Methodological development of SDG 4 indicators

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Overview of topics

1. New UIS data dissemination and data collection
2. Proposed modifications to indicators
3. Next steps for indicators with methodology approved by TCG
4. Indicators requiring further development, with reference documents
5. Indicators requiring further development, without reference documents

To be discussed on Friday:
- Indicators for monitoring in 2019
- Additional indicators
- Use of estimations for reporting on SDG indicators

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Section 1

New UIS data dissemination and data collection

Updates on data dissemination and data collection

UIS data dissemination: additions

- 4.3.3 Participation rate in technical and vocational programmes (15- to 24-year-olds): indicator expanded to cover ISCED levels 4 and 5
- 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills: added data by sex
- 4.6.3 Participation rate of illiterate youth/adults in literacy programmes: added
- 4.7.2 Percentage of schools that provide life skills-based HIV and sexuality education: added to SDG theme tree
- 4.a.2 Percentage of students experiencing bullying in the last 12 months: added
- 4.a.3 Number of attacks on students, personnel and institutions: added

Planned UIS data collection in 2019

- Participation in non-formal education and training (for 4.3.1)
- Participation in literacy programmes (for 4.6.3)

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Section 2

Proposed modifications to indicators

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Proposed modifications to indicators

Indicator 4.1.5: out-of-school rate
- Proposal to change calculation method

Indicator 4.2.4: GER in pre-primary education and early childhood educational development
- Proposal to redefine the indicator

Proposal to change calculation of out-of-school rate

Current calculation method

- OOSR=$\dfrac{\text{number of children not in prim., sec. or higher education}}{\text{number of children of reference age}}$
- Reference age = primary, lower secondary, or upper secondary school age
- Children enrolled in pre-primary education are considered to be out of school

Reasons for current approach

- Adopted in 2005, at time of MDG of universal primary education
- Pre-primary education was not considered appropriate for children of primary age
- Little data on enrolment in pre-primary education by age: calculation not possible

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Proposal to change calculation of out-of-school rate

Proposed calculation method

- OOSR = $\dfrac{\text{number of children not in } \textcolor{red}{\text{pre-prim.,}} \text{ prim., sec. or higher education}}{\text{number of children of reference age}}$

- Children enrolled in pre-primary education are considered to be in school

Reasons for change

- SDG target 4.2 calls for universal access to pre-primary education
- Children in pre-primary education usually continue in primary education

Working group 1 supports this proposal.

Proposal to change calculation of out-of-school rate

Impact of proposed change
- 124 countries have data on enrolment of primary-age children in pre-primary education
- In these 124 countries, 3.4 million of 21 million out-of-school children are in pre-primary education
- If these children are counted as in school: OOSR falls by 1.3 percentage points across the 124 countries
- Globally, based on data from the 124 countries, OOSR falls by 0.5 percentage points
- With imputation, impact is likely to be greater

Proposal to change calculation of out-of-school rate

Table 1: Rate of out-of-school children of primary school age, 2017

| Region	Countries with data on enrolment in pre-primary education*	Current out-of-school rate	In pre-primary education (based on countries with data)	Revised out-of-school rate
Central Asia	4 of 5	2.5	0.5	2.0
Eastern and South-Eastern Asia	10 of 18	3.8	0.1	3.6
Europe and Northern America	34 of 57	2.9	1.8	1.1
Latin America and the Caribbean	26 of 49	4.7	0.8	3.9
Northern Africa and Western Asia	11 of 25	10.5	0.3	10.2
Oceania	11 of 25	9.2	7.4	1.8
Southern Asia	2 of 9	6.3	0.0001	6.3
Sub-Saharan Africa	26 of 51	20.5	0.6	19.9
World	**124 of 239**	**8.9**	**0.5**	**8.4**

Proposal to change calculation of out-of-school rate

Table 2: Number of out-of-school children of primary school age, 2017

Region	Countries with data on enrolment in pre-primary education*	Current out-of-school number (in millions)	Number in pre-primary education (based on countries with data)	Revised out-of-school number
Central Asia	4 of 5	0.1	0.03	0.1
Eastern and South-Eastern Asia	10 of 18	6.6	0.2	6.4
Europe and Northern America	34 of 57	2.0	1.2	0.8
Latin America and the Caribbean	26 of 49	2.8	0.5	2.4
Northern Africa and Western Asia	11 of 25	5.7	0.2	5.5
Oceania	11 of 25	0.4	0.3	0.1
Southern Asia	2 of 9	11.6	0.0002	11.6
Sub-Saharan Africa	26 of 51	34.5	1.1	33.4
World	**124 of 239**	**63.7**	**3.4**	**60.2**

