should serve a source of legal and democratic principles which governments should adhere to. As a supreme law all other laws should also adhere. The statute is a law enacted by a legislation to govern society, and its authority arises from the constitution or another document, which is the founding source for the country. Regulations are issued under the authority of the statute by a division of the government or by a special body (*IFES 2016, 2*).

²⁸ United Nations General Assembly. 1989. International Convention on the Rights of the Child. Article 28. Accessed 02 March 2021. <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.

In order to be sure the country guarantees the right to education, first of all, it is necessary to check whether the constitution contains relevant provisions. If the Constitution has relevant provisions concerning the right to education, it is important to check whether the ordinary jurisdiction or legislatively enacted legal acts have relevant provisions concerning the rights. The implementation of the acts falls under the government's competency. So as to achieve the main goals of the legislative acts, usually, governments adopt regulations, related to the right to education. As governments' resources are limited, very often, they are adopting strategies concerning the right to education that serve as a guiding policy.

When the states are ratifying international legal instruments, they are responsible for incorporating and implementing their norms into their domestic jurisdiction. The vast majority of states approved dozens of international tools concerning the right to education. Hence, they opt to be bound by the norms of international jurisprudence.

On the one hand, public health emergencies can create hardships for the states to provide quality education. On the other hand, the domestic jurisdictions and international commitments oblige states to guarantee the fulfilment of the right. In times of global health emergencies, the relevant state institutions should abolish legal and administrative barriers, which may impede the educational process. Children and their parents should have necessary financial resources to get quality education. It is important to ensure affordable distance learning programs. Compulsory schooling should not be interrupted.²⁹

State parties shall undertake all appropriate legislative, administrative, and other measures for the implementation of the rights. States should not only strengthen their national systems of education, but also the legal framework for the protection and health and essential social services to increase their ability to withstand emergencies.³⁰

Based on their domestic jurisdiction and international instruments, during an emergency, states should prepare a plan of action to provide education in

²⁹ The UN Committee on Economic, Social and Cultural Rights. 1999. General Comment No. 13: The right to March education (Article 13). Accessed 07 March 2020. <https://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d%29GeneralCommentNo13Therighttoeducation%28article13%29%281999%29.aspx>.

³⁰ The UN Committee on the Right of the Child. 2008. Day of General Discussion on the Right of the Child to Education in Emergency Situations. Accessed 06 March 2021. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

emergencies. Domestic legal acts should create obligations for states to allocate adequate sustained resources to ensure the right to education when an emergency occurs. The adoption of the emergency responsive curriculum is necessary, and teachers should be trained to cope with emergencies.³¹ Domestic legal acts should contain provisions on how to adopt emergency responsive curricula, for all levels of the educational system. Domestic legal acts shall create grounds for the establishment and maintenance for a transparent and effective monitoring system.³²

National laws and regulations should contain provisions related to the internationally agreed principles of equity and non-discrimination. Exclusion from education or limitations to the right to education on the basis of socially ascribed or perceived difference should be prohibited, and states must ensure this prohibition is duly applied at all levels and in relation to all children.³³

Developing a comprehensive national strategy and curricula based on children's needs are enshrined in the Convention on the Right of the Child. If the state government as a whole and at all levels is to promote and respect the rights of the child, it needs to work on the basis of a unifying, comprehensive and rights-based national strategy, rooted in the Convention.³⁴ The comprehensive national strategy may be elaborated in sectoral national plans of action - for example for education and health - setting out specific goals, targeted implementation measures and allocation of financial and human resources.³⁵

As providing education is a positive obligation of the state, a comprehensive national strategy should include principles on how to conduct education in emergency situations. Actions to be taken at the time and planned

³¹ The UN Committee on the Right of the Child. 2008. Day of General Discussion on the Right of the Child to Education in Emergency Situations. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

³² The UN Committee on Economic, Social and Cultural Rights. 1999. General Comment No. 13: The right to education (Article 13). Accessed 08 March 2021. <https://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d%29GeneralCommentNo13TheRighttoEducation%28article13%29%281999%29.aspx>.

³³ The UN Committee on the Right of the Child. 2008. Day of General Discussion on the Right of the Child to Education in Emergency Situations. Accessed 08 March 2021. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

³⁴ The UN Committee on the Right of the Child. 2003. General Comment No. 5 General measures of implementation of the Convention on the Rights of the Child. Accessed 08 March 2021. <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPFPRiCAqhKb7yhsiQql8gX5Zxh0cQqSRzx6Zd2%2FQRsDnCTcaruSeZhPr2vUevjbn6t6GSi1fheVp%2Bj5HTLUUb%2b%2FPZZtQWn0jExFVnWuhiBbqgAj0dWBoFGbK0c>.

³⁵ The Committee on the Right of the Child. 2010. General Comment No. 5 General measures of implementation of the Convention on the Rights of the Child. Accessed 10 March 2021. <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPFPRiCAqhKb7yhsiQql8gX5Zxh0cQqSRzx6Zd2%2FQRsDnCTcaruSeZhPr2vUevjbn6t6GSi1fheVp%2Bj5HTLUUb%2b%2FPZZtQWn0jExFVnWuhiBbqgAj0dWBoFGbK0c>.

for the possible emergencies in future, should be included in the national and local education plans. For better intersectoral cooperation decision-making, coordination, security, and protection mechanisms should be highlighted. The context, indicators, and early warning mechanisms of disasters and conflict should be realized and included in these plans. Furthermore, these education plans should possess a system of revision and monitoring for the possible betterment (*INEE 2010, 10, 80*). A focal point, most frequently, the Ministry of Education, should be the responsible coordinating body between many sectors, including other public agencies, civic sector, humanitarian relief agencies, donors and others to ensure an adequate response to necessary resources required for the realization of the right to education in case of emergency.³⁶

5. EDUCATION IN EMERGENCY

Education is a process of learning that begins at birth and continues to the end of life. Education is a process that takes place in the family, community and at school. As mentioned above, the right to education is fundamental and inalienable (*Nicolai 2003, 11-12*). Education promotes the increase in quality of life, helps individuals to lead a healthy life, be a full member of society, restore peace and stability (*UNICEF 2018*).

