

## LSCE Measurement Instrument – 8 Life Skills

# APPLICATION GUIDELINES

Measuring Life Skills in the context of Life Skills and  
Citizenship Education in the Middle East and North Africa



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# The LSCE Measurement Instrument Package

Teaching and learning life skills are incredibly important for empowering children and young people to achieve success in education, employment and personal goals. Nevertheless, few education systems have integrated life skills into their education systems. One of the reasons for this is challenges concerning the lack of knowledge as to how life skills can be measured, assessed and evaluated.

Building on the regional [Life Skills and Citizenship Education](#) (LSCE) framework in the Middle East and North Africa (MENA), UNICEF and The World Bank have developed this LSCE Measurement Instrument, to measure the national level of grade 7 students' scores in eight life skills as national large-scale assessment.

This LSCE Measurement Instrument Package contains:

## 1. Advocacy Brief

Outlining the aim, purpose, benefits and costs of applying the LSCE Measurement Instrument.

## 2. Application Guidelines

Outlining the instrument design, recommended process and sampling as well as analysis of results of applying the LSCE Measurement Instrument.

## 3. Measurement Instrument

Containing the assessment tools for applying the LSCE Measurement Instrument, namely:

### a. Life Skills Item Booklets (8)

Producing the life skills scores of the students targeted by the application of the LSCE Measurement Instrument.

### b. Background Questionnaires (3)

Collecting background information of those students, teachers and schools targeted by the application of the LSCE Measurement Instrument.

The instrument and all relevant documents are available in English and Standard Arabic.

**Disclaimer:** UNICEF and The World Bank collaborated in developing this LSCE Measurement Instrument for the use of measuring life skills as defined under the MENA [Life Skills and Citizenship Education](#) (LSCE) framework, through a national, sample-based large-scale assessment at grade 7 level. Applying the instrument for any other use than its original purpose is not advised, and it is required to consult with UNICEF and The World Bank beforehand, as it may lead to an inadequate application that can result in wrong conclusions. The LSCE Measurement Instrument is intended for the use only by the recipient and is not to be shared with other parties or the public through any means, without the prior permission of UNICEF and The World Bank.

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# 1. Aim of Applying the LSCE Measurement Instrument

The aim of conducting an LSCE measurement study using this newly developed LSCE Measurement Instrument is to enable ministries of education to have the information necessary to improve the levels and distribution of young people's life skills within their respective countries.

The results of conducting a LSCE measurement study will provide ministries with a reliable picture of the national level of grade 7 students' scores in eight life skills from the LSCE framework and to identify sub-groups of students who need further support. If a country repeats the study with a regular frequency, it can establish a monitoring process that would enable identifying progress in the extent that the measured life skills are being taught in schools and learned by students.

Once a country has applied this **LSCE Measurement Instrument**, the findings will inform policymakers and educators towards:

- **Understanding the levels and distribution of life skills** across the school-aged population,
- **Inform the nature and scope of required interventions** to foster life skills teaching and learning,
- **Track the progress of policies and interventions** designed to enhance life skills.

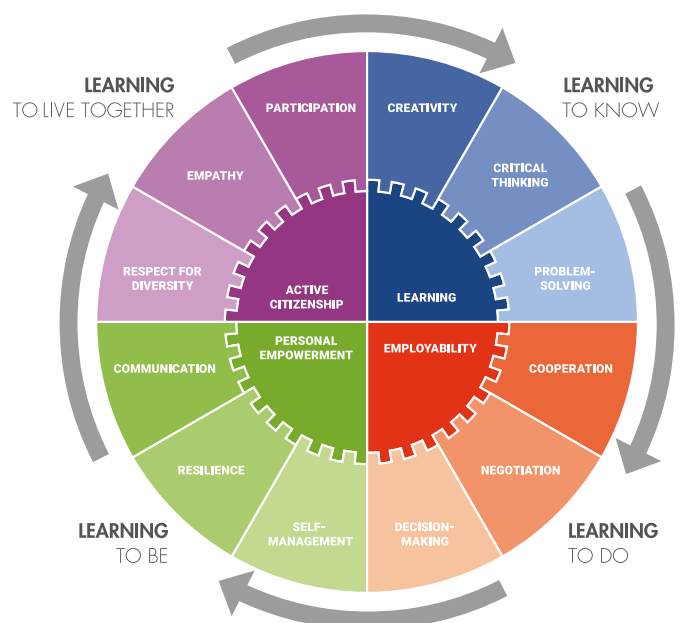
This guideline provides an overview of how to conduct a LSCE measurement study as a national large-scale assessment, using the LSCE Measurement Instrument (8-Skills) introduced here.

## WHAT IS THE INSTRUMENT MEASURING?

Life skills in this study are defined as 'transferable skills that enable individuals to deal with everyday life, and to progress and succeed in school, work and societal life'. They are comprised of skills, attitudes, values, behaviours and domain-based knowledge which need to be applied in harmony with each other (Hoskins & Liu, 2019).

The eight life skills originate from the 'Life Skills and Citizenship Education (LSCE) in the Middle East and North Africa – Conceptual and Programmatic Framework' (UNICEF MENA, 2017) that contains a total of twelve core life skills (see Figure 1). Each of these life skills is envisioned under four learning domain/life outcomes with clear definitions and measurable attributes (Hoskins & Liu, 2019).

Figure 1: **Life Skills and Citizenship Education – The LSCE Framework**



The eight life skills that are assessed by this LSCE Measurement Instrument are: **Creativity, Problem-Solving, Negotiation, Decision-Making, Self-Management, Respect for Diversity, Empathy, and Participation** – as of the LSCE framework (Figure-1)<sup>1</sup>.

The LSCE Measurement Instrument was developed to capture grade 7 students' life skills scores for the eight out of the twelve life skills. The instrument was successfully field trailed in Egypt, the State of Palestine, and Tunisia throughout 2018/2019<sup>2</sup>. The 30 items per life skill instrument, was tested and found to have high levels of reliability in these three Arab speaking countries. The background, teacher and school questionnaires provide context and will help to explain the generated results.

Measurement instruments for the remaining four life skills of the LSCE framework – Critical-Thinking, Cooperation, Resilience, and Communication – are currently under development.

#### **WHY IS THE INSTRUMENT RELEVANT?**

Evidence indicates that life skills enable children and young people to achieve in schools, gain work, personal growth and become self-empowered active citizens. Rigorous research suggests a causal pathway between the learning of life skills and individual life outcomes in terms of **educational achievement** (Gutman & Schoon, 2013); **employability** (Hampf et al., 2017); **self-empowerment** (Schuller et al., 2004); and **active citizenship** (Whiteley, 2014).

Scholars find that life skills are malleable, can be developed over the individual's life cycle and there is the potential for education interventions to create improvement (Hoskins & Liu, 2019). Countries in the MENA region

have identified as a priority the need for children and young people to acquire life skills. Applying this new LSCE Measurement Instrument will allow ministries of education the knowledge to evaluate the average level and disparities of life skills for grade 7 students and adapt programming accordingly.

#### **WHAT THE INSTRUMENT SHOULD NOT BE USED FOR?**

There are limitations on the use of the LSCE Measurement Instrument:

1. The instrument is **not designed** for and cannot be used for any form of examinations, including high stakes exams, testing and grading. The types of questions included in the instrument will not function under these conditions and for this purpose.
2. The instrument is **not designed** for and cannot be used for any form of formative assessment or other use by teachers in the classroom. The types of questions included in the instrument will not function under these conditions and for this purpose.
3. The instrument is **not designed** for the use of questions in teaching and learning material or teacher training. The instrument is only useful and provides accurate results if teachers and students are not familiar with the questions prior to the assessment. This is to avoid 'teaching to the test' which leads to inadequate results and social-desirability bias (the tendency of respondents to answer questions in a manner that will be viewed favourably by others). Therefore, UNICEF and The World Bank reserve the right for pre-approval of the use of the instrument (please see Chapter 7).
4. The instrument has been designed for the use by national governments within their respective countries and there is currently no political interest for the comparison of assessment results between countries who apply the instrument.

