

PROPOSAL FOR REVISION OF UIS INDICATOR FRAMEWORK FOR TEACHERS

Outline

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1. Background

Target 4.c: “by 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States”.

Despite the comprehensive nature of the current framework, there are significant challenges that hinder its effectiveness. Coverage of key indicators is low, particularly for teacher salaries, attrition rates, and professional development, due to low response rates and limited government capacity to collect and report data. Furthermore, the lack of a global definition for "trained teacher" results in inconsistencies and makes international comparisons difficult. Recent developments, such as the approval of ISCED level 6 as the global minimum education level required for teaching, aim to address these challenges, but further refinement and adaptation of the framework are necessary to meet the evolving needs of the global education landscape.

2. Current indicator framework

a. Overview

The current indicator framework is characterized for four dimensions that are important to teachers' preparedness for the classroom: (1) requirements (academic qualifications and training), (2) supply of qualified teachers (pupil-teacher ratios), (3) attractiveness of the teaching profession (relative salaries, attrition), and (4) professional development (in-service training or CPD).

Table 1: Current indicator framework

Indicator	Definition
Requirements	
4.c.1	Proportion of teachers with the minimum required qualifications , by education level
4.c.3	Percentage of teachers qualified according to national standards by education level and type of institution
Supply of qualified teachers	
4.c.2	Pupil-trained teacher ratio by education level
4.c.4	Pupil-qualified teacher ratio by education level
Attractiveness of the teaching profession	
4.c.5	Average teacher salary relative to other professions requiring a comparable level of qualification
4.c.6	Teacher attrition rate by education level
Professional development	
4.c.7	Percentage of teachers who received in-service training in the last 12 months by type of training

b. Challenges

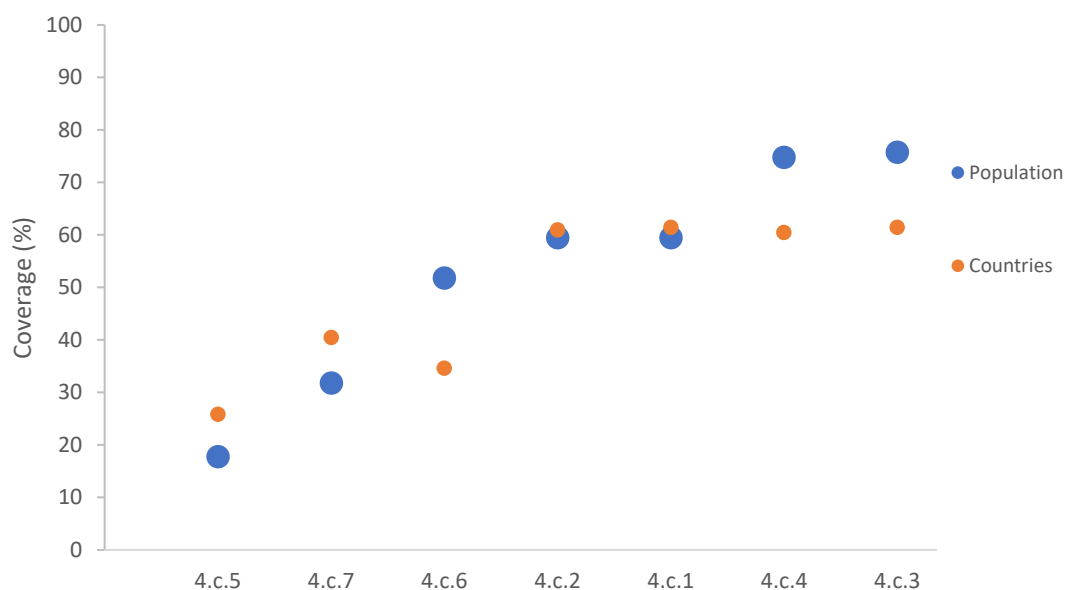
Low coverage

The coverage of indicators in the current teacher framework is low, especially for indicators 4.c.5, 4.c.7, and 4.c.6 (**Figure 1**). The reasons of the low coverage are:

- Low response rates to the teacher items in the UIS questionnaires.