An emergency is a sudden situation that exposes to danger the safety of one or more individuals. An emergency situation can be caused by armed conflict, political instability, natural disaster, health-related crises, etc (*Nicolai 2003, 11-12*). The above mentioned events can disrupt children's normal educational process by limiting their opportunities to gain age-specific knowledge and skills can be defined as education in emergency. During an emergency situation, the continuity of the educational process is very important especially for children, as emergencies can disrupt a child's education for years, which will have a negative impact on the further development of the state. Therefore, education in an emergency plays a crucial role in the lives of children,

³⁶ The UN Committee on the Right of the Child. 2008. Day of General Discussion on the Right of the Child to Education in Emergency Situations. Accessed 12 March 2020. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

who face a difficult situation. In this regard, it is important for the states to have an educational response in emergencies for mitigating the impact of sudden eventualities on education. An educational response in emergencies can be explained by the following:

- Education in emergencies can be both life-saving and life-sustaining. It can save lives by protecting against exploitation and harm and by disseminating key survival messages (*INEE 2004, 5*).
- Schooling in emergency times can help improve psychological well-being, enhance child social-psychological resistance and recover their self-esteem. Peer-to-peer communications and games help to rebuild social skills and trust towards adults and peers.
- It returns a feeling of safety and a chance for a decent future.
- Education is a tool for protecting children in emergencies.
- Education provides a channel for conveying health and survival messages and for teaching new skills and values, such as peace, tolerance, conflict resolution, democracy, human rights, environmental conservation (*Bensalah 2002, 11*).

It is important to note that education efforts in emergencies can be based on three pillars:

- the child's right to education
- the child's need for protection
- a community's priority of education (*Nicolai 2003, 6-11*).

The child's rights to education: As stipulated above, now the right to education without discrimination is embedded in the international law. Educational rights have been further elaborated to address issues of availability of education, with some agreements directly addressing provisions for children affected by different types of emergencies. The child's need for protection: Education plays a fundamental role in protection. A crisis leaves children vulnerable for a variety of reasons – they may have been displaced, witnessed purposeful violence, lost family members, or fallen victim to an unexpected natural disaster. Child protection needs to be addressed by creating a safe and supervised environment, engaging them in structured activities, teaching to cope

with increased risks, providing due care to vulnerable groups and shielding from the exploitation.

Education is prioritized by communities: Experiencing crisis commonly calls for the provision of education as a top priority in assistance. Children and parents both believe there is urgency in continuing schooling, but when an emergency interrupts local education efforts, in that case under-resourced communities can rarely cope. Although communities may be able to establish some type of education on a small scale, they often struggle to maintain or enhance those efforts without any outside assistance.

5.1 EDUCATION IN COVID-19 EMERGENCY

COVID-19 was not just a matter of public health. The restrictions caused by non-pharmaceutical interventions like social distancing, also impacted education at all levels (*Fernando & Schleicher 2020, 3*). The closure of schools and the abrupt shift to online education hurt almost all children. To varying degrees, the challenges they faced were due to the digital obstacles, social vulnerability of families, and lack of skills and competencies needed to tackle the crisis. In general, COVID-19 disrupted the environment where children live, grow and develop. Consequently, these disruptions had negative implications for children's education, development, and protection. Mobility restrictions mainly affected families, where relationships were initially tense, where children were usually neglected and/or exposed to other forms of violence. Children with special needs were deprived of opportunities to participate fully in online education and didn't receive specialized support services during that time due to the system's unpreparedness. One of the adverse outcomes of the situation caused by COVID-19 is discriminatory practices against children, notably from disadvantaged families. Already vulnerable families and children who lived in unfavorable socio-economic conditions were more susceptible to exploitation, physical and psychological violence. All the above circumstances indicated that COVID-19 results in emergencies affecting the child and education, in general.

6. MINIMUM STANDARDS FOR EDUCATION IN EMERGENCY

In December 2004, the Inter-Agency Network for Education in Emergencies (INEE) launched a handbook entitled Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction (*INEE 2004*). Modelled on the Sphere Project, the Minimum Standards is both a handbook and an expression of commitment that everyone, young or old, has a right to education during emergencies (*Humanitarian Practice Network, 2006*). To provide students with education in emergency situations the minimum standards should be maintained. Those standards cover five domains:

- *Foundational Standards*: these standards include coordination, community participation and analysis. They should be applied across all domains to promote a holistic quality response. Particular attention is paid to the need for an accurate diagnosis at all stages of the project cycle, in order to better understand the context and apply more appropriately the standards in the domains as follows.
- *Access and Learning Environment*: the standards in this domain focus on the access to safe and relevant learning opportunities. They highlight the importance of establishing links with other sectors such as health, water and sanitation, nutrition and shelter that help to enhance security, safety and physical, cognitive and psychological well-being.
- *Teaching and Learning*: these standards focus on the critical elements that promote effective teaching and learning, including curricula, training, professional development and support, instruction and learning processes as well as the assessment of learning outcomes.
- *Teachers and Other Education Personnel*: the standards in this domain cover the administration and management of human resources in the field of education. This includes recruitment, selection and conditions of service, supervision and support.

- *Education Policy*: the standards in this domain focus on policy formulation and enactment, planning and implementation (*MERS 2010*).

7. DISTANCE LEARNING

Distance learning is a process where teachers are separated from learners by space or time or both at the same time using media and information technologies to enable communication and exchange during the learning process despite this separation. According to the UNESCO (2020) report, distance learning is a term often used synonymously with online learning, e-learning, distance education, correspondence education, external studies, flexible learning, and massive open online courses (MOOCs). Distance learning may take place through print-based learning materials, or one-way massive broadcasting (TV and radio programmes), or through web-based exchange using social media channels or learning platforms. This kind of education tends to require a high level of self-directed learning and study skills on the part of the learner, which must be supported through new teaching methods, learning and guidance strategies (*UNESCO 2020a, 2*).

Two main categories of distance learning exist:

- *Synchronous distance learning*, where teachers and students are expected to be available at the same virtual space at the same time for the learning process to occur. Synchronous distance learning requires live communication.
- *Asynchronous distance learning*, where assignments, lessons and lectures are given through pre-recorded videos and print-based learning materials. Students watch videos, do assignments in their appropriate time and place consuming as much or as little of the content at a time as they can. During asynchronous distance learning, teachers can measure and evaluate students' engagement and achievements through quizzes, educational games, video and/or print-based material analytics, etc.

Various types of distance learning exist, which can be synchronous or asynchronous. Even some fall into both categories. They are the following:

- Video conferencing
- Hybrid distance education
- Open schedule online courses
- Fixed-time online courses

All these four types of distance learning can be effective if only teachers and students have adequate resources at home, are motivated and flexible (*TechSmith 2020, 6-8*).

7.1 AVAILABLE RESOURCES

The resources necessary for distance learning are diverse. Different countries have developed different solutions for organizing distance learning during school closures. The quality of the internet connection, the existence and usage of online distance learning platforms and portals, the access to devices (computers, laptops, tablets and phones) for students at home, or the availability of adapted software are among the critical factors that must be integrated when designing an education response to the COVID-19 crisis. To ensure continuity in education, an emergency strategy should build on the resources available. OECD and Harvard Graduate School of Education have jointly done research (*OECD 2020, 10*) according to which the vast majority of the countries relied on existing online instructional resources. Some countries lent laptops to students (New South Wales, Australia), or relied on more traditional practices by printing and delivering additional work booklets (Great Britain, Japan). In other countries, the national TV and radio channels started to broadcast educational programmes for different school levels, etc. *UNESCO (2020d)* has done the research and made a list of distance learning online resources aimed to help school administrators, teachers, students and parents facilitate learning and provide social care and interaction during the time of school closure. This list includes such resources as:

- Resources to provide psychosocial support
- Management systems for digital learning
- Systems built for use on basic mobile phones
- Systems with strong offline functionality
- Platforms for Massive Open Online Course (MOOC)
- Self-directed learning content
- Mobile reading applications
- Live-video communication platforms
- Tools for teachers to create digital learning content
- External repositories of distance learning solutions

The availability of educational technologies provides equal educational opportunities without taking into consideration the social, economic and geographical status of the students and teachers.