In summary, the LSCE Measurement Instrument **is not aimed for its inclusion in the development of incentives programmes, school accountability systems, teacher assessment, or students gradings.**

<sup>1</sup> UNICEF (2017): [Reimagining Life Skills and Citizenship Education in the Middle East and North Africa – Conceptual and Programmatic Framework](#); UNICEF and The World Bank (2020): [Measuring Life Skills in the context of Life Skills and Citizenship Education in the Middle East and North Africa](#) (Hoskins, B. & Liu, L.)

<sup>2</sup> Egypt, the State of Palestine, and Tunisia were chosen to represent the MENA specific context in the field trial to validate the measures for the region more broadly. These countries were selected to capture the diversity of the region in terms of country size, cultural and historical background and current context.

## 2. Ethical Consideration for Applying the LSCE Measurement Instrument

Undertaking the LSCE measurement study, should adhere to the **UN Conventions of the Rights of the Child** (U.N. General Assembly, 1989)<sup>3</sup>, to the general **AERA Standards for Educational and Psychological Testing** (AERA et al., 2014)<sup>4</sup>, as well as the UNICEF Procedures for Ethical Standards in Research, Evaluation, Data Collection and Analysis (UNICEF, 2015)<sup>5</sup> and the most recent update of the **UNICEF Procedure on Ethical Standards in Research, Evaluation, Data Collection and Analysis** (UNICEF, 2021)<sup>6</sup>.

Such ethical standards and protocols aim at protecting human research participants' rights. This is to ensure that participants are not placed at undue risk, that participation is voluntary, that participants are provided and agree to informed consent prior to their participation, that relevant protection protocols are in place to assure participants' protection and safety, and that data collection and analysis does not result in the violation of privacy or discrimination.

In this regard, four main features are highlighted for the implementation of the study for all participants – informed consent, anonymity, data protection, and pre-defined results use.

1. Schools and students participating in the LSCE measurement study are **participating voluntarily**, are treated with **respect and dignity**, are not inconvenienced in an unnecessary way, and have their privacy protected (Lietz, 2017). Students participating in the LSCE measurement study are informed before participation, regarding their rights and the study aims, and sign a consent form. Parents of those students will also be informed beforehand about their child's

participation in the study and their right to withdraw their child from the study, if they wish. The best practice is to provide information and consent forms that will be read and signed by each student and their parent/caretaker before the student undertakes the survey.

2. Students and schools participating in the LSCE measurement study should be assured their responses are **confidential and anonymous**. By design, collected responses cannot be traced back to participating students, teachers, or school principals, guaranteeing confidentiality of their responses, and anonymity of the results and findings. Participating schools and students are tracked with their specific listings and untied to respondent's personal identity. Once, data quality is approved by the analysis and the scaling team, student's identification (ID) lists need to be scrambled and replaced by generic ID numbers, separating the specific information from the precise participating school, students, teachers and school principals to a generic data file of responses to the LSCE measurement study, producing anonymized data files.
3. The collected **data needs to be protected** and strict procedures need to be in place throughout the implementation of the study. Only the LSCE measurement study team and professionals should have access to the collected responses, assuring participating responses are not leaked to different users.
4. The **use of the results is clearly defined**. The intended use of the results of the LSCE measurement study is the generation of information to inform stakeholders such as ministries of education, bilateral and multilateral agencies and policymakers, on the level of learners' results in the different life skills assessed. Applying this LSCE Measurement Instrument does not endorse the use of the results of the measurement study for high stakes process for students, teachers or schools, such as incentives programmes, school accountability systems, teacher

3 UN (1989): [Conventions of the Rights of the Child](#)

4 AERA (2014): [Standards for Educational and Psychological Testing](#)

5 UNICEF (2015): [Procedures for Ethical Standards in Research, Evaluation, Data Collection and Analysis](#)

6 UNICEF (2021): [Procedure on Ethical Standards in Research, Evaluation, Data Collection and Analysis](#)

assessment, or students gradings. Please also refer to the paragraph on ‘**What the instrument should not be used for**’ (please see Chapter 1).

The LSCE Measurement Instrument has undergone a **Research Ethics Review** prior to the field trial to ensure alignment with ethical standards for research, data collection and analysis, and effective processes and

accountability for ethical oversight. However, when undertaking the LSCE measurement study at the country level, it is highly recommended to conduct ethical clearance of the final research design and protocols through a national Ethics Review Board or Institutional Review Board. Where such panels do not exist on a national level an international ethics review board should be used.

### 3. Instrument Design for Applying the LSCE Measurement Instrument

The LSCE Measurement Instrument consists of two types of tools for data collection: the **(a) Life Skills Item Booklets** (8), and the **(b) Background Questionnaires** (3) – please see examples in Annex 1+2.

The **Life Skills Item Booklets** currently consist of eight different booklets of items (each booklet consists of 60 items - the 60 is comprised of 2 sets of 30 items for two different skills). They have been developed to measure student’s scores in each of the below 8 life skills (out of the overall 12 LSCE life skills). Instruments for the remaining 4 life skills are currently under development. The following table displays the eight life skills that have instruments that are ready for use, within their domains of learning.

Table 1:  
The LSCE Life Skills and Domains of Learning

Domain of Learning	Life Skill
Learning	Creativity
	Problem Solving
	Critical Thinking*
Employability	Decision Making
	Negotiation
	Cooperation*
Personal Empowerment	Communication*
	Self-Management
	Resilience*
Active Citizenship	Empathy
	Participation
	Respect for Diversity

**Note:** \*measurement instruments for those life skills still under development.

There are three **Background Questionnaires** – one for students, one for teachers and one for school principals (each questionnaire consists of 25-30 different items). The **student questionnaire** covers student’s characteristics, student’s family characteristics and asks students about their school experiences which, according to the literature, are likely to relate to life skills development. Teachers from participating schools will be asked to undertake the **teacher questionnaire** that asks teachers about their preparedness to teach life skills and their current classroom practices. Additionally, school leaders from participating schools (e.g. school principals/head teachers) are asked to answer a short **school principal questionnaire** about the school, the context of the school, and the school’s approach to teaching life skills.

The expected **application time is approximately 2 hours**. Within this time frame, each participating student is asked to answer a total of nearly 90 items – including 60 questions within the Life Skills Item Booklets and 30 questions within the Background Questionnaire. Following a **rotated booklet design**<sup>7</sup>, each student is assigned randomly,

<sup>7</sup> **Rotated booklet design** is a study design where the students answer only a portion of the items from the whole test. The different portions of items a student needs to answer are placed within different booklets/forms. These booklets/forms are then assigned randomly to the sample of students selected to take the test within a school. This design permits, at the country level, to collect students’ responses to different skills at the same time, while optimizing the test taking time. This approach is needed within the LSCE instrument as there are at least 8 life skills that need to be covered and there is not enough time for students to undertake all these assessments.

to a booklet or survey form, containing items from two different life skills (2x30 items) and the background questionnaire (30 items).

For example, the school class and students participating in the study, are first given **instructions** regarding the measurement study and the data collection tools (2-5 minutes). Then students answer a block of 30 items (30 minutes) from the **life skills item booklet**. Afterwards, students have a

short break of 10 minutes, and then answer a second block of 30 items (30 minutes). Then, the students have a second break of 10 minutes, and finally answered the **student background questionnaire** (35 minutes).