- Number of data points requested and limited government staff time (and understanding of concepts) identified as a barrier to responding to the UIS questionnaire.
- Data points may also not be collected by governments through the school surveys / EMIS.
- Global coordination and governance is also an issue as high and upper-middle income countries have not endorsed collecting data on qualified or trained teacher according to national standards (e.g.: UOE survey does not collect data needed).

Figure 1 – Coverage of teacher indicators



Comparability and relevance

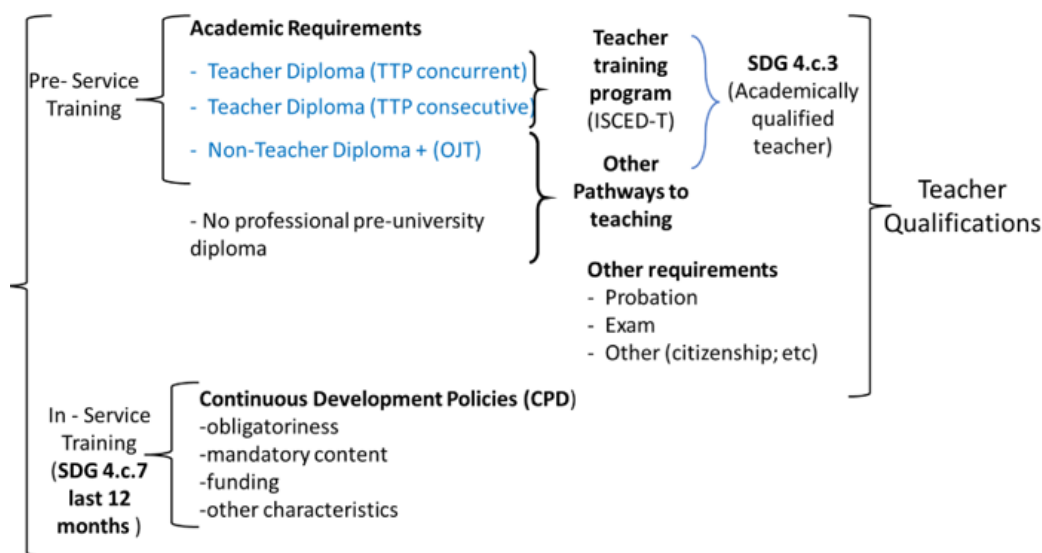
- Indicators related to qualified and trained teachers (4.c.1, 4.c.2, 4.c.3, and 4.c.4) are defined based on national standards and as a result they mask critical disparities in the preparedness of teachers.
- When there are changes on national standards of qualified and trained teachers, data from a given country cannot be compared over time.
- 4.c.7 Percentage of teachers in primary education who received in-service training in the last 12 months by type of training, both sexes. Indicator title "Percentage of teachers who received in-service training in the last 12 months by type of training" is not coherent with indicator definition "Percentage of students whose teachers have received in-service training in the past 12 to 24 months as reported in cross-national assessments (CNAs) and teacher surveys."; moreover, the UIS Education Survey is collecting "Teachers" but not by type of training. Revise definition and drop the requirement of "...by type of training", and report indicator through Education Survey
- Attrition rate fails to measure attractiveness: "Percentage of teachers at a given level of education leaving the profession in a given school year."; This indicator does not provide information about the reasons why teachers leave the profession (retreat, other field of work, etc.)

c. Overview of teacher training and qualification currently in the SDG framework

The current teacher framework has a key focus on the educational and training background of teachers. Two concepts are key in the indicator framework: “trained” and “qualified”.