The role of educational technologies became more crucial during school closures due to the COVID-19 crisis. In response to the education crisis, countries around the globe are leveraging technology and remote learning to continue education during school closures. Educational technology, a combination of IT tools and educational practices, used to facilitate and enhance learning, has opened access to education for learners in many countries of the world.

The use of different educational technologies during distance/remote learning supports teachers, students and their families effectively in times of crisis due to COVID-19 and provides the educational content they need, often requiring a combination of several platforms, software and application (*Chebib 2020*). The availability and effective use of educational technologies during school closures ensures the continuity of education and contributes to the improvement of the quality of education.

During the distance/remote learning due to the COVID-19 crisis many countries focused on local solutions developing their special platforms and portals to avoid dependencies while other countries signed agreements with the companies owning educational platforms/portals to meet the e-learning needs of students and teachers. Supporting resources for educational technologies can

increase educational productivity by accelerating the rate of learning. The use of supporting and additional resources for educational technologies during distance learning in times of COVID-19 makes the educational process more attractive, engaging and effective (*U.S. Department of Education n.d.*).

7.2 E-READINESS OF TEACHERS AND STUDENTS

Formally, the word “readiness” is defined as being fully prepared for some experience or action. E-learning readiness is referred to as the mental and physical preparation of an organization for e-teaching experience or action. An e-learning readiness assessment helps a school to design e-teaching strategies and effectively achieve its goals. E-readiness is recognized as one of the most significant aspects for the success of implementing distance learning programs for the students of the schools (*Kalkan 2020; Penna & Stara 2007, 3*).

Effective distance learning during school closures due to the COVID-19 crisis requires that teachers have proficient skills and knowledge on information and educational technologies, adequate resources at home, willingness to organize engaging lessons. Teacher e-readiness refers to their willingness, their preparation for basic technical and communication skills and new teaching methodology for distance learning (*Phan & Dang 2017, 5*).

Effective distance learning requires that students have basic knowledge of information technologies, have a quiet place at home for learning, presence of skills to meaningfully organize the independent work and willingness to study online.

The structure of e-readiness for distance education is a united set of elements, which allows evaluating the development level of students’ and teachers’ e-readiness for distance education in accordance with the criteria as it follows:

1. Technological readiness
2. Social-psychological readiness
3. Cognitive readiness

Each criterion contains corresponding indicators that characterize its development level in students' and teachers' activity:

1. Technological readiness:

- necessary skills to use current information technologies,
- basic knowledge about existing online educational materials,
- basic knowledge about using e-learning platforms,
- necessary skills to accomplish assigned tasks through the existing platforms,
- online educational resources (for students only);

2. Social-psychological readiness:

- willingness to study online,
- necessary conditions for effective and quality e-learning,
- attitude towards distance education;

3. Cognitive readiness:

- skills to meaningfully organize the independent work,
- the presence of skills in self-management, self-assessment, and self-control,
- knowledge about methods and methodology of distance education (for teachers only),
- understanding and evaluation of distance education (for teachers only).

The defined indicators are developed for the in-depth study and assessment of teachers' and students' e-readiness to distance learning according to the results of which, necessary actions can be taken to mitigate the impact of emergencies on education.

The sudden interruption of the educational process due to the COVID-19 crisis made teachers across the globe cope to help their students travel the world of distance learning, often without sufficient guidance, training, support, and resources (*UNESCO 2020c, 2*).

In addition to this, most teachers were not adequately prepared to provide education in newly created conditions, and families were not ready to facilitate and monitor daily home-based learning especially in case of multiple children. It is much more challenging when parents lack language and literacy skills and the time to follow the study schedules and manage the learning processes.

According to *UNESCO (2020c)*, for the duration of the crisis, it will be vital to find ways to sustain and nurture teachers' professional networks, as well as the relationships between teachers and learners, their families and communities, in order to ensure the success of distance learning as a stopgap measure before schools are ready to reopen.

During school closures many local and international companies step forward to help teachers get basic knowledge about organizing distance learning with different existing educational technologies, about distance learning methods and how to evaluate the achievements and engagement of children during distance education.

8. COOPERATION AND COORDINATION: ENGAGEMENT OF STAKEHOLDERS

The quest for sustainable development through multi-stakeholder partnerships (MSPs) began to receive greater attention since the early 1990s. More specifically, the concepts of multilateral and public-private partnerships were seen as critical tools for the implementation of the outcomes of major international conferences of the UN, notably the Rio Conference on Environment and Sustainable Development (UNCED) in 1992, the Cairo International Conference on Population and Development (ICPD), and the Copenhagen World Summit on Social Development (*Kebede 2016, 311*).

Multi-stakeholders' collaboration and coordination at local, national and regional levels in emergencies are critical to overcome the crisis and promote sustainable and inclusive solutions. They serve as a platform for putting together diverse resources, expertise, technologies, and ideas to achieve results.

Multi-stakeholder partnerships should be forged in all stages of education responses to emergencies. That is to say, it is critically important to involve all

relevant stakeholders as early as possible in the planning, implementation, and monitoring of responses to emergencies in education.

Engagement of stakeholders at local and community levels is one of the effective means to ensure the representation of rights and interests of children with special needs and promote the interests of other unprivileged children. Through community leaders and parent-teacher-student associations, the voice of vulnerable children can be raised and articulated at higher levels of the national protection system to address their needs and make them more visible to emergency policymakers. It is also critical to ensure the youth's participation in issues directly affecting them.

The engagement of multiple stakeholders at all levels of the system should take place in conformity with the national humanitarian coordination strategies and policy frameworks developed and utilized for education responses to emergencies. The cumulative capacities of diverse national, regional and local stakeholders can bring onboard innovative and effective solutions for overcoming multifaceted challenges and crises at each level of the system. Intensive co-creation and strategizing, regular participation in the meetings, and various formats of contribution are the key factors of setting up productive partnerships at any level of policymaking. It is important to leverage the capacities and resources at regional and local levels by taking into account the specificities of the development of each stakeholder.

Gerda Ferburg-, the UN Chair of the Committee on Food Security describes MSPs as follows: MSPs range from short consultation processes to multi-year engagements that may evolve through many phases. Some MSPs may be very structured and backed by formal organizational arrangements. Others may be much more ad hoc and fluid. Different groups will take the lead in initiating MSPs. Governments may initiate a stakeholder consultation process for assessing new policy directions. NGOs may work to bring businesses and governments together around an environmental or social concern. Businesses may realize their need to partner with governments and NGOs to create new market opportunities and to

manage their operations in ways that create a shared value and give them a 'license' to operate (Kebede 2016, 312).