The **teachers' and the school principals' background questionnaires** contain a similar number of items than the students background questionnaire and would be expected to take a maximum of 30 minutes.

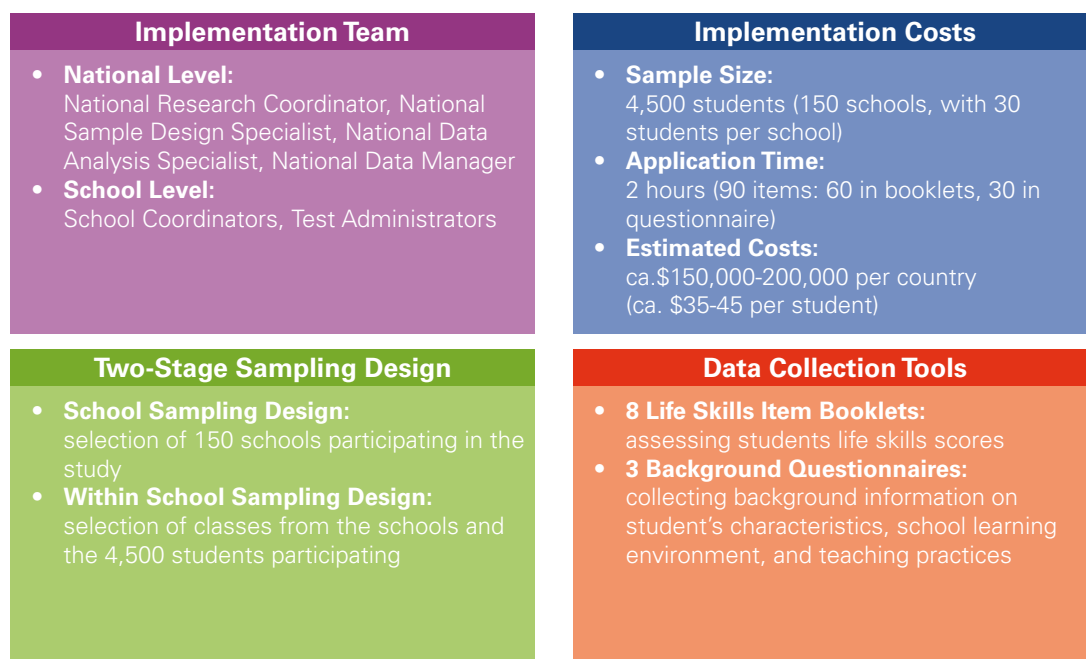
## 4. Recommended Process for Applying the LSCE Measurement Instrument

There are different ways that research like the LSCE measurement study can be implemented. The recommended design described in this guideline has taken into consideration the time, capacity and costs to deliver the measurement study, in balance with providing sufficiently informative data on the student's life skills scores. The following considerations regarding the instrument application and study design derive mostly from the experience of the 2019 field trial

and the field trial report (see Afana et al., 2019), and large scale study implementation literature (e.g., Lietz et al., 2017; Rutkowski et al., 2014; Wagemaker, 2020).

In the following Figure (Figure 2), the main elements of the study implementation design are summarized. These processes are described in more detail throughout **Chapter 4 and Chapter 5**:

Figure 2: Main Elements of the LSCE Measurement Study



#### 4.1 IMPLEMENTATION TEAM

The first step in the process of implementing the LSCE measurement study is establishing a national team of specialists. For those countries that have not done national large-scale assessments before, it is highly recommended to engage an international organization, specialized in large-scale studies. The recommended national implementation team composition builds partly on the experience of the field trial, and includes the following roles: National Focal Point (NFP), National Research Coordinators (NRC), National Sampling Design Specialist (NSD), National Data Manager (NDM), National Data Analysis Specialist (NDA), Test Administrators (TA) and School Coordinators (SC).

**National Focal Point (NFP):** The main role of the NFP is to serve as the communication liaison between the Ministry of Education and UNICEF/The World Bank on the implementation of the measurement study.

**National Research Coordinator (NRC):** This person will oversee the implementation of the measurement study in the country, needs to have significant education and or social science research experience and has obtained at least a masters in one of these disciplines. The NRC serves many roles, including being the main contact person for all institutions involved in the study, being responsible for the implementation of the study within the participating country, trains all other involved staff, recruits and cooperates with the Test Administrators, and identifies a School Coordinator in each sample school. In terms of skills, NRCs are expected to have competent knowledge of the participating countries' educational system, and a high level of oral and written communication skills. Additionally, this person is expected to manage the staff to carry out the measurement study tasks, such as planning the study, preparing national instruments, managing school contacts, cooperating with national stakeholders, etc. Finally, the NRC is also responsible for overseeing national adaptations of the LSCE measurement study design and instruments.

**National Sample Design Specialist (NSD):** This person defines the sample design within the participating country. This specialist requires experience in two-stage sampling designs, in particular sampling of schools and classrooms within schools. This role assures that the implemented sample design aligns with the main aims of the LSCE measurement study, and at the same time defines the sample design in accordance with the country's context and needs. Please also refer to the 'Recommended Sampling' (please see Chapter 5), the sampling process and the role of the National Sample Design Specialist.

**National Data Manager (NDM):** This person's main responsibility is the day-to-day data management of the LSCE measurement study throughout the whole implementation. This role requires previous experience with relational databases, knowledge and skills in conducting research studies, in particular in conducting national large-scale assessments. Furthermore, this role entails planning, conducting and supervising data capture and management of large data records. NDM are responsible for data entry, data verification and data analysis during the implementation of the LSCE measurement study.

**National Data Analysis Specialist (NDA):** This person's main responsibility is the generation of statistical results for national reporting on the study and technical documentation (i.e. technical reports, user manual, codebooks and item adaptation). Although their data analysis tasks begin after the data collection process has been completed, it is useful if the NDA is involved in the earlier stages of the study with the NSD so that the NDA can give input into the sample design, the creation of the study database and the data documentation. This person requires significant previous experience in understanding and analyzing data from national large-scale assessments that have complex survey designs. The NDA should be trained in advanced statistical methods to the level of a Master's degree or achieved the equivalent level through work experience.