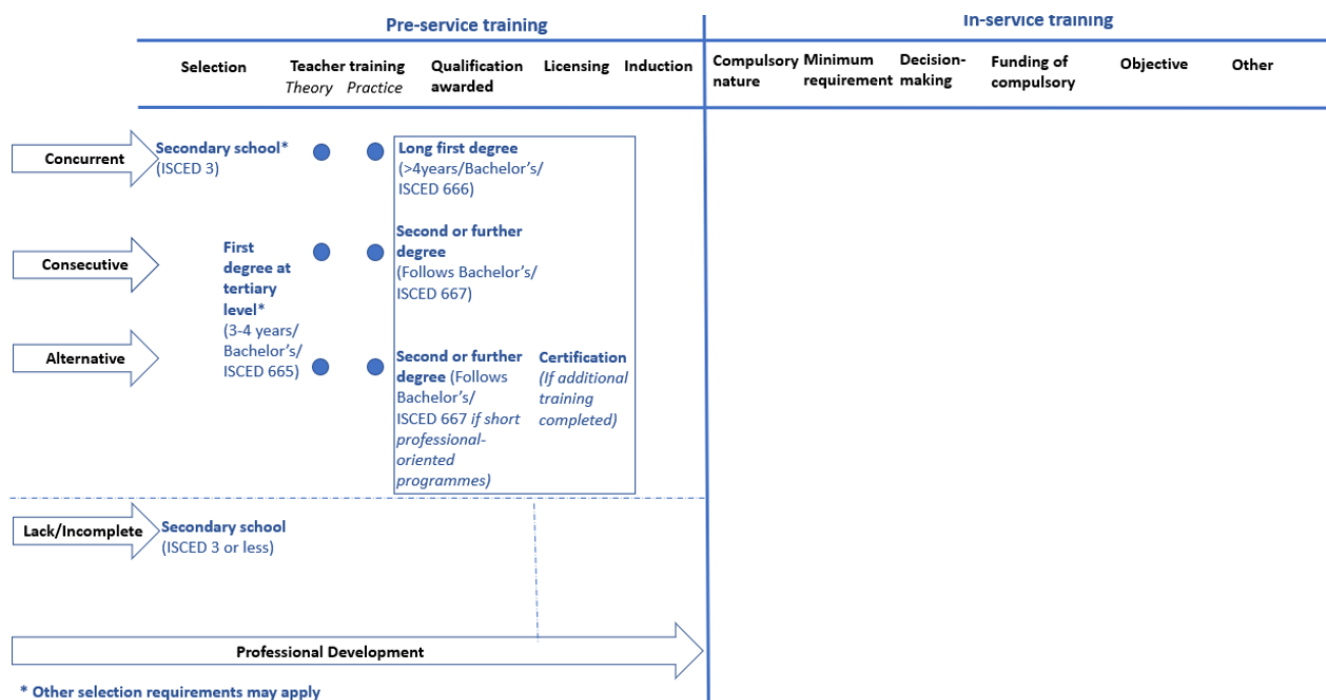
- ‘Trained’ teachers aims to identify the extent to which the teacher workforce has **specific pedagogical pre- and in-service** training (indicator 4.c.1)
- “qualified” teacher (indicator 4.c.3) attempts to reflect the percentage of teachers meeting the **minimum academic requirements to teach** regardless of the nature of the diploma.

Teachers’ indicator framework



Teacher training could be acquired through different routes. The first is through teacher training programs (TTP) either **concurrent** (teacher training from the outset through general and professional subjects) or **consecutive** (when holders of tertiary diploma move to a teacher training program) that grants a teacher diploma. A second route is teacher training acquired **through a short professionally oriented** or employment-based training that combines work in schools with a tailored training program. Lastly, the access to the teaching profession without a professional diploma or specific training depends on each country’s regulations.