Different forms of partnerships could be established with the involvement of a broad array of stakeholders representing different sectors of society. In times of emergency, it is recommended to involve in multistakeholder partnerships, 39 stakeholders, including, but not limited to NGOs, foundations, youth grass-roots initiatives, students, teachers, unions, international development aid agencies, academia, and private sector representatives. Their cooperation can vary from consultations to their engagement in capacity building, budget support, aid provision, etc.

9. BUDGETING AND FINANCING EDUCATION IN EMERGENCIES

In most countries, governments are typically expected to ensure access to basic education, while citizens are required by law to attain education up to a certain level. Nowadays, education is perceived not only as a right but also as a duty of citizens (*Roser & Ortiz-Ospina 2016*).

While larger education budgets are no guarantee of better student results, a minimum level of spending is necessary for ensuring good quality education.

The government's ability to provide quality education for all and to respond to new priorities depends on the availability of adequate funding and a system through which school funding can be governed, distributed, and monitored.

The vast majority of school funding comes from public sources. On average across the OECD member countries, almost 91% of the funds for schooling come from public sources (*OECD 2017*).

A significant increase in financing is required to achieve Sustainable Development Goals (SDG 4). The full realization of the SDG4-Education 2030 agenda requires sustained, innovative and well-targeted financing and efficient implementation arrangements, especially in those countries furthest from

achieving quality education for all at all levels and in emergencies (*UNESCO 2016, 66*).

The national contexts are diverse, but the following international and regional benchmarks are crucial reference points:

- allocating at least 4% to 6% of gross domestic product (GDP) to education; and/or
- allocating at least 15% to 20% of public expenditure to education (*UNESCO 2016, 67*).

Most of the countries have been severely affected by COVID-19 and declared an emergency, which resulted in not only unprecedented health challenges but also many limitations on business activity and a sharp decline in the economy. On one side this has affected government incomes (taxes, etc.) and on the other side, it has significantly increased the unprecedented expense levels, which governments should be able to incur in a short period.

However, the government budgeting process and re-budgeting are not designed for effective short-term problems management that countries face during the emergency. Government budgeting policy aims to increase public well-being in a long-term perspective (*Barry n.d.*).

While there is no exact approach to how to adapt budgeting in an emergency, there are several general principles that should be considered in government budgeting during an emergency.

In general, for effective disaster management, the following factors should be considered by each government at a budgeting level:

- Availability of additional funds: whether the government can increase public expenses in a very short period in total or for a specific task or activity.
- Re-budgeting process efficiency: whether the government may adjust the existing budget in a short period and the existing bureaucracy level.
- Flexibility of the existing budget: whether the existing budget ensures flexibility. The ratio of fixed and variable expenses, capital

and operating expenses. In general, it may be expected that the weight of capital expenses increases the flexibility as they could be deferred, and salary expenses limit the flexibility for re-budgeting.

Effective liquidity management is always the key to government success to meet the extended obligations and provide support to most affected government sectors. Even if some offsetting opportunities are available within the budget, a pandemic response will most likely require higher disbursement of cash and expenditure levels shortly. Government debt and cash managers should start planning for increased financing and liquidity needs at the earliest opportunity.

In this process each government passes through the following stages (*IMF 2020*):

- revise the macrocosmic expectations, including GDP growth, and expected government income from all sources;
- adjust short and medium level government objectives;
- design and plan a more flexible and agile budget that may cope with uncertainties;
- ensure timely communication to line responsible parties (*IMF 2020*).

In an emergency, quick revision may be a challenging task, because of existing uncertainties, however, improvements are possible through the preparation and planning before the disaster happens.

For understanding how much the government budgeting is flexible in a specific sector the general indicators could be:

- the share of the specific sector expenses in total government expenses, compared with world average or other countries;
- the share of specific sector expenses in GDP per capital;
- the share of provisional funds in the total budget.

For sufficient funding, the efforts should be focused to bridge the funding gaps through domestic sources. However, public funding may also be international, from donors and multilateral institutions. This international

public finance plays a key role to mobilize public resources domestically. This is especially crucial for the poor and most vulnerable countries with limited internal resources. Financial sustainability and proper budgeting are key to strengthening education systems and creating sustainable, scalable programs. International public funding may help to strengthen financial sustainability by designing and implementing projects and activities that have finance-focused outputs (*USAID Education Links 2019*).

CONCLUSION

Finally, an emergency situation such as the COVID-19 pandemic has raised awareness of the need for schools and education systems to be prepared for different emergencies. This global crisis made it clear that countries should develop and have a coping strategy for mitigating the adverse impact of the pandemic as well as identify and provide additional support to the most vulnerable groups. This challenge is an opportunity for those schools not having a strategy for emergency situations to develop one and to use it during such eventualities. School closures have shown that online teaching and learning preparedness is not only a trend but also a must to achieve success in the educational process. The effectiveness of distance learning and educational process in general mostly depend on the relevant professional-pedagogical skills of the teaching community, the willingness of teachers to constantly improve and develop, on teachers' creative thinking, motivation to teach at school, etc. Different international studies have shown that in order to have an effective education system, it is important to have a highly qualified pedagogical community. The effectiveness of the education system is largely measured by the achievements of the students. And the achievements of the students significantly depend on the high professional and pedagogical skills and capacities of teachers (*Arustamyan 2019, 222- 223*). So, in case of distance learning we will succeed if we have:

- teachers, students and parents with basic knowledge of information and educational technologies;
- an own special platform/portal for organizing the educational process during emergency situations like COVID-19;
- tools and methodologies for organizing synchronous and asynchronous lessons through our own special platforms/portals taking into consideration the needs of all students based on the approaches of the Universal Design for Learning;

- accessible and detailed video tutorials on tools and possibilities of this own special platforms/portals in the native language for teachers, students and their parents;
- different inclusive methods and techniques aimed at promoting students' critical and creative thinking, analytical skills and metacognition during distance learning;
- lessons for students with disabilities and special needs at home ensuring that teachers and/or multidisciplinary team members visit their home;
- control and consistency over the implementation of distance learning during emergency situations like COVID-19.