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Proposal to change calculation of out-of-school rate

Figure 1: Number of out-of-school children in selected countries, 2017 or latest year

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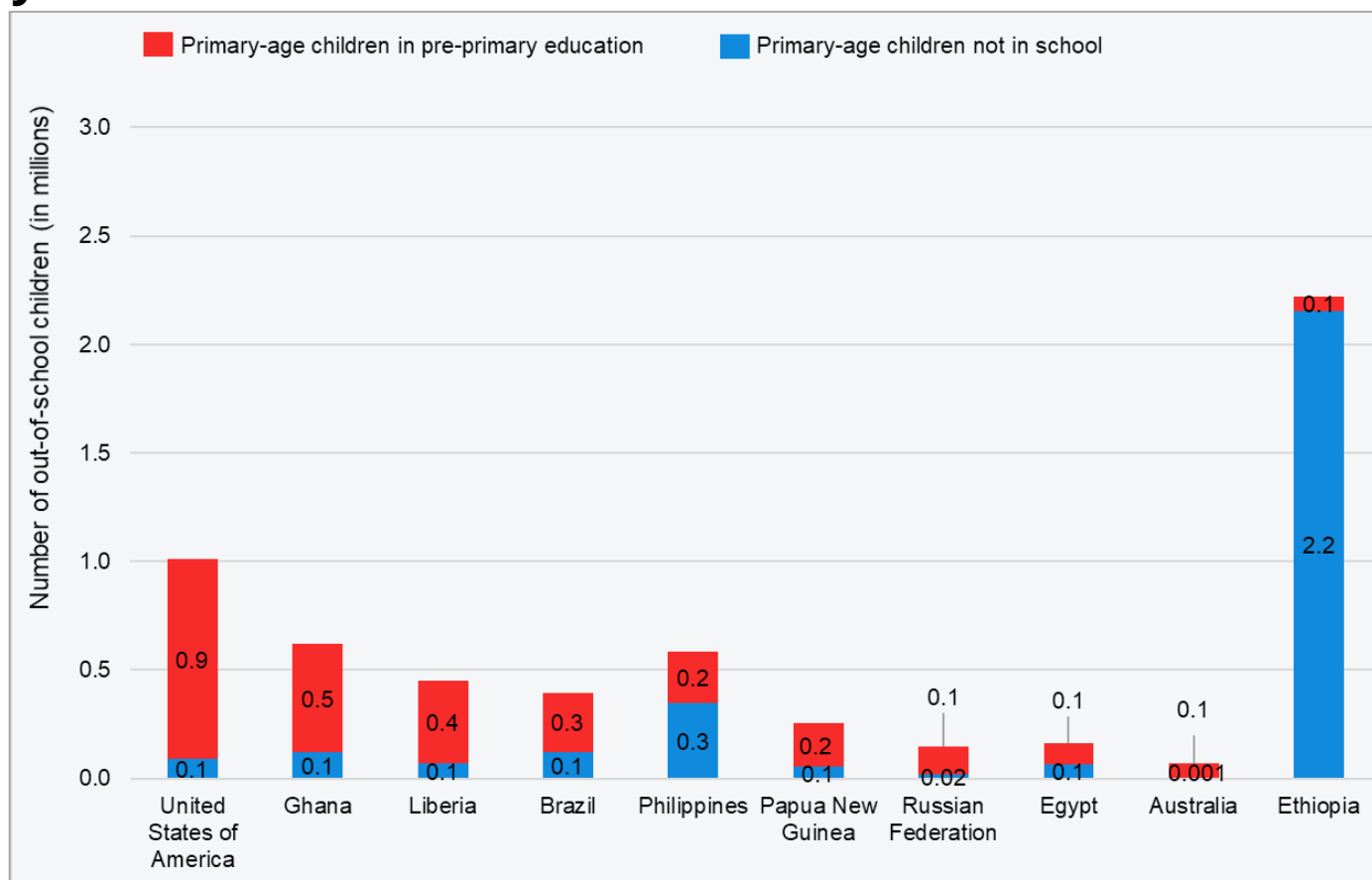
Proposal to change calculation of out-of-school rate

Conclusions by WG 1

- Support suggested change in calculation method.

Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Current definition

- Total enrolment in (a) pre-primary education [ISCED 02] and (b) early childhood educational development [ISCED 01] regardless of age, expressed as a percentage of the population of the official age for early childhood education [ISCED 0]

$$\text{(a): } \frac{\textit{Total enrolment in ISCED } 02}{\textit{Population of the offical age for ISCED } 0}$$

$$\text{(b): } \frac{\textit{Total enrolment in ISCED } 01}{\textit{Population of the offical age for ISCED } 0}$$

Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Limitations of current approach

- **Restricted scope:** Current indicator only provides information on how children enrolled in ISCED 0 are distributed across ISCED 01 and ISCED 02. Does not provide information on GER for ISCED 01 and ISCED 02 separately.
- **Underestimation:** Theoretical age group of ISCED 0 is larger than theoretical age groups of ISCED 01 and ISCED 02. As a result, the current indicator 4.2.4 underestimates the ISCED 01 and ISCED 02 GER.
- **Trend data analysis:** Current definition does not allow trend analysis. Breakdown between ISCED 01 and ISCED 02 is not available in ISCED 1997. With proposed methodology, GER in ISCED 0 prior to 2012 is comparable to GER in ISCED 02 after 2012.

Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Proposed definition

Total enrolment in (a) pre-primary education [ISCED 02] and (b) early childhood educational development [ISCED 01] regardless of age, expressed as a percentage of the population of the official age for *the respective ISCED category* ~~early childhood education [ISCED 0]~~

$$(a): \frac{Total\ enrolment\ in\ ISCED\ 02}{Population\ of\ the\ offical\ age\ for\ ISCED\ 02}$$

$$(b): \frac{Total\ enrolment\ in\ ISCED\ 01}{Population\ of\ the\ offical\ age\ for\ ISCED\ 01}$$

- New indicator consists of three values:
  1. GER for ISCED 0
  2. GER for ISCED 01
  3. GER for ISCED 02
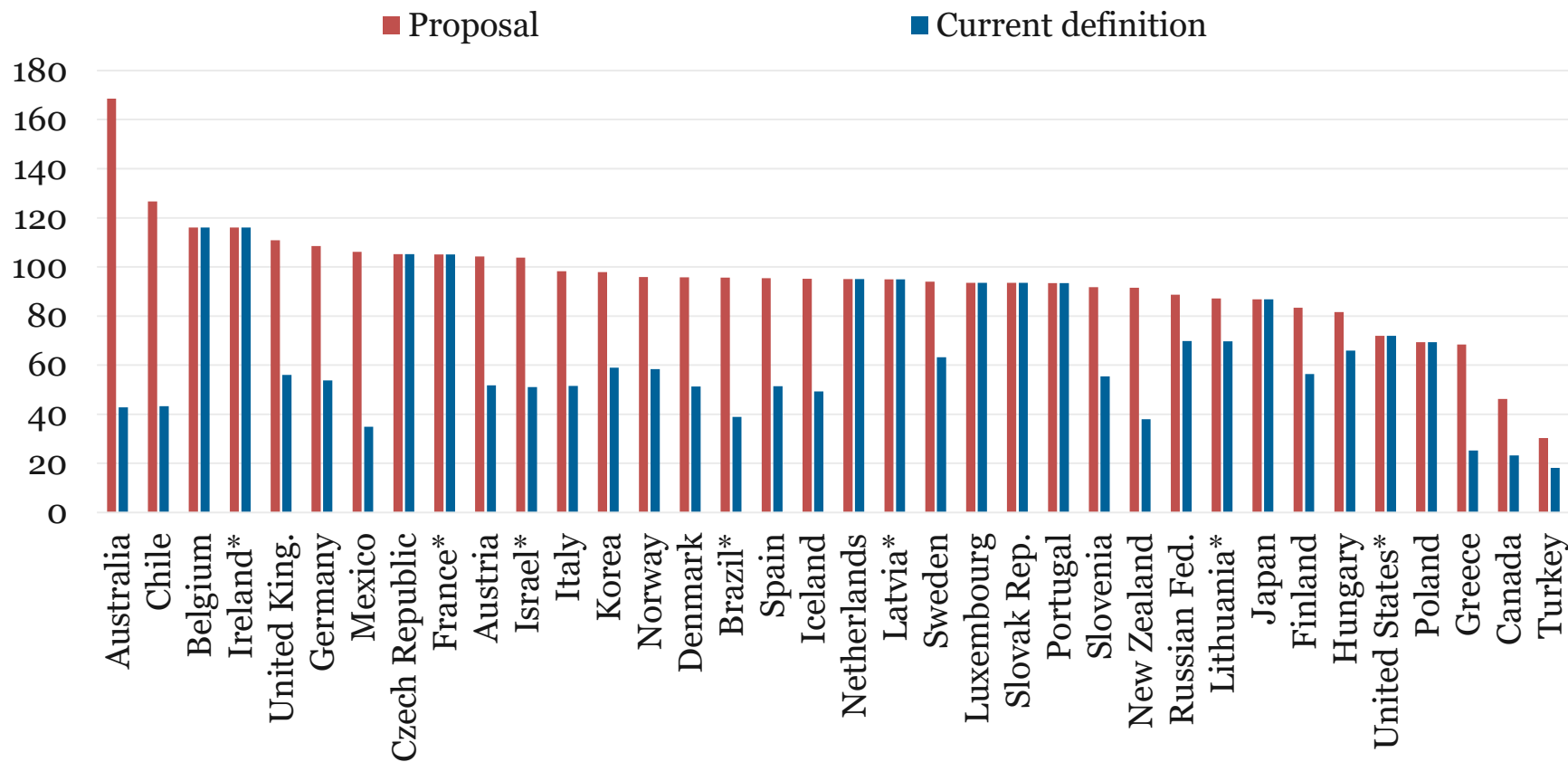
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Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