Teachers’ indicator framework



Limitations of the current framework:

- Pathways to teaching are quite complex and difficult to synthesize into a few actionable and easily understood indicators. However, the UIS has produced a database with information on alternative pathways.
- The link to learning outcomes is not apparent: we have evidence showing importance of qualifications and for pedagogic training (pre- and in-service), but what matters is the content, duration, amount of practice, etc.--factors that are not captured by the current framework despite its complexity.
- Also, we have the very pragmatic barrier in data collection--low response rates, mapping out of pathways is arduous for country respondents, etc.
- The qualification / trained concept is valid but seems we are getting distracted by the complexity of the pathways rather than what matters for learning (i.e.: quality teaching).

d. TCG decisions to date

- October 2020 - TCG 7 approved:
 - 4.c.5 - "Use **statutory teacher salaries** as interim reporting strategy until further methodological work is done. OECD countries will report Education at a Glance data. Statutory teacher salaries: Ratio of annual statutory salary for a teacher with typical qualifications and 15 years' experience by level taught (UIS questionnaire) to annual earnings of professionals (ILOSTAT)".
 - 4.c.6 - "Support OECD/NESLI's efforts to **improve measurement of teacher's attrition rate** using two alternative models as follows:
 - Indirect estimation (using estimated number of teachers leaving the profession based on number of teachers entering the profession)
 - Direct estimation (using actual number of teachers leaving the profession)"

- November 2022 - TCG 9 approved:
 - The **implementation plan** of the International Standard Classification of Teacher Training Programmes (**ISCED-T**) and use the proposed questionnaire for data collection on the classification.
- December 2023 - TCG 10 approved:
 - Establish **ISCED level 6**, equivalent to a Bachelor's degree, as the **global minimum education level required for teaching** in ISCED levels 02 (Pre-primary) to 3 (Upper secondary).
 - The UIS **new data collection** to collect:
 - The most recent available data on the **number of teachers by teaching level of education and highest level of education completed** (also by sex);
 - Retroactively collect data **from 2015 onwards** on the number of teachers based on the highest level of education completed, to produce indicators 4.c.1 and 4.c.2"
 - **Maintain current form of indicator 4.c.3:** "Percentage of teachers qualified according to national standards by education level and type of institution.". Indicator kept as is.

3. The framework revision

a. Recent developments shaping framework revision

- Setting global definition of qualified teachers. Once those data become available, indicators for 4.c.1 and 4.c.2 will report based on that definition ([TCG10](#)).
- Maintain current form of indicator 4.c.3: "Percentage of teachers qualified according to national standards by education level and type of institution." ([TCG10](#)).
- Ongoing discussion on how to revise the framework (e.g.: [CES Teacher data: challenges and solutions forward](#))
- The UIS has assembled a comprehensive database on teacher requirements with some policy indicators.
- Piloting ISCED-T has revealed limitations of government responsiveness / data collection.

b. What purposes would the revised framework aim to serve?

1. For monitoring SDG 4.c: clearly need to define and measure the "supply" level of the teacher workforce, its qualification level and compliance with other requirements (e.g., possessing TTP or alternative teacher training diplomas), the attractiveness of the teacher profession, and the degree of professional development (CDP).

2. For UIS mandate to provide relevant and useable data, some questions:

- what is demanded by member states for planning and policy dialogue?
- what is useful for civil society for promoting better quality education?
- what is useful for development partners in assessing countries' needs?

The current framework seems to pursue a diagnostic type of approach (i.e.: main elements for improving learning), and this seems reasonable for meeting the above needs

c. Proposed objective of the revised framework

- Alignment to Target 4.c. This involves measuring the supply, qualifications, and professional development of teachers, ensuring that the workforce meets the minimum standards required to deliver quality education.
- Provide actionable data that can inform national and international education policies.

d. Principles for updating the framework

Link to a conceptual framework: need a conceptual framework to help prioritize indicators and decide whether certain indicators are needed or not given cost; conceptual framework determined by objective, e.g.: to determine whether an indicator is really needed for student learning.

Conceptual framework that is evidence based: attractiveness of teaching profession and pre-service qualifications well accepted, but we are seeing a lot of evidence on impact of in-service training and what types of in-service training are impactful (especially given that in-service training affects the whole stock of teachers).