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Sub-Index 1: POLICY AND LEGAL FRAMEWORKS

Please fill in the table according to the ratification profile of the country:

Did the country ratify the following conventions?	Yes	Partially (ratified with reservations (please indicate)	No (didn't ratify)
Convention on the Rights of the Child and Two Optional Protocols			
International Covenant on Economic, Social and Cultural Rights			
Convention on the Elimination of All Forms of Discrimination Against Women			
Convention on the Rights of Persons with Disabilities			
Convention on the Protection of the Rights of All Migrant Workers and Members			
Convention Relating to the Status of Refugees			
ILO Minimum Age Convention No 138			
ILO Worst Forms of Child Labor Convention No 182			

<p>the International Covenant on Covenant and such minimum educational standards as may be approved by the state in accordance with Articles 13(3) and (4). State parties are required to ensure that curricula, at all levels of the educational system, are directed to the objectives identified in Article 13 (1). They are also obliged to establish and maintain a transparent and effective system which detects whether or not education is, in fact, directed to the educational objectives set out in Article 13 (1).³ According to the UN Committee on the Right of the Child, during an emergency, the state parties should prepare a plan of action to provide education in emergencies. They are also obliged to allocate adequate sustained resources to ensure the right to education when an emergency occurs. The relevant state institutions should adopt emergency responsive curricula, and teachers should be trained to cope with emergencies.⁴</p>	Acceptability	Does the state ensure curricula at all levels of the education system by stipulating it in the domestic legislation?	Yes To some extent No	
		Does the state envisage a transparent and effective system for monitoring the objectives of education ?	Yes To some extent No	
	Adaptability	Is there an emergency responsive curriculum?	Yes No	

³See, "General Comment No. 13: The Right to Education (Article 13)", the UN Committee on Economic, Social and Cultural Rights, 8 December 1999. The link is available at <https://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d%29GeneralCommentNo13TheRighttoEducation%28article13%29%281999%29.aspx>.

⁴See, "Day of General Discussion on the Right of the Child to Education in Emergency Situations", 19 September 2008, page 10. The link is available at https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 2 Equality	<p>Exclusion from education or limitations to the right to education on the basis of socially ascribed or perceived difference is prohibited, and states must ensure this prohibition is duly applied at all levels and in relation to all children.⁵</p> <p>The following international provisions oblige state parties to provide education to following disadvantaged groups of children;</p> <ul style="list-style-type: none"> •Convention on the Elimination of All Forms of Discrimination Against Women. •Convention on the Rights of Persons with Disabilities (Article 24). •Convention on the Protection of the Rights of All Migrant Workers and Members (Article 200). •Convention Relating to the Status of Refugees (Article 22). •Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities (Article 4). <p>Article 32 (1) of the CRC recognizes the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education or to be harmful for the child's health or physical, mental, spiritual, moral and social development. The International Labor Organization articulates</p>	Gender disparity	Does the state enshrine the right to education without any discrimination to sex or discriminative practices towards girls in the national legislation?	Very well Not at all	Desk research Expert interview
			How well are national laws on elimination of gender disparity fulfilled and is equal access to education ensured during distance learning?	Very well To some extent Not at all	
		Disability	Does the state enshrine the right to education without any discrimination or discriminative practices towards disabled children in the national legislation?	Yes No	
			How well are national laws and regulations on the right to education for disabled children fulfilled during distance learning?	Yes To some extent No	
		Children of Migrant Workers	Does the state enshrine the right to education without any discrimination or discriminative practices to children of migrant workers in the national legislation?	Yes No	

⁵See, "Day of General Discussion on the Right of the Child to Education in Emergency Situations", 19 September 2008, page 9. The link is available at https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

the terms 'child labor' and 'working children' in its ILO Declaration on Fundamental Principles and Rights at work, ILO Minimum Age Convention No 138 and its Recommendation No.146, ILO Worst Forms of Child Labor Convention No 182 and its Recommendation No 190.		How well are national laws and regulations on the right to education for children of migrant workers fulfilled during distance learning?	Yes To some extent No
	Refugees	Does the state enshrine the right to education without any discrimination or discriminative practices to refugee children in the national legislation?	Yes No
		How well are national laws and regulations on the right to education for refugee children fulfilled during distance learning?	Yes To some extent No
	National or Ethnic, Religious and Linguistic Minorities	Does the state enshrine the right to education without any discrimination or discriminative practices towards children belonging to national or ethnic, religious and language minorities?	Yes No
		How well are national laws and regulations on the right to education for children belonging to national or ethnic, religious and linguistic minorities fulfilled during distance learning?	Yes To some extent No
	Child Labor	Does the national legislation define the terms 'child labor' or 'working child'?	Yes No
		Does the national legislation envisage measures of redressing the right of working children to education?	Yes To some extent No
		Was the right to education for working children maintained in distance learning?	Yes To some extent No

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 3 Dropout risks and continuity	In times of global health emergencies, the school dropout can increase significantly. According to UNICEF report at least 24 million children are projected to dropout of school due to COVID-19. ⁶ There are numerous reasons why students are dropping out of schools, ranging from financial hardships to excessively heavy and dull curricula. As states have positive obligations to ensure the right to education for everyone. They also have obligations to guarantee the continuity of education and eliminate dropouts. As states have positive obligations to ensure the right to education for everyone, they also have obligations to guarantee the continuity of education and eliminate dropouts.	National education laws, regulations, policies ensuring continuity of education	Do national education laws, regulations and policies ensure continuity of education to eliminate dropout tendencies in times of emergency?	Yes No	Expert interview Desk review
			Does the state have a system for calculating the student dropout rate?	Yes No	
			Does the state undertake concrete measures to ensure continuity of education and eliminate students' dropout tendencies in times of emergency?	Very well To some extent Not at all	
		Multi-sectoral policy (government, school, community ...)	Do national education laws, regulations and policies imply multi-sectoral collaboration to ensure the continuity of education and eliminate students' dropout tendencies in emergencies?	Yes No	
			How well are multi-sectoral collaboration and continuity of education ensured to eliminate students' dropout tendencies in emergencies?	Very well To some extent Not at all	
		School action plan/ guideline	Do schools have action plans/guidelines to ensure continuity of education and eliminate students' dropout tendencies in times of emergency?	Yes No	
			How well do school plans cover known, expected and recurring hazards and provide continuity of education and elimination of students' dropout tendencies during emergencies?	Very well To some extent Not at all	

⁶See, "UNICEF Executive Director Henrietta Fore's remarks at a press conference on new updated guidance on school-related public health measures in the context of COVID-19", www.unicef.org. The link is available at <https://www.unicef.org/press-releases/unicef-executive-director-henrietta-fores-remarks-press-conference-new-updated>.