**Test Administrators (TA):** These roles are often filled in by assessment teams from

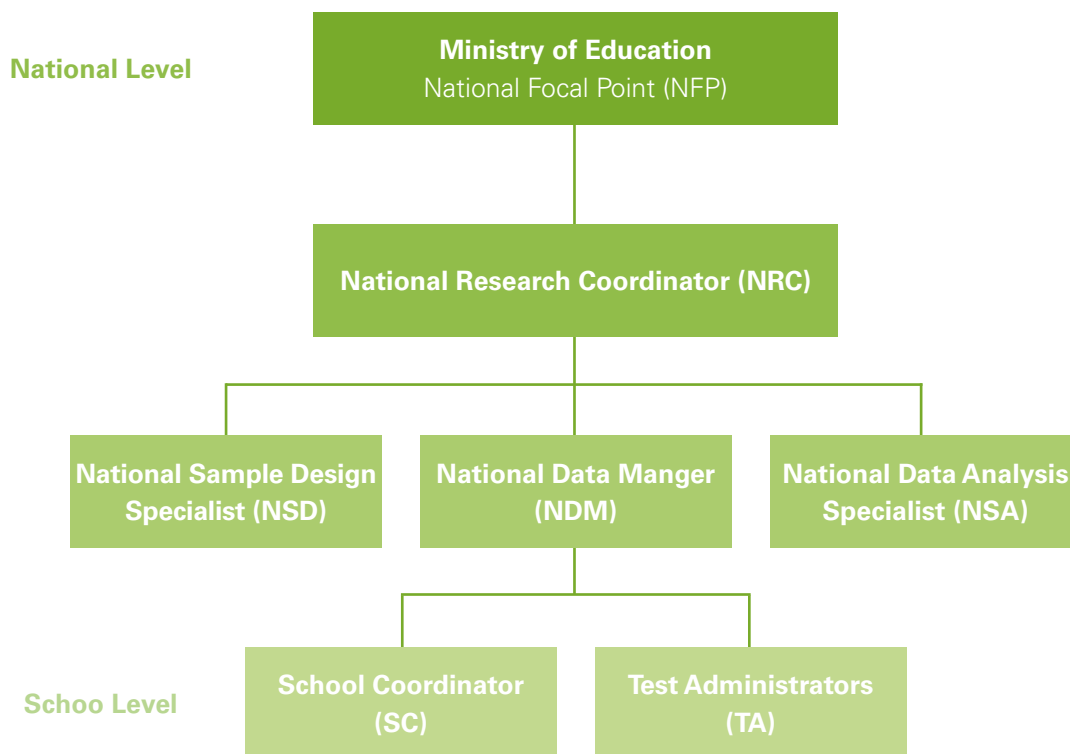
the Ministry of Education, or companies in charge of national large-scale assessments within the participating country. Their role is to conduct and administer the assessment and data collection in the sampled schools. These roles require some pedagogical experience to deal with students in classrooms. Finally, it is of importance that TAs can display clear pronunciation, because they deliver the instructions to all participating students in the study.

of the information within the school, regarding the different stages of the study. SCs assist in the distribution and collection of study materials, and work in close coordination with the Test Administrators during the implementation of the study. SCs are responsible for collecting the information of the students within the participating schools, in the target grade. Conventionally, SC are members of the staff, from the sampled school.

**School Coordinators (SC):** These persons are the liaison focal point for the NRC during the implementation of the measurement study, and responsible for the dissemination

The implementation team, including all roles, from the National Focal Point to the School Coordinators is depicted in the following organizational chart (Figure 3).

Figure 3: Implementation Team for the LSCE Measurement Study



For the field trial of the LSCE Measurement Instrument, an international lead organization (International Association for the Evaluation of Educational Achievement/IEA) has been hired for designing the field trial, including data collection and analysis. Depending on the national capacity available to supervise and coordinate the LSCE measurement study, this could be an alternative approach for ensuring quality, and data collection and analysis in line with the intended design of the study.

#### 4.2 TRAINING OF TEAM

Training is crucial to the quality and standardization of the data collection process. The training should begin with the training of the National Research Coordinators (NRC). In the field trial it was the international lead organization that performed this training and where countries decide to implement the study alone, they will need to take on this responsibility. The next step is the training of the team:

- **Training of NRC:** A detailed and informative **NRC Manual** should be provided at the very beginning alongside their training. The guide and training need to support the NRCs through all stages of the study, from the early preparation of the instrument to the release of the data and analyses.
- **Training of NDM:** A detailed **NDM Manual**, including, data table formats for school list, sampling frame, data entry and analysable data needs to be shared with the NDM. Training includes standard procedures of data capture, management and delivery for the implementation of the study.
- **Training of NDA:** A detailed **NDA Manual**, including expected study data documentation (i.e., technical report, user manual, data codebook and items adaptations) needs to be shared with the NDA. Training includes a general procedure to generate the solicited documentation, and how to conduct statistical analysis for the national report of the study.
- **Training of TAs:** It is the NRCs' responsibility to deliver the training. A detailed **TA Manual** needs to be provided to the TA alongside the training.
- **Training of SCs:** Under the leadership of the NRC, the national teams will organize meetings for their SC to inform them about their responsibilities. A detailed **SC Manual** will need to be provided before the instruments are sent to each school.

Some of these training manuals were developed in the field trial and these examples are available in Annex 3. Nevertheless, these manuals will need to be adapted to fit the precise organization of the new study design and application, as it differs from the initial field trial design.

#### **4.3 COMMUNICATION TO SCHOOLS**

Once NRCs have received a list of the schools sampled for participating in the LSCE measurement study, they are in charge of contacting the schools and encouraging them

to participate in the assessment. During this process, they will benefit from support from national or regional educational authorities or other stakeholders who can write letters of support to participate.

After the national implementation team has appointed School Coordinators, the SCs need to provide all needed information about their respective school and additionally coordinate the date, time, and place for the student assessment. SCs are also responsible for obtaining parental and student consent for the participation in the measurement study. Further SCs are working with Test Administrators to coordinate the assessment session, school questionnaires distribution, and the completion of the student tracking forms. SCs are in charge of collecting the assessment materials, ensuring the security of the assessment responses at all times, and returning the assessment materials to the national centre in time.

#### **4.4 IMPLEMENTATION COSTS**

As the instrument has been designed as a national large-scale assessment conducted on a representative sample of the school-aged population at grade 7, the costs highly depend on the size of the school-aged population and application of the instrument. For the **recommended design of applying the current LSCE 8-Skills Measurement Instrument**, costs are estimated at:

##### **SAMPLE SIZE:**

min. 4,500 students (ca. 150 schools, with 30 students per school)

##### **APPLICATION TIME:**

approx. 2 hours (90 items: 60 item booklets, 30 background questionnaire)

##### **ESTIMATED COSTS:**

ca. \$150,000-200,000 per country (ca. \$35-45 per student)

The implementation of the LSCE measurement study within each participating country can vary in its costs for different reasons. The main design is adapted during the implementation for the participating country, while keeping the main features of the LSCE

measurement study. The following section offers a non-exhaustive list of **elements that may contribute to the implementation costs**:

The LSCE measurement study application follows a two-stage sampling design<sup>8</sup>. As such, it requires that participating countries have a comprehensive **list of eligible schools** to participate in the study. If such a list of schools does not exist, then this is a requirement that needs to be fulfilled first. Additional time, efforts and costs for this should be accounted for in the planning and implementation of the study.

The LSCE measurement study consists of a single day participation for students within the participating schools. Thus, its main logistical cost will be similar to that of a national assessment for the participating country. For example, if its design is tailored to generate population estimates of life skills scores only, then a selection of 150 schools and a single classroom of an average size of 30 students may be sufficient, reaching a total sample of 4,500 students (as recommended within this study design). However, if additionally, the implementation design aims to get enough estimate precision<sup>9</sup> for certain schools' comparisons (e.g. private vs. public), or certain student's sub-populations (e.g. refugees vs.

national), **the number of surveyed schools** might need to be larger, increasing the total sample of schools and students.

The recommended design of the LSCE measurement study uses a rotated booklet design, where each student within the school is randomly assigned to one out of eight different survey forms (i.e. the Life Skills Item Booklets). This design departs from single instruments applications, because a participating student will receive scores for only two life skills out of eight life skills assessed. This contrasts with most large-scale assessment (such as PIRLS or TIMSS) where all participating students receive scores on the outcome of interest. This is possible in these studies as they focus on a single or smaller number of outcomes, such as reading or mathematics. Due to the rotated booklet design applied in the LSCE measurement study, **material printing and administration efforts** should be taken into account for resource and time allocations during the application.

Data entry processes vary depending on the **number of participating students**. If participating countries opt for a sampling design, where a higher number of certain schools and students from particular subgroups are over sampled (e.g. vocational schools, schools with a higher proportion of refugees, schools with a higher proportion of certain ethnic groups), then the nominal sample might be larger than initially expected. As a consequence, a higher number of student assessments would be collected, and consequently, a higher data entry workload needs to be taken into account, as well as implications on printing and administrative efforts.