Careful piloting of data collection: a clear lesson from ISCED-T is the need to pilot data collection first (especially if relying on country respondents) to ensure that countries can provide data, otherwise need to rework the data collection or find a different indicator.

Balancing coverage: here need to be realistic about indicators we attempt to collect data for and publish, e.g.: we know that the content of teacher training is very important but we may not be able to measure what percent of teachers received this in their pre-service training, but perhaps we can measure policies related to this and percent of teachers by ISCED, etc. i.e.: not impactful if we don't have coverage!

e. Conceptual Framework

- to be developed, the same structure but orientated around what matters for learning (e.g.: SDG 4.1)

Framework structure (as before), three critical dimensions

1. Attractiveness of teaching profession

2. Academic qualifications and pedagogic training of teachers pre-service/in-service. This includes the availability of national qualifications and standards.

3. In-service training (CPD)

- here that we deal with issues around what it means to be “qualified” (global definition or something related to characteristics, get to what is feasible down below)
- for qualified, we know that training programmes can be more effective than others for student learning (depending on content, duration, modality, practice ratios, etc.) we also know that pedagogic practices evolve across time and in-service training can have significant impact on learning outcomes, we have examples of contract teachers having better learning outcomes, etc. etc., so the concept of qualification is difficult -- probably academic qualification (proposed for



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4.c.1) plus information around content of training (probably from policy indicators) will provide the best picture of how well qualified teachers are...

- here some review of the literature describing what we know about these, what characteristics matter for learning, etc.
- e.g.: we know that the characteristics of pre-service training (practice ratios and content of training) but also evidence from in-service teaching and what makes these effective (but need to have coverage)

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f. Proposed revised indicator framework

The following table presents what the indicator framework would like after the revision.

Table 2: Proposed new indicator framework

a. Teacher's training

Statistical unit	Stage	Proposed indicator	Definition	Existing indicator	Indicator proposed	Collected?	New collection needed
Policy	Pre-service	Existing pathways to teach	Policy indicator of existing pathways	No	Yes. Policy indicator.	No	Yes. Current pathways to teach. Exists in UIS database on teacher requirements
Policy	In-service	Policy level (hours/time-compulsory- who decides- who funds,...)	Characteristics of CPD policies	No	Yes	No	Yes – Policy mapping
Teacher	Pre-service	Percentage of teachers by teacher diploma/pathway	Teachers by teaching diploma	No	New indicator By teacher diploma (pathways 1 and 2)	No	See next section
Teacher	In-service	Percentage of teachers with training in the last 12 months	Teachers who received in-service training in the last 12 months	4.c.7	Indicator refinement: to report the percentage of teachers with training in the last 12 months without disaggregating by type of training	- Partially for countries of OECD and TALIS, various international assessments – has characteristics too, to some extent depending on programme. - UIS collects number of teachers who received training	No

b. Teacher's qualifications

Statistical unit	Proposed indicator	Definition	Existing indicator	Indicator proposed	Collected?	New collection needed
Policy	Policy indicator on minimum requirements for teaching/alternative requirements		No	Yes	Already collected from national policies	Data update mechanisms are to be defined
Teacher	Proportion of teachers with the minimum required academic qualification according to global standards	A qualified teacher is one who has the minimum ISCED qualification necessary to teach at a specific level of education according to a global reference	No	It will replace current indicator 4.c.1 once data became available (TCG 10)	No	Included in Education Survey and Dynamic template 2024
Teacher	Percentage of teachers with the minimum required academic qualification according to national definition , by education level	A qualified teacher is one who has the minimum required qualifications necessary to teach at a specific level of education in each country	4.c.3	4.c.3 Clarify national minimum ISCED attainment required (TCG 10)	Yes	No