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 4 Comprehensive national strategy for children (the above-mentioned strategy also has provisions on how to provide education in times of public health emergencies)	<p>The development of a comprehensive national strategy is enshrined in the Convention on the Right of the Child.</p> <p>If the government as a whole and at all levels is to promote and respect the rights of the child, it needs to work on the basis of a unifying, comprehensive and rights-based national strategy, rooted in the Convention.⁷</p> <p>The government as a whole and at all levels is to promote and respect the rights of the child, it needs to work on the basis of a unifying, comprehensive and rights-based national strategy, rooted in the Convention. The Committee commends the development of a comprehensive national strategy or national plan of action for children, built on the framework of the Convention.</p> <p>The comprehensive national strategy may be elaborated in the national sectoral plans of actions - for example for education and health - setting out specific goals, targeted implementation measures and allocation of financial and human resources.⁸</p> <p>As providing education is the positive obligation of the state, the comprehensive national strategy should include principles on how to conduct education emergency settings.</p>	Legal framework of the strategy/ action plan	Is there a comprehensive national strategy or national action plan for children?	Yes No	Expert interview
		Efficiency of the strategy/action plan	Does the comprehensive national strategy or action plan have targeted implementation measures and sufficient financial resources?	Yes To some extent No	Desk review
			Does the comprehensive national strategy or action plan have targeted implementation measures and sufficient financial resources?	Yes To some extent No	
			Does the comprehensive national strategy or action plan have targeted implementation measures and sufficient financial resources?	Yes To some extent No	

⁷See, “General Comment N5”, The UN Committee on the Rights of the Child, 2003, the link is available at https://www.unicef-irc.org/portfolios/general_comments/GC5_en.doc.html.

⁸See, “GENERAL COMMENT No. 5 (2003) General Measures of Implementation of the Convention on the Rights of the Child”, Committee on the Right of the Child, November 2003. The link is available at <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPRiCAqhKb7yhsiQql8gX-5Zxh0cQqSRzx6Zd2%2FQRsDnCTcaruSeZhPr2vUevjbn6t6GSi1fheVp%2Bj5HTLU2Ub%2FPPZZtQWn0jExFVnWuhiBbqgAj0dWBofGbk0c>.

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 5 Inter-sectoral cooperation (emergency related educational policies are integrated with other emergency related governmental policies)	National and local education plans should indicate the actions to be taken in current or future emergencies. They should specify decision-making, coordination, security and protection mechanisms for inter-sectoral coordination. Plans should be based on a thorough understanding of the context and should include indicators and mechanisms for the early warning of disaster and conflict. They should be supported by an appropriate policy and frameworks. There should be a system for regular revision of national and local education plans. ⁹	Legal formulation of inter-sectoral cooperation	Do national educational plans and policies imply intersectional emergency policy cooperation between different state institutions?	Yes No	Expert interview Desk review
			Do national educational plans and policies include particular regulations and actions aimed at the inter-sectoral response (decision-making, coordination,) in emergencies?	Yes To some extent No	
		Efficiency of inter-sectoral cooperation	How well did/do national educational plans and policies ensure inter-sectoral cooperation in times of emergency?	Very well To some extent Not at all	

⁹“MINIMUM STANDARDS FOR EDUCATION: Preparedness, Response, Recovery”, Inter-Agency Network for Education in Emergencies, page 108, New York, 2010. The link is available at https://reliefweb.int/sites/reliefweb.int/files/resources/A7FA342360503050C1257750000444E6-Minimum_Standards_English_2010.pdf.

Sub-Index 2: COORDINATION AND COOPERATION

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 1 Ad hoc committee	The UN Committee on the Rights of the Child urges all States parties, to prepare a plan of action for the provision of the right to education in emergency situations. This should include the appointment of a focal point (ad hoc committee) within the Ministry of Education in charge of coordination between governmental bodies, civil society, humanitarian relief agencies and donors; the allocation of adequate sustained resources to ensure the fulfillment of the right to education should an emergency occur. ¹	Establishment of an ad hoc committee.	Do national education laws, regulations and policies provide for the establishment of a coordinating body to ensure the continuity of education in emergencies?	Yes No	Expert interview Desk review
			How effective is the coordinating body in ensuring the continuity of education in emergencies?	Very well To some extent Not at all	
		Efficiency of inter-sectional cooperation	How well did/do national educational plans and policies ensure inter-sectoral cooperation in times of emergency?		

¹See, "Day of General Discussion on the Right of the Child to Education in Emergency Situations", 19 September 2008, page 10. The link is available at https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRC_Report_Right_of_the_Child_to_Education_in_Emergencies_2008.pdf.

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 2 Multi-stakeholders partnerships (MSP)	MSP is a governance structure bringing together relevant stakeholders such as education authorities, international and civil society organizations, independent experts, private sector representatives, etc. to cooperate consistently to tackle education in emergency challenges and aggregate greater (faster) impact. They are involved in education policymaking to ensure better education programming and implementation in emergency situations. ²	1.Stipulation in national legislation concerning the multi-stakeholders governance body at any level	Was the establishment of multi-stakeholder partnerships envisaged by any provision of the related education policies and regulations?	Yes No	Expert interview Desk review
		2.Structure	2.1. Were the relevant stakeholders involved in the given committee? (select all relevant choices): 1.CSOs (including NGOs, teachers' trade union, foundations, grass-roots initiatives, parents teachers students associations, and so on); 2.International organizations (EU, UN, USAID); 3.Private sector representatives; 4.Academia; 5.Independent experts; 6.Government (including LG); 7.Community (Local authorities); 8.Other.	Nominal/ cumulating approach (standardized value for each answer is 14,3 points)	
		3.Functions, Mandate Obligations	3.1. What were the key functions/mandate/ obligations of MSP? (select all relevant choices): 1.Consultative (10) 2. Data analysis and monitoring (15) 3.Capacity building (15) 4.Budget/financial support(20) 5.Technical provision (20) 6.Decision making and Engagement in policy making (20) 8.Other	Nominal/ cumulating approach	

²See "MINIMUM STANDARDS FOR EDUCATION: Preparedness, Response, Recovery", Inter-Agency Network for Education in Emergencies, p. 109, New York, 2010. The link is available at https://reliefweb.int/sites/reliefweb.int/files/resources/A7FA342360503050C1257750000444E6-Minimum_Standards_English_2010.pdf.

		4. Quality	4.1. Were the education planning and programming of MSP addressing the relevant beneficiaries' needs?	Yes To some extent No	Expert interview Desk review
			4.2. Were the resources contributed by the MSP in proportion to the achieved results?	Yes To some extent No	
			4.3. Did the partners work in cooperation and were they granted sounding opportunities to establish productive partnerships?	Yes To some extent No	
			4.4. Were the stakeholders (MSP members) proactively engaged in regular planning and/or implementation activities?	Yes To some extent No	