<sup>8</sup> The particular design used in this study is called a **two-stage sampling design** as there are two stages in the sample selection process: first there is the selection of the school and then at the second stage there is the selection the class of students to be chosen to complete the study from within the school.

<sup>9</sup> **Estimates precision** refers to the size of the standard error of estimates. Estimates such as means, proportions and model coefficients carry uncertainty around their point estimates. These errors can be larger or smaller depending on the sample size, sampling design (e.g. stratification factors, total number of schools, and total sample size), and how much variability students present within schools. Large-scale assessments usually aim for standard errors no larger than 5% around their variable of interest (Ross, 2005; Rust et al., 2017).

## 5. Recommended Sampling for Applying the LSCE Measurement Instrument

The main objective of creating a study using a **sample design**, instead of a census-based study, is to retrieve the information from the population at a fraction of the cost, with enough precision (Rust, 2014). The LSCE measurement study aims at producing life skills scores for grade 7 students of a participating country, by taking a sample of this population rather than assessing every student enrolled in grade 7.

The particular design used in this study is called a **two-stage sampling design** as there are two stages in the sample selection process: first, there is the selection of the schools and then at the second stage there is the selection of classrooms of students to be chosen to complete the study from within the schools.

Creating an accurate sample is crucial as the reliability of the results rests on the sample representing the population. Therefore, the final sample of the study **needs to be determined with the National Sample Design Specialist (NSD)**. In the following section, the main elements of a sample design for obtaining a representative sample of the student population information are described.

### 5.1 TARGET POPULATION

The target population for the LSCE measurement study are students in grade 7 which is typically their 7th academic school year. Ages can vary between 12 to 14 years, depending on school entry rules from each educational system, and the students' transition between stages (in some countries students can be asked to repeat a year). For example, in the field trial conducted in Egypt, this definition entails the participation of students with at least seven years of schooling, including the current year.

The LSCE measurement study follows a **two-stage sampling** design, first selecting schools, and then selecting students from intact classroom<sup>10</sup> within schools. Each sampling unit, including 'schools', 'classrooms' and 'students' are generally defined as follows:

**Schools:** A school is a whole unit, which includes head teachers, teachers and students, including a single or different programmes or tracks. A school entails the environment that is shared by its students, delimited by a building or sets of buildings, sharing a faculty and a social space, and is overseen by a shared administration and charter. Eligible schools for the LSCE measurement study are the schools within a country that enrolls students from the target grade 7.

**Classrooms:** A classroom is a group of students attending school, grouped by their academic year. These are often students who share the same teachers and participate in school lessons together in the same room within the school.

**Students:** Target students are enrolled in grade 7 of the school, which is typically their 7th academic school year, counting seven years of schooling from ISCED level 1 at the time of assessment including the current year. Grade repeating students in the same classroom are also considered as target students, as all students from the same classroom are expected to participate. As such, students ages at this grade can vary from 12 to 14 years old.

<sup>10</sup> **Intact classrooms** refer to the idea that once schools are selected, a classroom of students is recruited to participate in the study, including all of their students. This is a contrast regarding other two stage samples, where a specific age group of students is target, and then students from different classroom groups are requested to participate.

## 5.2 SAMPLE SIZE

Implementing the LSCE measurement study requires a **total sample of 4,500 students (150 schools, with 30 students per school)**. This sample design aims for a sample with a survey error of no larger than 5% in its estimation of scores (Ross 2005). Most national large-scale assessment studies have a sample of 150 schools, entailing a total of 4,500 students (assuming classrooms of 30 students on average) to reach the 5% level of precision.

### 5.2.1 SCHOOL SAMPLING DESIGN

**The first step** of the stratified two-stage sample design – selection of schools: Participating countries will need to have a comprehensive list of eligible schools, and their number of enrolled students. This list constitutes the **sampling frame**. Stratification of schools can improve the demographic, and geographic representation of the population of students, and reduce sampling error.

Oversampling of specific sub-groups, can be tailored at this stage, to generate average scores for certain sub-populations (e.g. private schools, schools with larger proportions of refugee students, immigrant students, or ethnic groups). Most common stratification variables include school level characteristics such as where the school is located (e.g. rural/urban), administrative organization (e.g. private/public), and main curriculum differences (e.g. academic/vocational).

In summary, the school sampling frame requires enlisting the eligible schools, school characteristics, and their size (i.e. total number of enrolled students at the target grade).

### 5.2.2 WITHIN SCHOOL SAMPLING DESIGN

**The second step** of the stratified two-stage sample design – selection of classes and students: Once a school is selected, within this school a class or a number of classes are selected to participate in the study. All students within the selected class(es) are

asked to participate, ensuring **no student feels left out**.<sup>11</sup>

It should be verified by the participating countries and the sampling team, that classes within eligible schools are not exclusively dedicated to excluded group from the sampling frame (please see Chapter 5.4). Class lists may not always be available from participating countries in the sampling frame. In such cases, class lists will need to be build up during the implementation of the study.

Conducting within school sampling, requires intensive training of relevant staff, but also allows for the building up of the respective skills and capacities that may in the long run save costs.

## 5.3 SCHOOL PARTICIPATION RATES

Recommended school participation rates by the International Association for the Evaluation of Educational Achievement (IEA) for a two-stage sampling design are: **85% for sample schools, 95% for sampled classes, and 85% for sample students within participating schools**.

Achieving high response rates at all sampling stages (i.e. from the schools, classes and students participating in the LSCE measurement study) is a key element for yielding reliable and comparable results. Hence, it is of utmost importance to achieve the participation of all sampled units close to 100%, and that non-response, if any, is unsystematic. Participation rates should be monitored at all sampling stages and for the individual participants, meaning for schools, classes and students.

Mechanisms of constant monitoring of school and student participation rates should be in place during the implementation of the study to allow for early intervention and action. If the participating country fails to comply to the expected participating rates, **their results could be biased, and their data may lose value**. Thus, non-participation of sampled

<sup>11</sup> If students that technically need to be excluded from the study are present in the selected classroom, they may participate in the study application and their responses can be removed afterwards. The NRC and the NSD are expected to resolve what is the best procedure, that lies in the best interest of these students and their well-being.

schools should be monitored, recorded and explained to inform reliability of the results and future applications of the study.

There are different reasons for school non-participation besides voluntary refusal. Some could be administrative – eligible schools defined in the sampling do not exist, meaning the list of eligible schools is not up to date. Students school attendance can vary greatly, and schools with smaller classroom groups can suffer greatly from student's absence. As a consequence, even if schools with small classroom groups are sampled for the study, due to their student's absence, these schools may not reach the expected participation rate, and end up being excluded.

Countries with no previous regular national large-scale assessment of students may suffer from a lack of information regarding their schools and be at risk of a lack of compliance. These different scenarios should be considered when the country does not have previous experience with national large-scale studies, so this requires thoughtful decisions regarding sampling design, study implementation and progress monitoring.

#### **5.4 SCHOOL COVERAGE AND EXCLUSIONS**

Coverage and exclusion define the boundary regarding the generalizability of results. Too many exclusions limit the comparability and general validity of the survey results. Thus, in order to keep track of coverage and exclusions, a detailed record of the type and scope of coverage and exclusions of school, classes and students needs to be kept. The aim is to minimize threats to comparability, within an acceptable margin.

During the implementation of the LSCE measurement study, the persons responsible for conducting the study need to define coverage and exclusions of schools. This would usually be the National Research Coordinator (NRC), together with the National Sample Design Specialist (NSD).