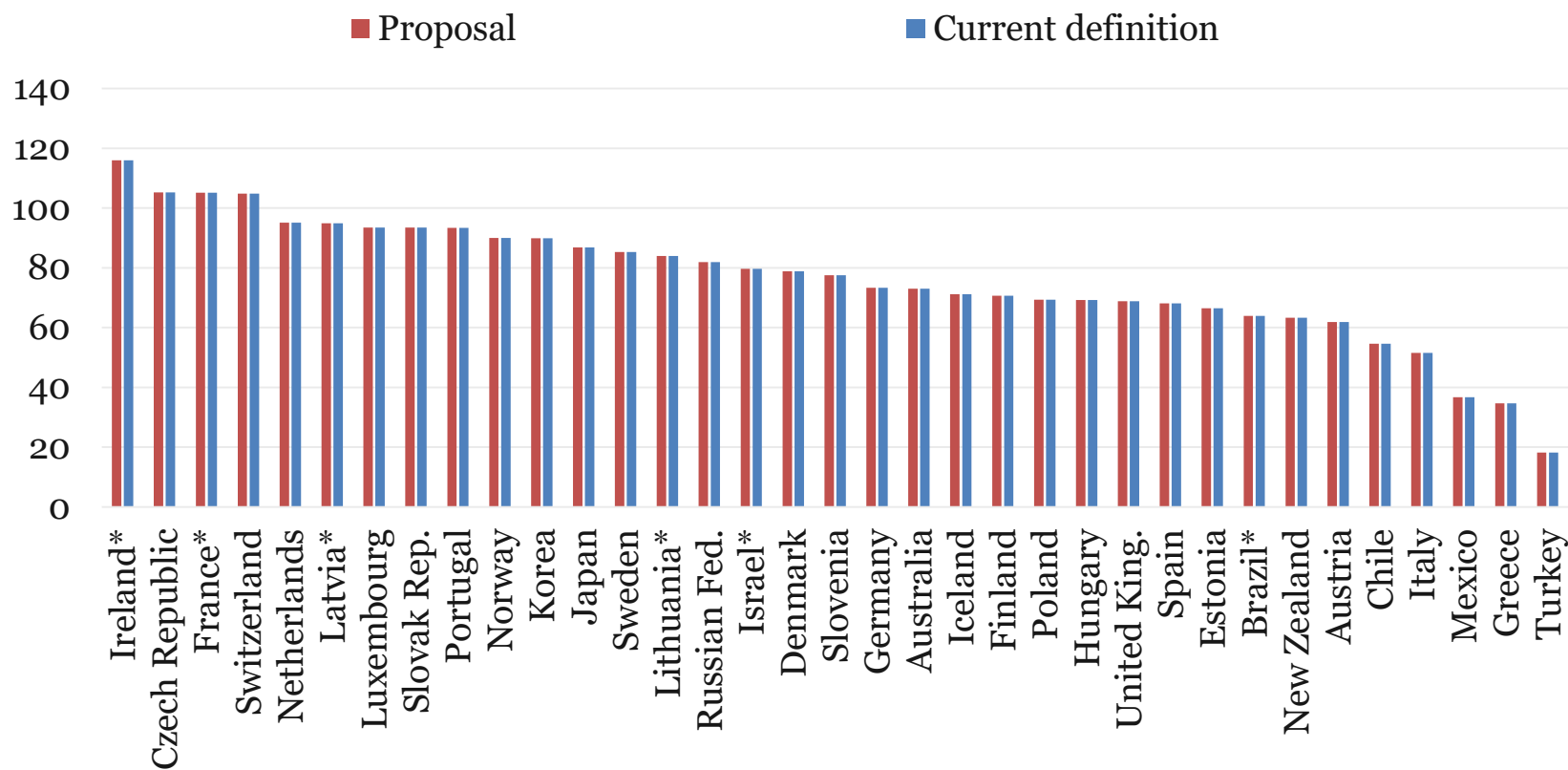Enrolment in early childhood educational development (ISCED 01)