Sub-Index 3: E-READINESS

Questionnaire on e-readiness

TECHNOLOGICAL READINESS FOR DISTANCE EDUCATION				
	1. Students: indicators and questions <ul style="list-style-type: none"> • necessary skills to use current information technologies • basic knowledge about existing online educational materials • necessary skills to use e-learning platforms • necessary skills to accomplish the assigned tasks through the existing online educational resources 	Yes	No	To some extent
1.1	Do you feel confident about using a digital device (computer/telephone/ tablet) for learning purposes?	✓	✓	✓
1.2	Do you feel confident about using the Internet for learning purposes?	✓	✓	✓
1.3	Do you have an email account to create a new account at any platform to be used for distant education?	✓	✓	N/A
1.4	Do you feel confident about performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint)?	✓	✓	✓
1.5	Do you feel confident about uploading computer programs/software for learning purposes?	✓	✓	✓
1.6	Do you think you have sufficient information technology skills and competencies to use online educational tools required for your e-learning?	✓	✓	✓
1.7	Are you able to overcome emerging technical difficulties while using an e-learning platform?	✓	✓	✓
1.8	Do you know how to search for an assignment on the specialized e-learning platform (if any)?	✓	✓	✓
1.9	Do you feel confident about applying e-learning materials to organize your learning process properly?	✓	✓	✓
1.10	Do you feel confident about accomplishing tasks assigned by the teacher with the help of educational resources on the Internet?	✓	✓	✓
	2. Teachers: indicators and questions <ul style="list-style-type: none"> • basic knowledge about existing online educational resources • necessary skills to use e-learning platforms • necessary skills to use current information technologies 	Yes	No	To some extent
2.1	Do you feel confident about using a digital device (computer/telephone/ tablet) for teaching purposes?	✓	✓	✓
2.2	Do you feel confident about using the Internet?	✓	✓	✓
2.3	Do you feel confident about performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint)?	✓	✓	✓
2.4	Do you feel confident about uploading computer programs/software for teaching purposes?	✓	✓	✓
2.5	Do you think you have sufficient information technology skills and competencies to use online educational tools required for e-learning?	✓	✓	✓
2.6	Did you receive relevant training in using e-learning technologies?	✓	✓	N/A
2.7	Did you receive any training in integrating those technologies into interactive and effective teaching?	✓	✓	N/A
2.8	Do you feel confident about posting learning content on the online learning platforms?	✓	✓	✓
2.9	Are you able to download/upload learning materials from the Internet needed for conducting effective lessons?	✓	✓	✓
2.10	Are you able to overcome emerging technical difficulties while using an e-learning platform?	✓	✓	✓

SOCIAL-PSYCHOLOGICAL READINESS FOR DISTANCE EDUCATION				
	3. Students- indicators and questions • willingness to study online • necessary conditions for effective and quality e-learning • attitude towards distance education	Yes	No	To some extent
3.1	Do you have strong Internet connection for your e-learning purposes?	✓	✓	✓
3.2	Do you have your own device (e.g. smartphone, tablet, laptop) to use for online learning?	✓	✓	I have to share it with other family member/s
3.3	Do you have a separate room and/or a quiet space for learning online?	✓	✓	✓
3.4	Do you believe that learning online makes it possible to ensure the best academic achievement and performance?	✓	✓	✓
3.5	Do you consider online learning effective in general?	✓	✓	✓
3.6	Do you like studying remotely?	✓	✓	✓
3.7	Do you think online learning enhances your productivity?	✓	✓	✓
3.8	Do you like to communicate with teachers via the Internet?	✓	✓	✓
3.9	Do you think communication with teachers via the Internet is effective?	✓	✓	✓
3.10	Do you feel comfortable about studying online for 4-7 hours per day?	✓	✓	✓
3.11	Do group discussions, peer assistance, group tasks/assignments occur at the online lessons? Do you consider them effective?	Yes, they occur and they are effective	No, they don't occur	They occur but they are not effective
	4. Teachers: indicators and questions • willingness to teach online • necessary conditions for effective and quality e-learning • attitude towards distance education	Yes	No	To some extent
4.1	Do you have quality Internet connection for your e-learning purposes?	✓	✓	✓
4.2	Do you have your own device (e.g. smartphone, tablet, laptop) to use for online learning?	✓	✓	I have to share it with other family member/s
4.3	Do you have a calm and/or separate space to teach remotely?	✓	✓	✓
4.4	Do you think online learning is effective in long-term prospects?	✓	✓	✓
4.5	Do you think online teaching can enhance your productivity?	✓	✓	✓
4.6	Do you feel comfortable about teaching students via the Internet?	✓	✓	✓
4.7	Do you think communication with students via the Internet could be effective?	✓	✓	✓
4.8	Do you feel confident about ensuring student engagement online through group discussions, peer assistance, and peer assessment?	✓	✓	✓
4.9	Do you agree that online teaching is of the same quality as face-to-face education?	✓	✓	✓
4.10	Can you work effectively while working remotely?	✓	✓	✓
4.11	Are you confident that quick technical and administrative support will be available in case the need to ensure smooth operations and continuity of distance education?	✓	✓	✓

	COGNITIVE READINESS FOR DISTANCE EDUCATION			
	5. Students: indicators and questions • skills to meaningfully organize the independent work; • skills in self-management, self-assessment, and self-control	Yes	No	To some extent
5.1	Do you feel comfortable doing exercises independently without the guidance of the instructor?	✓	✓	✓
5.2	Do you consider yourself a self-oriented person that helps you to learn online?	✓	✓	✓
5.3	Do you consider yourself a self-disciplined person while studying online?	✓	✓	✓
5.4	Do you have anyone who can provide psychological support to you if you need it while studying online?	✓	✓	✓
5.5	Can you ask for psychological support at school, if needed?	✓	✓	✓
5.6	Do you enjoy studying independently?	✓	✓	✓
5.7	Are you able to complete your school assignments even when there are online distractions (e.g. text messaging with friends, sending emails or watching videos online)?	✓	✓	✓
5.8	Do you feel confident about expressing yourself online?	✓	✓	✓
	6. Teachers: indicators and questions • knowledge about methods and methodology of distance education • skills to meaningfully organize the independent work; • skills in self-management, self-assessment and self-control • understanding and evaluation of distance education.	Yes	No	To some extent
6.1	Do you feel comfortable managing large groups of students online?	✓	✓	✓
6.2	Do you feel comfortable using online educational tools?	✓	✓	✓
6.3	Do you feel comfortable/confident about conducting the learning process online?	✓	✓	✓
6.4	Do you think you have received sufficient training to teach online?	✓	✓	✓
6.5	Do you feel comfortable managing students with negative attitudes online?	✓	✓	✓
6.6	Are you satisfied with the training provided to teachers to help conduct online lessons?	✓	✓	✓
6.7	Do you feel confident about communicating with the students’ parents while teaching online?	✓	✓	✓
6.8	Do you provide online learning content enabling inclusive accessibility (meaning that they can be customized and adjusted for individual needs, including students with disabilities)?	✓	✓	✓
6.9	Do you feel confident about addressing the issues of children with special needs and disabilities while teaching online?	✓	✓	✓
6.10	Do you feel confident about cooperating with multidisciplinary team members (psychologist, speech therapist, teacher’s assistant) while working online with children with special needs and disabilities?	✓	✓	N/A
6.11	Do you know where to get psychological support in case you need it?	✓	✓	N/A
6.12	Do you feel confident about assessing in the online learning process?	✓	✓	✓
6.13	Do you feel confident about adapting the educational materials for different age groups?	✓	✓	✓
6.14	Do you use different technologies at different education levels?	✓	✓	N/A
6.15	Do you feel confident about applying the teaching methods used in distance education?	✓	✓	✓