Following the process conducted in the field trial, exclusion entails the identification of a list of **schools** that will not participate in the study

for practical reasons. Common examples of exclusion may include:

- Schools in hard to reach areas, as for those schools, logistical costs might be overwhelming. Nevertheless, the study sample should include a representative number of rural schools.
- Schools of extremely small size (with less than 20 students from the target grade), as for those schools it might be difficult to ensure the required participation rates.
- Schools with a curriculum radically different from the mainstream schools in the country, or special schools serving specific population (e.g. schools for students with special needs only), as for those schools it might be difficult to ensure the required participation rates.

Complementary to this, the listing of the mainstream schools that will be participating in the study also need to be defined. This means creating a list of all the most common types of schools in the country. In some countries this could be public, private, academic and vocational but this will change according to the national context.

Exclusions may also include the consideration of **students** within the selected schools. The measurement study in its current format is a paper-based assessment which requires students to read the text and respond. Exclusion may occur, when students that for one reason or another were unable to read written text (e.g. blind students, non-native language speakers, or students that cannot read at the level expected for grade 7 students). However, students with a disability that does not interfere with participation in the assessment, for instance students who use a wheelchair or have a hearing impairment, should be supported to participate.

In summary, coverage and exclusions consists of defining the population target to which the results will be generalizable to. Thus, for example, if private schools are excluded from the list then the findings cannot be generalizable to this type of schools. Conversely, if certain schools are of

primary interest for the participating country, such as small rural schools or schools hosting a majority of refugees, these can be included in the sample design on purpose, augmenting the number of sampled schools and then assuring the expected sample precision. As such, during the implementation design, careful reflection and decisions should be made to balance between generalizability aims, sample precision, and study costs.

## 5.5 REPLACEMENT SCHOOLS

During the school sampling process, replacement schools are assigned for each sample school. These replacement schools are asked to participate in case the selected school is not able to participate during the implementation phase. Replacement schools have similar or near equivalent characteristics of the selected school in question. Thus, replacement schools assure to reach similar survey design quality, in spite of school non-participation. However, it is uncertain if the non-participation of schools introduces a bias to the estimation of results in later stages. Thus, it is strongly recommended to restrict the use of replacement schools as in other large-scale assessment surveys, like TIMSS, PIRLS, ICCS, or ICILS. Only eligible schools should be replaced, and the number of replacement schools should be limited to a maximum of two schools specifically assigned to each sampled school.

## 5.6 COMPUTING SURVEY WEIGHTS

As the recommended LSCE measurement study follows a sample-based study design<sup>12</sup>, survey weights need to be considered. Survey weights allow generalisation of the study results from the sample towards the total population of grade 7 students and need to be included in the final datasets of the LSCE measurement study.

The sampling team or sampling specialist needs to track all selection probabilities and prepare estimation weights for schools

<sup>12</sup> A **census-based study** consists of a study where all schools with students from grade 7 are able to participate, implying the maximum costs to retrieve survey responses. In contrast, a **sample-based study** would collect participation out of a selected group of schools, and still produce results that are close to the true value of the population, at a fraction of the cost (Meinck, 2020).

and students after data collection. For each sampling stage, a design weight is computed as the inverse of the selection probabilities. Then, an adjustment is created to compensate for non-response again at each stage. The creation of weights requires high level statistical skills along with specialised knowledge of the country sample – thus a task for the National Sample Design Specialist (NSD).

If a country has opted for a sampling design where average scores for schools with certain characteristics are desired, then some schools may need to be over sampled. This option often includes oversampling schools by their geographic location (rural/urban), administration (public/private) and/or school track (academic/vocational). In such a case, survey weights need to be determined along with the National Sampling Design Specialist to generate the correct results.

## 5.7 IMPLEMENTATION OF THE SAMPLE DESIGN

The implementation of the sample design is the process in which the overall sampling design is tailored to a specific country. The National Sample Design Specialist's role is key to adapting the design to each specific country and their individual needs. Their role is to help the participating country to decide what is the best stratification scheme given the countries particular interest to draw generalisable statements<sup>13</sup>, and the characteristic of the school system of the participating country.

For example, the National Sample Design Specialist should aid the decision of excluding or including schools in hard-to-reach areas, as the justification of exclusion is mainly due to logistical costs. In addition, if a participating country wants to be able to compare mainstream/academic schools and vocational schools, this decision may entail

<sup>13</sup> 'Interest to draw generalisable statements' refers to what participating countries would like to be able to compare in terms of schools and students once the surveys data is collected. Common example of this interest is the ability of the study to compare private and public schools. Because private schools in most countries have a low count, the comparison requires oversampling of private schools in the study sample. Otherwise, if private schools are included in the sampling design via proportion-to-size, the study will be able to retrieve representative country means, but not representative private and public schools mean, contradicting the interest to draw generalizable statements.

the oversampling of certain types of schools, changing the total sample size (Rust, 2014). Similarly, a country may have an interest in comparing different administration regions of the country, which requires a larger sample of schools from each region. Thus, the National Sample Design Specialist advises the participating country on how to define their sampling frame (what schools are eligible for the study, and what schools are excluded). Moreover, the sampling specialist helps to translate the country's particular interests on which they want to draw generalisations into the stratification design.

Participating countries may present different **deviations from the ideal sampling scenario**, for example:

- Smaller countries may have less than 150 eligible schools
- The list of eligible schools is not updated to the existing schools of the country
- Stratification factors for schools may not be consistent with common definitions:
  - o Rural/urbanization descriptors can vary between countries population density or by land use

- o Private/public schools may not be applicable definitions for the countries schooling system
- o School establishment may provide more than one curriculum thus making it less obvious what are the eligible classrooms to participate in the study

The sampling design of the LSCE measurement study is applicable, without many changes, to a variety of school systems. However, some participating country's school system may present challenging characteristics to implement the sampling design directly. Moreover, the specific interest of the country to draw generalisations may require some sampling design fine tuning. The National Sample Design Specialist is required to assess if this sampling design is directly applicable to the participating country's characteristics and needs, and to suggest variations to the sampling design to make it applicable, if needed.

In summary, the National Sample Design Specialist's role consists of interpreting the country's school system characteristics, provide a sound stratification design given the country's specific interests, and adapt the sampling design to reach the expected precision.

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## 6. Analysis of Results from Applying the LSCE Measurement Instrument

### 6.1 TYPES OF INQUIRY

The LCSE measurement study enables research into the students' life skills scores (as measured by the Life Skills Item Booklets) in particular it will enable to identify which groups of students are likely to have low or high life skill scores compared to the population of grade 7 students in a particular country.

Additionally, it enables the identification of differences of life skills scores between students from families with differing

characteristics as per the data collected in the Students' Background Questionnaire. Such student's characteristics may include levels of education of parents, language spoken at home, or the family's socio-economic context.

Likewise, the completion of a LSCE measurement study could allow the researcher to identify relations between student's life skills scores and school factors, as per the data collected in the Student's, Principal's and Teacher's Background Questionnaires. These school features may include school administration, school practices, and school

context features, such as rural/urban, teacher practices, school climate factors, school composition, and social tension factors.

- For example, completing the LSCE measurement study enables the research into which types of students are likely to present the lowest life skill scores on 'Self-Management'. This could be related to student's family characteristics, such as families with lower levels of education, or could provide insights if these students are concentrated in certain schools or areas. Other features of the school could be examined, such as classroom methods and school experiences, to inform relevant school features associated with low and high levels scores of 'Self-Management' between students.
- Similarly, participating countries could research responses from the school/principal and teacher questionnaires regarding the life skill 'Respect for Diversity' including identifying teaching methods and experiences in the school that are correlated with high levels of this life skill. Other features of the schools in the country such as school composition and social tension factors could be examined to understand the extent that they help to explain the different levels of 'Respect for Diversity'.