■ Proposal   ■ Current definition

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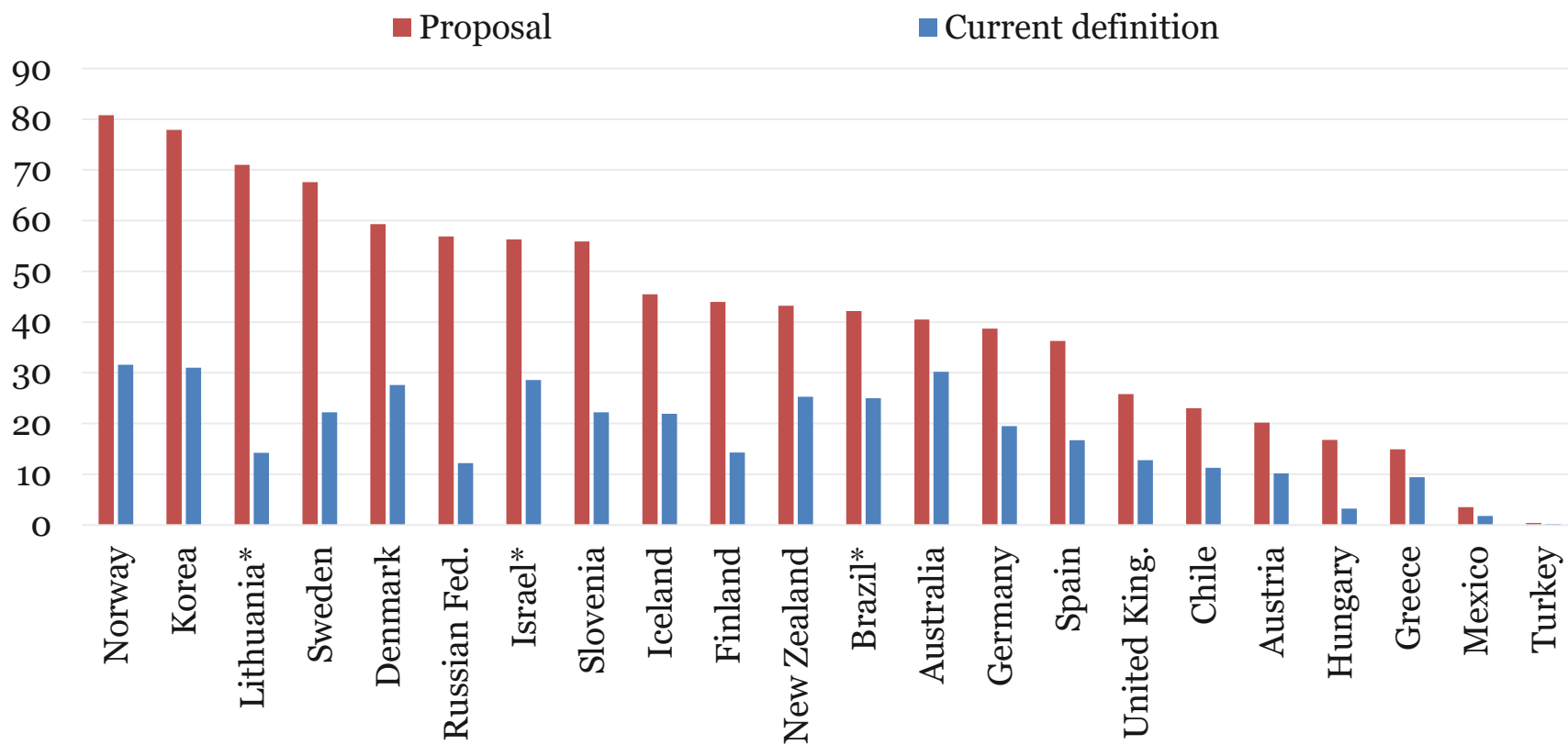
Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Enrolment in pre-primary education (ISCED 02)