a. Supply of qualified teachers

Statistical unit	Proposed indicator	Definition	Existing indicator	Indicator proposed	Collected?	New collection needed
Ratio	Pupil-qualified teacher ratio by education level (global standards)	A qualified teacher is one who has the minimum ISCED qualification necessary to teach at a specific level of education according to a global reference	No	It will replace current indicator 4.c.1 once data became available (TCG 10)	No	Included in Education Survey and Dynamic template 2024
Ratio	Pupil-qualified teacher ratio by education level (national definition)	A qualified teacher is one who has the minimum required qualifications necessary to teach at a specific level of education in each country	4.c.4	No	Yes	No

b. Other indicators

Indicator	Notes	Data sources
Attractiveness		
Relative salaries of teachers	Currently 4c5., revision proposed (see below)	New approach needed
Attrition rates	Currently 4c6, revision or removal proposed (see below)	New approach needed

4. Conclusions and steps forward

a. Overview of the proposed framework

The proposed teacher indicator framework notably does not include the concept of a "trained teacher" as previously defined and reported by national standards. This raises the question of whether such an indicator is truly necessary. By focusing on more specific and measurable indicators, the framework aims to provide a clearer and more consistent picture of the qualifications and preparedness of the global teaching workforce. The decision to exclude the "trained teacher" indicator stems from the complexities and inconsistencies in defining and measuring teacher training across different national contexts. This exclusion allows for a more streamlined and effective approach to monitoring teacher qualifications.

The revised framework incorporates additional indicators that have already been approved by the Technical Cooperation Group (TCG10). These include the proportion of teachers with the minimum required academic qualifications according to global standards (4.c.1), which will replace the current indicator of "trained teachers" based on national standards. Similarly, the pupil-qualified teacher ratio by education level (4.c.2) will now be measured against global standards, providing a more uniform and comparable metric across countries. These changes aim to enhance the accuracy and relevance of the data collected, ensuring that it better reflects the true state of teacher qualifications worldwide.

Moreover, the framework introduces new indicators to provide a more comprehensive understanding of the teaching profession. These include tracking existing pathways to becoming a teacher, policy-level details such as required hours of training, decision-making processes, and funding mechanisms, as well as the percentage of teachers by their diploma or training pathway. Additionally, a policy indicator on minimum requirements for teaching and alternative pathways is included. However, the framework does not incorporate outcomes from the ISCED-T pilot, as this would only provide information on new teachers entering the workforce, representing less than 10% of the total teaching population.

For indicator 4.c.5, the proposal suggests an alternative data collection approach. Instead of the current method, it recommends asking for the minimum salary of teachers with the minimum academic qualification (or a global equivalent) for the largest jurisdiction in the country. This can be quickly determined from pay scales and would simplify data collection. Alternatively, this could be replaced by a policy indicator if there is an established policy on teacher remuneration. These proposed changes are designed to improve the feasibility and reliability of data collection while providing meaningful insights into the teaching profession.

b. Percentage of teachers by teacher diploma/pathway

Data collection on teacher requirements has also yielded percent of teachers that have completed pre-service teacher training (i.e.: a TTP program)

Could use this as the basis for a revised indicator, **different proposals here:**

1. Percent of teachers that have completed a TTP

2. Percent of teachers that have completed a TTP and meeting the global minimum qualifications to teach (ISCED-6)

- here the idea is to combine the data collection on percent of teachers with TTP with the minimum teaching qualification database

- there are issues here, e.g.: teaching qualification requirements can change so having TTP not necessarily an indicator of those that have both (but still indicative), also TTP programs may not meet requirements (e.g.: in practice may still have TTP programs that are not meeting qualification requirements despite official policies and laws)

3. Scale up ISCED-T

4. Park the issue for now

Table 3 - Options reflected in the table below with pros and cons

Option	Pros	Cons
TTP/NTTP +regulation w/o ISCED Attainment	Information Publ./Avail Single indicator by target teaching level (e.g., % of Teachers with TTP in primary)	It does not inform on qualified teachers with TTP
TTP/NTTP +regulation by GS ISCED Attainment	Informs on % of qualified teachers (ISCED level 6) with TTP.	Implies higher burden for countries as this info may not be nationally published For countries requiring less than ISCED 6, the indicator would be irrelevant
TTP/NTTP +regulation by highest ISCED Attainment	Informs on % of teachers with TTP by highest level of education attained.	Implies higher burden for countries as this info may not be nationally published Multiple indicators by target teaching level (e.g., % of teachers with TTP and highest ISCED level 3; % of teachers with TTP and highest ISCED level 4, etc.)

