

## ANNEX 2. TERMS OF REFERENCE FOR INSTITUTIONAL CONTRACT

<b>Reference:</b>	<b>LRPS-2024-9189601</b>
<b>Title:</b>	Develop and pilot the AI- based 21st Century Core Competency Skills Measurement Tool
<b>Location:</b>	South Africa
<b>Duration:</b>	3 Months

### Background and Justification

Since democratization, South Africa has made significant progress in enhancing access to education and improving its quality. This progress has been facilitated by the adoption and stabilization of the curriculum, as well as efforts to strengthen key components of the education system. However, studies indicate that learners in South Africa face challenges with foundational skills, particularly when it comes to tasks requiring higher-order cognitive abilities, critical thinking, and deep conceptual understanding<sup>i</sup>. There is a prevalent belief among teachers that education in South Africa is overly focused on assessment and content, leaving them feeling ill-prepared to implement the curriculum as intended<sup>ii</sup>.

In response to the aforementioned challenges, at the 2022 national Basic Education Lekgotla, the Department of Basic Education (DBE) recognized the necessity to strengthen teaching, learning, and assessment through the **Curriculum Recovery Framework 2021-2024**. This initiative is a direct response to the global impact of the COVID-19 pandemic on schooling and aims to identify. Additionally, the DBE committed to the **curriculum strengthening plan (2025 onward)**, aimed at addressing the issue of curriculum relevance and preparing learners for the fast-changing world. Moreover, it seeks to improve alignment across the education sector regarding teaching practices, assessment methods, Learning and Teaching Support Material (LTSM), teacher development, and learning environments conducive to fostering the desired knowledge, skills, attitudes, and values among South African learners.

To support these endeavors, UNICEF South Africa supported the Department of Education (DBE) in 2023 to develop the South African National 21st Century Core Competency Skills Framework, referred to as the South Africa Skills and Competencies for a changing world. This is part of the ongoing effort to strengthen the existing National Curriculum and Assessment Policy Statement (CAPS) and national assessment policies and practices. Notably, this development aligns with UNICEF's Life Skills and Citizenship Education (LSCE) Framework, which emphasizes holistic development and equipping learners with essential life skills. As a result, the LSCE Framework served as a valuable reference in the formulation of the national framework.

The South Africa Skills and Competencies for a changing world framework has been developed to encompass knowledge, skilled character, and attitudes that the department aims to instill in young South Africans through their twelve years of schooling. UNICEF remains committed to supporting the DBE during the implementation phase of this framework. Additionally, UNICEF has pledged its support to explore the best possible mechanisms to measure these core skills and competency, leveraging technological advancements, by piloting and generating evidence about the adoption of AI-based 21st Century Core Competency Measurement Tool.

### Scope of Work

UNICEF committed to assist the Department of Basic Education in developing and piloting the 21st Century Core Competency Skills Artificial Intelligence (AI)-based Measurement Tool, also in reference to the UNICEF LSCE Measurement Tool. Whilst developed to support the current DBE curriculum reform process, it is envisioned that the tool will be used by any formal, informal, and non-formal skills development interventions, in both the public and private sectors. UNICEF is therefore seeking an institution or organisation to develop the 21st Century Core Competency Skills AI-based Measurement Tool and roll-out the pilot of the tool.

### Expected Deliverables and Reporting Requirements

The organisation or institution will be tasked with the following activities:

## 1. Stakeholder Engagement

- a. Identify and engage with stakeholders for buy-in and participation in the pilot programme.

## 2. Design and Development

- a. Design the architecture and user interface of the AI-based measurement tool, ensuring it is intuitive and user-friendly for both administrators and learners.
- b. Develop algorithms and machine learning models to assess a range of select 21<sup>st</sup> Century Core Competency Skills as outlined in the DBE framework.
- c. Incorporate adaptive testing techniques to tailor assessments to individual learners' skill levels and generate individual reports.

## 3. Training for Implementation

- a. Develop training materials and resources to support users/teachers in administering and interpreting the tool.
- b. Provide ongoing support and guidance to ensure successful implementation of the tool.

## 4. Pilot Testing

- a. Deploy the AI-based measurement tool in a classroom setting and, in a skill, developed programme targeted at youth that are in the Not in Employment and Not in Education and Training (NEET) category.
- b. Oversee the implementation process to identify any challenges or issues that may arise, such as technical glitches, user interface issues, or accessibility barriers.
- c. Compile and analyse individual learner assessment tools.

Deliverables	Duration (Estimated days)	Timeline
Inception report	5 days	Week 1
Core Competency measurement framework aligned to DBE National 21 <sup>st</sup> Century Core Competency Skills Framework	10 days	Weeks 2 - 3
Demonstration of the Measurement Tool for digital and manual use	3 days	Week 4
Teacher/Administrator training report	15 days	Weeks 5 – 7
Individual Learner Assessment reports	5 days	Week 8
Analysis report of the Individual Learner Assessment scorecards	20 days	Weeks 9 – 11
Close-out report	5 days	Week 12

## Desired competencies, technical background, and experience

The selected institution or organisation should have a validated track record of at least 3 years of relevant experience on similar projects for local and international agencies, corporates and/or government department/s. Additionally, the institution or organisation must:

1. Developed AI based tool that measures 21<sup>st</sup> Century Core Competency Skills or at least a mockup tool.
2. Have access to a network of schools and youth programmes who will serve as a sample for the pilot.
3. Have a good understanding of the South African Basic Education landscape and especially its assessment policies and practices.
4. A solid understanding of, and experience working with the UNICEF LSCE Measurement Tool.
5. Stay well informed of advances in AI for education development and 21<sup>st</sup>-century skills to ensure the tool remains relevant in a rapidly evolving landscape.