■ Proposal   ■ Current definition

Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Enrolment in early childhood education (ISCED 0)

■ Proposal   ■ Current definition

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Proposal to change calculation of GER in pre-primary ed. and early childhood educational development

Conclusions by WG 1

- Support suggested change in calculation method.
- Consider use of NER as additional or alternative indicator to GER.

Section 3

Next steps for indicators with methodology approved by TCG

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Next steps for indicators with methodology approved by TCG

Indicator 4.3.1: participation in formal and non-formal education
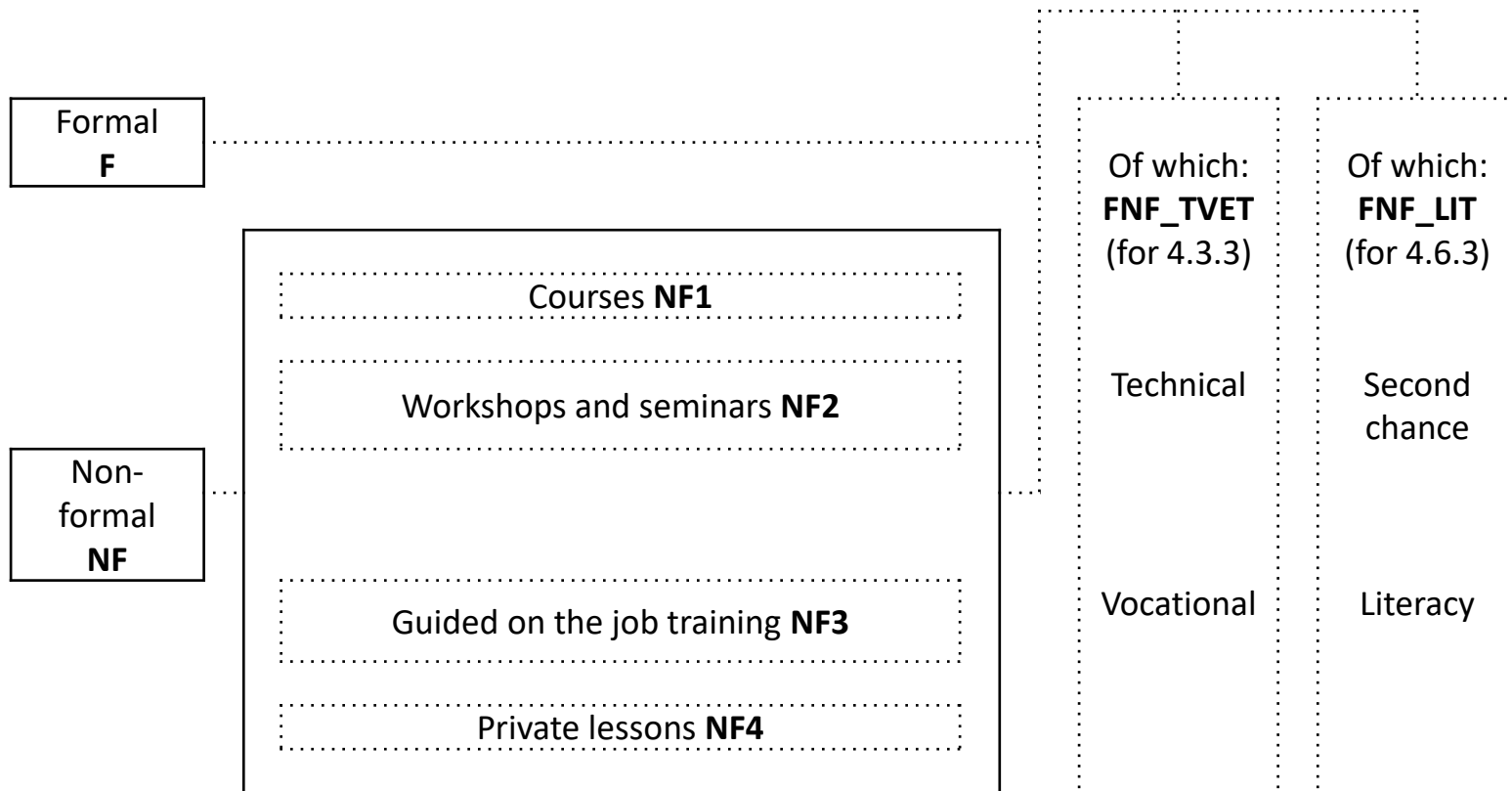- Results of TCG consultation on proposed household survey questions