Different research questions can be answered using data from the LSCE measurement study, regarding student's life skills scores, their family characteristics and their school features, such as teaching and learning practices. However, the level of precision with which these questions can be answered is conditioned on the sampling design that the participating country opts to implement.

Therefore, it is important that the National Data Analysis Specialist works closely on the data analysis with the National Sample Design Specialist. If the sample does not include sufficient schools for comparisons, **some school level comparison may not produce reliable information** (please see Chapter 5).

## 6.2 LIFE SKILLS SCORES

Students from the participating schools are required to answer the Life Skills Item Booklets. These booklets contain a set of self-report and situational judgement items, where participants indicate their responses on a

given scale. The choices' made by participants express the frequency, agreement, or endorsement of a particular behaviour or attitude. Participants receive scores for the answers. The higher scores indicate a higher level in the measured life skill. In the field trial, student's answers were scored using a graded response model (Samejima, 2016). This enabled researchers to test the reliability of scores. Other modelling methods for scoring such as Rasch modelling could also be considered, and significant expertise is required to develop these model scores.

## 6.3 DATA ANALYSES

Completing the LSCE measurement study requires following a complex sample survey design, that is tailored to the country context, in order that the data can be generalized to the population of students from the sampling frame. It is necessary to take the sampling design of the study into account when conducting data analysis in order to create accurate results that can be generalised to the population.

Additionally, due to the fact that the design is complex, all statistical analysis, such as means, proportions, correlations, beta regressions and so forth, are subject to uncertainty. This uncertainty needs to be communicated in the results using standard errors and/or confidence intervals for each point estimate (Meinck, 2020). Those analysing the data from the LSCE measurement study, need to be trained to understand how to use appropriate methods in their data analysis, so that their analysis (estimates, standard errors, and confidence intervals) accounts for the complex sample design of the study.

## 6.4 DATA LIMITATIONS

The LSCE measurement study design presents some limitations. At the country level, it is possible to identify the life skills scores of the population of students. However, to make it possible to generate such rich information for the population of students, without having all students to sit for several hours and to respond to all life skills items, students are assigned randomly to booklets. This rotated booklet design allows generating

results representative of the population of students. Nevertheless, this efficient design has a drawback – it is not possible to generate all correlations between all the life skills assessed. It is only possible to generate correlation between life skills from the same booklet, leading to eight different pairs of life skills, as per Table 2 below.

The current booklet design allows correlations between life skills – with one other life skill

within the same learning domain, and with one other life skills outside its learning domain. For example, ‘Negotiation’ can be correlated with ‘Decision Making’, which both belong to the ‘Employability’ domain. Complementary, with the present design is the possibility to estimate the correlation of ‘Negotiation’ and ‘Problem Solving’ from the ‘Learning’ domain. Thus, maximizing information about the relations within and between the four LSCE framework learning domains.

Table 2: Rotated Booklet Design for the LSCE Measurement Study

Dominant of Learning	Life Skill	Block	Items	Booklet								
				1	2	3	4	5	6	7	8	
Learning	Creativity	LCR	30							b06		b08
	Problem Solving	LPS	30		b02					b06		
Employability	Decision Making	EDM	30	b01					b05			
	Negotiation	ENG	30		b02				b05			
Personal Empowerment	Self-management	PSM	30			b03						b08
Active Citizenship	Empathy	CEM	30	b01			b04					
	Participation	CPA	30			b03					b07	
	Respect for Diversity	CRD	30				b04				b07	
	Number of Items		240	60	60	60	60	60	60	60	60	60
	Samples			550	550	550	550	550	550	550	550	550

Future iterations of the study will include more life skills from the LSCE framework including Critical-Thinking, Cooperation, Resilience, and Communication, as measurement instruments for those remaining four life skills

are currently under development. Moreover, future applications of the study could further augment the correlations between life skills, by changing the current booklet design.

## 7. Expression of Interest for Applying the LSCE Measurement Instrument

UNICEF and The World Bank collaborated in developing this LSCE Measurement Instrument for the use of measuring life skills as defined under the [Life Skills and Citizenship Education](#) (LSCE) framework, through a national, sample-based large-scale assessment at grade 7 level. Applying the instrument for any other use than its original purpose is not advised, and it is required to consult with UNICEF and The World Bank beforehand, as it may lead to an inadequate application that can result in wrong conclusions. The LSCE Measurement Instrument is intended for the use only by the recipient and is not to be shared with other parties or the public through any means, without the prior permission of UNICEF and The World Bank.

Please note, the LSCE Measurement Instrument has **not been designed** for examination or formative assessment in the classroom, integration into teacher training or teaching and learning material. The instrument is only useful and provides

accurate results if teachers and students are not familiar with the questions prior to the assessment. This is to avoid 'teaching to the test' which leads to inadequate results and social-desirability bias (the tendency of respondents to answer questions in a manner that will be viewed favourably by others). Further, the instrument is not aimed for its inclusion in the development of incentives programmes, school accountability systems, teacher assessment, or students gradings.

Therefore, UNICEF and The World Bank **reserve the right for pre-approval** of the use of the instrument

Further technical advice can be provided through relevant UNICEF and The World Bank colleagues:

Countries interested in conducting the LSCE measurement study by applying this LSCE Measurement Instrument please fill below Expression of Interest form and contact [lsce-m@unicef.org](mailto:lsce-m@unicef.org) for approval.

**UNICEF** Education Team from the Regional Office for the Middle East and North Africa

Ms. Momo Duehring, Education Specialist, [mduehring@unicef.org](mailto:mduehring@unicef.org)

Mr. Alassane Ouedraogo, Education Specialist, [alaouedraogo@unicef.org](mailto:alaouedraogo@unicef.org)

**The World Bank** Education Global Practice Team for the Middle East and North Africa

Ms. Maja Capek, Analyst, [mcapek@worldbank.org](mailto:mcapek@worldbank.org)

Ms. Dina N. Abu-Ghaida, Lead Economist [dabughaida@worldbank.org](mailto:dabughaida@worldbank.org)

**Expression of Interest Form**  
for the Application of the LSCE Measurement Instrument

**Country:** .....

**Contact (name/function/  
email):** .....

**Leading organization/  
ministry:** .....

**Aim of proposed study and  
key research questions:** .....

**Targeted grade/age-group:** .....

**Planned sample size:** .....

**Short description of the use of the results from the study:**

*What will the study results  
and data be used for?* .....

*Who will have access to the  
study results and data?* .....

**Short description of national capacity to conduct the study:**

*Prior experience – Have you  
conducted a national large-  
scale assessment/study  
before?* .....

*Have you engaged with  
national UNICEF and/or The  
World Bank colleagues on  
designing the study?* .....

*Are you planning to contract  
an international organization  
specialist in large-scale  
studies?* .....

*Are you planning to set up  
a national implementation  
team to conduct the study as  
recommended?* .....

*Have you already in place a  
comprehensive list of eligible  
schools, and their enrolled  
students as needed for the  
sampling?* .....

*Are you planning a sampling  
as recommended in the  
guidelines? If not, how will  
your sampling differ?* .....

*Have you secured sufficient  
funding for undertaking the  
study?* .....

**Short summary of processes to ensure ethical compliance:**

*Are you planning clearance of the final study design through a National Ethical Review Board?* .....

*What is the composition of the National Ethical Review Board?* .....

*Have you measures in place to ensure voluntary participation in the study and right of withdrawing?* .....

*Have you measures in place to ensure confidentiality and protection of the study data?* .....

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# Annex 1: Life Skills Item Booklet – example

LSCE B1

## Life Skills and Citizenship Education Assessments

### Booklet 01

<Country>

<YEAR>

[Label to be added here]

#### Confidentiality

All information collected will be kept **strictly confidential**. To ensure that your privacy is maintained, only combined results from the study as a whole will be analysed and reported. No individual information will be released to any person or department except at your written request and on your authorisation.