## Administrative issues

- The contract will be managed by UNICEF.

- The institutional contractor shall have regular consultations with the UNICEF and the DBE as needed, either in person or telephonically. These consultations may bring about slight deviations in agreements and the work assignment. This includes an inception discussion to ensure that aspects of the work assignment are understood clearly.
- The face-to-face meetings will be at times as agreed to discuss and agree upon matters pertinent to the implementation of this assignment.
- Location and schedule for progress meetings throughout the contract duration (if required) will be agreed to by the institution/organisation and UNICEF.
- UNICEF is responsible for the monitoring of the implementation of this assignment and shall execute this in a professional and consultative manner throughout the term of the contract.
- Resources will solely be the responsibility of the institution or organisation.
- The institution or organisation to submit a focal points/contact who will be accessible on request to UNICEF.

### Conditions

As per UNICEF DFAM policy, payment is made against approved deliverables. No advance payment is allowed unless in exceptional circumstances against bank guarantee, subject to a maximum of 30 percent of the total contract value in cases where advance purchases, for example for supplies or travel, may be necessary”.

- The “the team/firm selected will be governed by and subject to UNICEF’s General Terms and Conditions for institutional contracts.”
- The service provider is not allowed to use the materials gathered for this assignment in any other work assignment without the explicit written permission of UNICEF.
- The service provider will work on her/his own equipment and use her/his own office resources and materials in the execution of this assignment. The service provider’s fee shall be inclusive of all office administrative and travel costs.

### Technical Evaluation Criteria and Relative Points

Technical Criteria	Description of Technical Sub-criteria	Points
Overall Response	Completeness of response	5
	Overall concord between RFP requirements and proposal	5
Maximum Points		10
Institution & Key Personnel	Range and depth of experience with 21 <sup>st</sup> Century Core Competency Measurement Tool	20
	Number of partners, size of projects, number of qualified staff per project	5
	Existing and ongoing projects related to 21 <sup>st</sup> Century Core Competencies	15
	Client references	5
	Key personnel to be assigned: relevant qualifications & experience	15
Maximum Points		60
Proposed Methodology and Approach	Proposed work plan to accomplish the Project	15
	Proposed methodology and approach	15
Maximum Points		30
Total Score for Technical Proposal		100
Minimum Acceptable Score for Technical Proposal		70

Weights: 70% Technical vs. 30% Financial Offer

### Sourcing

- Qualified institutional or organizational contractors are invited to submit a detailed proposal based on the criteria outlined below, reflecting an understanding of the assignment and capacity to execute the assignment within the required timelines. This needs to be submitted in two separate parts, i.e. technical proposal (cover letter) and financial proposal (fee structure). These should be submitted as two separate documents.
  - The Cover Letter, which contain the following required technical areas related to assignment (Non-inclusion of any of the below components will lead to disqualification).
  - Executive summary (100 words maximum)
  - The institutional contractor's understanding of the assignment, (what the institutional contractor thinks the assignment entails) (50 words maximum).
  - The proposed approach/methodology that the institutional contractor will follow in executing the assignment, with specific reference to each of the components (400 words maximum).
  - An indication of the intended timelines envisaged to complete this assignment (within the timeframe provided in terms of this terms of reference) and an undertaking that the institutional contractor will be able to complete the assignment within the timeframes required.
- References that can be contacted (at least two work related references). Indicate the name of the person, telephone number, email address and short indication of the work that institutional contractor has done. (Two sentences maximum per reference)
- An indication of possible risk factors associated with this assignment, based on the perception and experience of the institutional contractor (80 words maximum)
- Reference to similar work (at least two). Preferably final products that are available and accessible either through email or on website. In case of confidential work, indicate as such.
- Attach the following:
  - (a) The full Curriculum Vitae indicating all qualifications and experience related to the assignment.
- The Financial Proposal needs to be submitted as a separate document and must include:
  - Proposed pricing in accordance with the TOR and in South African Rand.
  - Other costs related to the execution of the assignment.
- Please note:
  - Prices offered shall be all inclusive and shall remain fixed for the duration of the contract.
  - VAT needs to be indicated separately (i.e., fees/budget needs to exclude VAT).
  - Applications submitted without a fee/ rate/budget will not be considered.

## Risks

Risks	Mitigation
Difficulty accessing schools and youth programmes	UNICEF is currently rolling out a number of programmes in schools such as the Coding and Robotics programme. These schools will be included as participants. Opportunities will also be explored with other existing youth programmes.
Service Provider has limited capacity to deliver	UNICEF to select a service provider with a considerable track record.

<sup>i</sup> Reddy, V., Winnaar, L., Juan, A., Arends, F., Harvey, J., Hannan, S., Namome, C., Sekhejane, P., & Zulu, N. (2020). TIMSS 2019: Highlights of South African Grade 5 results in mathematics and science. HSRC. Pretoria.

<sup>ii</sup> Care E., Kim H., Anderson K., & Gustafsson-Wright E. (2017). Skills for a Changing World: National Perspectives and the Global Movement. Brookings Institution Reports.