6.16	Did you undergo training on distance learning methods?	✓	✓	N/A
6.17	Did you undergo training on online resources and materials (how to create online quizzes, questionnaires, etc.)?	✓	✓	N/A
6.18	Do you have any mechanism to control parents' interferences and to ensure students' independent participation in lessons, exams, and individual assignments during distance learning?	✓	✓	N/A
6.19	Do you use different online tools/quizzes/questionnaires to assess students' academic performance during COVID-19?	✓	✓	✓

Sub-Index 4: CAPACITIES AND RESOURCES

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)
Indicator 1 Availability and efficiency of educational technologies ¹	<p>The role of educational technologies became more crucial during school closures due to the Covid-19 crisis. In response to the education crisis, countries around the globe are leveraging technology and remote learning to continue education amid school closures. Educational technology, a combination of IT tools and educational practices, used to facilitate and enhance learning, has opened access to education for learners in many countries of the world (Chebib 2020).</p> <p>Availability of educational technologies provides equal educational opportunities without taking into consideration the social, economic and geographical status of the students and teachers (Suleman, Phil, Aslam, Badar 2013).</p> <p>The use of different educational technologies during distance/remote learning supports teachers, students and their families effectively in times of crisis due to Covid-19 and provides the educational content they need, often requiring a combination of several platforms, softwares and applications (Chebib 2020).</p> <p>Availability and effective use of educational technologies during school closures ensure the continuity of education and contributes to the improvement of the quality of education. During the distance/remote learning due to the Covid-19 crisis many countries focused on local solutions developing their own special platforms and portals to avoid dependencies while other countries signed agreements with the companies owning educational platforms/portals to cover the e-learning needs of students and teachers.</p>	Availability of special portals/ platforms	Has the Ministry of Education developed / used special platforms/portals (like Moodle, Microsoft Teams, Google Classroom) for organizing distance learning?	Yes (2 points/stand-100) No (0 points)
			Is the special platform/portal developed/used by the Ministry of Education responsive (easily adapts to mobile devices)?	Yes (2 points/stand-100) No (0 points)
		Payable video conferencing softwares	Distance learning was mainly organized using paid video conferencing software (Zoom, Microsoft Teams, Adobe Connect).	Yes (1,5 points/stand-75) No (0 points)
			Do you consider lessons organized through paid video conferencing softwares effective?	Yes (1,5 points/stand-75) No (0 points)
		Free video conferencing softwares	Distance learning was mainly organized using free video conferencing softwares like Google Meet Hangouts, Zoom, Lark.	Yes (1 points/stand-50) No (0 points)
			Do you consider the lessons organized through free video conferencing softwares effective?	Yes (1 points/stand-50) No (0 points)
		Free video conferencing softwares with limited features	Distance learning was mainly organized using free video conferencing softwares with limited features like Skype, Whatsapp, WeChat, Viber, Messenger, Dingtalk.	Yes (0,5 points/stand-25) No (0 points)
			Do you consider the lessons organized through free video conferencing softwares with limited features effective?	Yes (0,5 points/stand-25) No (0 points)

¹Select only one anshwer / sub-indicator for this indicator with two questions.

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)
Indicator 2 Supporting resources for educational technologies	Supporting resources for educational technologies can increase educational productivity by accelerating the rate of learning. The use of supporting and additional resources for educational technologies during distance learning in times of Covid-19 makes the educational process more attractive, engaging and effective (U.S. Department of Education). The use of supporting resources (like TV and radio) ensures the participation of students not having access to technology or connectivity in the educational process.	Social media apps and TV/ radio as additional resources	Does the Ministry of Education use social media apps (Facebook, YouTube, Whatsapp, Viber) and TV/radio as additional resources during distance learning?	Yes No
			Do you consider the use of additional resources during distance learning effective?	Yes No
		TV, radio learning programmes	Has the Ministry of Education started to broadcast lessons and educational programmes on TV?	Yes No
			Has the Ministry of Education started to broadcast lessons and educational programmes on the radio?	Yes No
			Do you consider lessons and educational programmes broadcast on TV and the radio effective?	Yes No
		Additional resources	Does the system have its own educational portal aimed at providing library and curated digital resources for students and families?	Yes No
			Has the system developed an electronic library for the teachers and administrators, which publishes the books authored by teachers for working in e-learning environments, including video lessons, training programs, innovative methodologies, tests, films, exercises, entertaining pedagogy and presentations?	Yes No
			Has the system created any special platform/portal for receiving feedback from all the members of the public education community to share their questions, concerns or suggestions?	Yes No

Indicator	Definition of the Indicator	Sub-indicators (if any)	Variables, Questions	Measurement (secondary data, ordinal scale, nominal scale)	Methodology
Indicator 3 Budgeting opportunities	The states have positive obligations to provide free and compulsory primary education. In times of global emergency this obligation makes it compulsory for the state institutions to provide sufficient financial resources. New research from UNESCO's Global Education Monitoring (GEM) Report shows that school closures due to COVID-19 are projected to increase the annual funding gap for education in poorer countries. Governments in low and lower-middle income countries must resist pressure to cut their budget for education because of the difficult fiscal environment. Ministries of education and social protection need to work together and target their policies towards the most disadvantaged. ²	Allocation of sufficient financial resources	Does/did the state allocate sufficient financial resources for education in response to emergency?	Yes To some extent No	Expert interview Desk review
		Emergency response section in the budget	Is there a special budget line (in the field of education) in the state budget for responding to emergency?	Yes No	

Statistical data for this Sub-Index

Variable	Source
Reserve Funds (% of gov.budget)	National Statistical Services
Internet Speed	Speedtest Global Index: https://www.speedtest.net/global-index .
Internet Users (%) ³ - Download - Upload - Latency	International Telecommunication Union (ITU): https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx .
Government expenditure on education (% of GDP)	World Bank Indicators: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS .

²See, "UNESCO warns that the funding gap to reach SDG4 in poorer countries risks increasing to US\$ 200 billion annually due to COVID-19 if we do not take urgent action", [www.en.unesco.org](https://en.unesco.org/news/unesc-co-warns-funding-gap-reach-sdg4-poorer-countries-risks-increasing-us-200-billion-annually). The link is available at <https://en.unesco.org/news/unesc-co-warns-funding-gap-reach-sdg4-poorer-countries-risks-increasing-us-200-billion-annually>.

³The variable "Internet Users" has three dimensions. The overall score for this variable is the average of the standardized data of these dimensions. Values of the "Latency" have the opposite meaning other than "Download" and "Upload". The highest values indicate the worst situation, the lowest values-the best. In this case, the minimum and maximum values in the formula are swapped.

EDUCATION PREPAREDNESS INDEX IN COVID-19 (EPIC)

Methodology and Research

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