Restricted

LSCE B1

## Part 1

People differ in how they make decisions. For each statement, indicate how you usually make decisions by ticking the box that best describes your way of doing things.

*Tick one box in each row.*

		Almost always	Often	Sometimes	Never	
Q1	I am confident that I can make good decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0001
Q2	I am less skilled than other people in making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0002
Q3	I give up trying to make decisions because I don't like making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0003
Q4	I look at the evidence before I decide to trust what I have been told.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0004
Q5	It is easy for other people to convince me that their decision is the correct one.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0005
Q6	I avoid making difficult decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0006
Q7	I think carefully before I make my choice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0007
Q8	I postpone making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EDM0008

LSCE B1

Read the situation below carefully and then follow the instructions.

*One of your classmates is often offended by another student who makes fun of him. Your classmate doesn't report anything to the teachers and continues to be laughed at.*

How would you react to this situation?

Tick one box in each row.

		I would definitely do this	I would probably do this	I would probably not do this	I would definitely not do this	
Q27	I would tell the class teachers what is going on.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEM0042
Q28	I would try to persuade the student to stop offending my classmate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEM0043
Q29	I would try to comfort my classmate who is offended by the other student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEM0044
Q30	I would suggest that my classmate tells their parents what is going on.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEM0045

**You have now reached the end of part 2.  
Thank you for completing these questions.**

**Put down your pen  
and close your booklet.**

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# Annex 2: School Background Questionnaire – example

LSCE TQ

## Life Skills and Citizenship Education Assessments

Label to be added here

<Country>

## Teacher Questionnaire

<YEAR>

### Introduction to Teacher Questionnaire

Your school has agreed to participate in the Life Skills and Citizenship Education (LSCE) Assessment. In order to understand the context of student responses, we need information from you, as teacher, about the school context.

Please help us to understand the findings from the student assessments by completing this teacher questionnaire. It should take approximately **30 minutes** to complete.

We thank you for your effort and cooperation.

### Confidentiality

All information collected will be kept **strictly confidential**. To ensure that your privacy is maintained, only combined results from the study as a whole will be analysed and reported. No individual information will be released to any person or department except at your written request and on your authorisation.

LSCE TQ

**TQ8 Life skills help students to be able to solve problems, make decisions, communicate feelings, thoughts and ideas, and show respect for diversity.**

**Do you teach life skills in your <target grade> classes?**

*Tick one box.*

Never	In some lessons	In most lessons	In all lessons
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TQ9 How well prepared do you feel to teach life skill?**

*Tick one box.*

Very well prepared.	<input type="checkbox"/>
Quite well prepared.	<input type="checkbox"/>
Not very well prepared.	<input type="checkbox"/>
Not prepared at all.	<input type="checkbox"/>

**TQ10 What do you think are the most important aims of teaching life skills?**

*Tick the three most important aims.*

a) Promoting respect for and safeguard of the environment.	<input type="checkbox"/>
b) Promoting the capacity to defend the student's own point of view.	<input type="checkbox"/>
c) Developing students' skills and competencies in conflict resolution.	<input type="checkbox"/>
d) Promoting students' participation in the <local community>.	<input type="checkbox"/>
e) Promoting students' critical and independent thinking.	<input type="checkbox"/>
f) Promoting students' participation in school life.	<input type="checkbox"/>

LSCE TQ

**TQ17 In your opinion, how many of the parents of students in the school you work exhibit the following behaviours / characteristics?**

*Tick one box in each row.*

	None or hardly any	Some of them	Most of them	All or nearly all
a) Show interest in their child's learning and school work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Take active steps to support their child's learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TQ18 How frequently are students in your class given the opportunity to engage in the activities below?**

*Tick one box in each row.*

	Never	In some lessons	In most lessons	In all lessons
a) Students participate in class discussions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Students participate in class debates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Students critically review peers' work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Students provide feedback to you as the teacher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Students are asked to find information from outside of school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Students are asked to find information from multiple web sources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Students research and analyse information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Students work in small groups on different topics / issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Students participate in role plays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Students discuss current issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Students propose topics / issues for the following lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Students participate in taking decisions which affect their life at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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# Annex 3: Further Supportive Documents

Please follow this [link to below documents](#).

Overall, the **Report of the Field Trial** of the LSCE Measurement Instrument:

1. Report – Field Trial

With reference to **Chapter 4 ‘Recommended Process’ – Training of Team**, the training manuals used during the initial field trial of the LSCE Measurement Instrument:

2. National Research Coordinator – Roles & Responsibilities [English]
3. National Research Coordinator – Manual [English]
4. School Coordinator – Manual [English/Arabic]
5. Test Administrator – Manual [English/Arabic]

# Glossary

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**National Large-Scale Assessment**

National large-scale assessments are tests or other data collection procedures administered to large numbers of students at the same time. These assessments are often used to measure student achievement for educational accountability, where either the system or individuals in the system are held responsible for student performance (Thurlow, 2010).

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**Graded Response Model**

A Graded Response Model (GRM) is a complex statistical model used for assessment data. It is a type of item response theory (IRT) model that enables the collation of ordinal responses to different items together, in terms of how likely participants are to choose a higher category of response across all the items from a scale. For example, if a collection of items referred to a set of actions that the participant can do, and the response choices are 'never', 'sometimes', 'often' and 'almost always', the model assumes that participants who do these actions more would choose 'often' and 'almost always' at a higher rate than the rest of the categories ('never', 'sometimes'). The scores generated with the GRM can order all participants according to this pattern of response. Those who choose 'never' and 'sometimes' at a higher rate, receive a lower score, than the participants who are more likely to choose 'often' and 'almost always' across all items. In practical terms, these scores are highly correlated to mean scores and sum scores of items but have other properties that sum, and mean scores do not have. GRM scores are derived from generalized ordinal models, thus allowing a researcher to assess their model fit to the data and to check the reliability of the scores. The generated scores are on a scale, where the mean of this score is zero, and its variance is one. Thus, a value of 1 in the life skill score scale is a standard deviation above the mean of the distribution of the life skill of the participating countries.

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**Rotated Booklet Design**

Rotated booklet design is a way of designing a study where the students answer only a portion of the items from the whole test. The different portions of items a student needs to answer are placed within different booklets/forms. These booklets/forms are then assigned randomly to the sample of students selected to take the test within a school. This design permits, at the country level, to collect students' responses to different skills at the same time, while optimizing the test taking time. This approach is needed within the LSCE instrument as there are at least 8 life skills that need to be covered and there is not enough time for students to undertake all these assessments.

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**Sample-Based Study**

A census-based study consists of a study where all schools with students from grade 7 are able to participate, implying the maximum costs to retrieve survey responses. In contrast, a sample-based study would collect participation out of a selected group of schools, and still produce results that are close to the true values of the population, at a fraction of the cost (Meinck, 2020).

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**Two-Stage Sampling Design**

The particular design used in this study is called a two-stage sampling design as there are two stages in the selection process: first, there is the selection of the school and then at the second stage there is the selection the classroom of students who are selected to undertake the study from within the school.

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This instrument represents a significant collaboration between UNICEF and The World Bank.

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**Cover picture:** Zeina, 8 years, in a UNICEF-supported Makani centre in Irbid. Her favourite activity is painting. (© UNICEF/UN0218767/Shennawi)

**End picture:** Yasmeen, 7, and Aisha, 7 (in dark blue), in their local Makani centre in Jordan. The girls are best friends. (© UNICEF/UNI281133/Herwig)