Option	Pros	Cons
Scale ISCED-T	It collects more info about the TTP (ISCED level, duration, entry-level requirement, practicum ration)	The additional info collated on the TTP might be hard to get and useless. Only for new teacher Demands using ad-hoc solutions for senior teacher. Timeframe as DC is not successful. Burden as implies new data collection.
Park the issue for now	No resources are spent	National standards are use: lack of global comparability Some countries do not report (e.g., oecd)

Country	Diploma		Metadata		Sources		Min. ISCED	Qualit.				
	TTP	NTTP	Name of TTP	Comments	Link	Page		Alt Pathways - No training required	Alt Pathways - Specific training required	Teaching practicum	Credential or license	Competitive examination
Brazil	No data	No data		It is not possi	https://doi.org/10.1887/0013-7145.4428	p. 44	3	No	Yes	Yes	No	No
Cameroon	No data	No data	CAPIEG, CA	Only data for	http://www.capiég.org	p. 314	2	No	No	No	Yes	No
Côte d'Ivoire	73,852	26,411	CAP (Certific		https://www.cap-ivoire.org	p. 230	2	No	No	No	No	No
Kenya	No data	No data		It is not possi	https://www.cer.go.ke	p. 58	5	No	No	Yes	Yes	No
United Republic of Tanzania	127,975	42,594	Grade A (Cer	The category	https://www.cer.go.ke	p. 156	4	No	No	Yes	No	Yes
Zambia	60,689	20,230	Teacher Certi		https://www.cer.go.ke	p. 60	5	No	No	Yes	Yes	No

c. Plan for revising the framework

Identifying and prioritizing the development of key indicators is essential to effectively monitor and improve teacher qualifications and preparedness. The focus should be on indicators that are both feasible to collect and critically important for learning outcomes, based on existing evidence. These "low-hanging fruit" indicators can provide a solid foundation for building a comprehensive and actionable teacher indicator framework.

Priority Indicators for Development

The primary indicators to be developed should include those that directly impact student learning outcomes. Based on current evidence, these include the proportion of teachers with the minimum required academic qualifications and the pupil-qualified teacher ratio by education level. These indicators provide essential information about the qualifications of the teaching workforce and their distribution across different education levels. Additionally, indicators related to teacher training pathways, policy-level training requirements, and teacher remuneration policies should be prioritized to provide a holistic view of the teaching profession.

Steps in Developing Indicators

To develop these indicators effectively, a structured and systematic approach is necessary. The following steps outline the process:

- **Identify Potential Data Sources:** Begin by researching and identifying potential data sources within each country, such as Education Management Information Systems (EMIS) and payroll datasets.
- **Government Consultation:** Engage with government representatives to discuss the pilot data strategy and gather feedback on the difficulties they may face in responding.
- **Revise and Expand Pilot:** Based on the feedback received, revise the data collection strategy to address any issues identified. Conduct a larger-scale pilot to test the revised questionnaire and to check response rates. This helps in validating the effectiveness of the data collection process.
- **Feasibility Analysis:** Conduct a thorough feasibility analysis to determine the practicality of the indicator. This includes assessing the quality and completeness of the data collected, as well as the capacity of countries to provide the necessary information.
- **Capacity Building and Guidelines:** Develop guidelines and provide capacity-building support to countries to ensure they can report on the indicators accurately and consistently. This step involves creating detailed reporting instructions and offering training to relevant government staff.