Indicator 4.7.1: mainstreaming of global citizenship education and education for sustainable development
- Updated on request for reclassification from tier III to tier II

Proposal for indicator 4.3.1

Classification of formal and non-formal education and training for indicators 4.3.1, 4.3.3, 4.6.3: collect with proposed household survey module

		Of which: **FNF_TVET** (for 4.3.3)	Of which: **FNF_LIT** (for 4.6.3)

Formal **F**

Non-formal **NF**

Courses **NF1**

Workshops and seminars **NF2**

Guided on the job training **NF3**

Private lessons **NF4**

Technical

Vocational

Second chance

Literacy

Recommended questions for data collection on indicators 4.3.1, 4.3.3, 4.6.3

Formal education: During the last 12 months, that is since *[specify: month, year]*

- F1. Have you been a student or apprentice in formal education or training? *[Yes/No]* **(for indicator 4.3.1)**

If yes:

- F2. What was the level of the most recent formal education or training activity? *[ISCED 1-8]*
- F3. Was <u>any</u> formal education or training activity during the last 12 months a technical or vocational programme? *[Yes/No]* **(for indicator 4.3.3)**
- F4. Was the focus of <u>any</u> formal education or training activity during the last 12 months to improve your literacy skills? *[Yes/No]* **(for indicator 4.6.3)**

Recommended questions for data collection on indicators 4.3.1, 4.3.3, 4.6.3

Non-formal education: During the last 12 months, that is since *[specify: month, year]*

- NF1. Have you participated in any of the following activities with the intention to improve knowledge or skills in any area (including hobbies) either in leisure time or in working time? ***(for indicator 4.3.1)***
  - a course? *[Yes/No]*
  - a workshop or seminar? *[Yes/No]*
  - guided on-the-job training? *[Yes/No]*
  - a private lesson? *[Yes/No]*

If any yes:
- NF2. Was any of these education or training activities a technical or vocational programme? *[Yes/No]* ***(for indicator 4.3.3)***
- NF3. Was the focus of any of these education or training activities to improve your literacy skills? *[Yes/No]* ***(for indicator 4.6.3)***

Indicator 4.3.1

Conclusions by WG 1

- Support suggested module.
- Modify metadata to allow use of equivalent data collection methods.
- Allow countries to look separately at youth and adults.
- Incentive to do more work on non-formal education.

Indicator 4.7.1

Update on developments since January 2018 TCG meeting

- UIS and UNESCO conducted country consultations
- Result: some critical feedback, some suggestions for modification of questionnaire

- UNESCO-UIS submitted request for reclassification from tier III to tier II at 8th IAEG-SDGs meeting, 5-8 November 2018
- Request was initially rejected
- Reasons for rejection:
  - UNESCO 1974 Recommendation not seen good tool
  - Concerns about definition of ESD, GCE: no global standard
  - Indicator is self-reported

Indicator 4.7.1

Update on developments since January 2018 TCG meeting (cont.)

- Day after rejection, UNESCO gave additional presentation
- Countries withdrew rejection
- UNESCO submitted new, improved request for reclassification on Monday, 12 November
- Reclassification request will be considered again at IAEG meeting in December 2018
- UIS plans to disseminate data in February 2019
- TCG will observe development of indicator, consider alternative tools

Section 4

Indicators requiring further development, with reference documents

Indicators requiring further development, with reference documents

Indicator 4.2.3: positive and stimulating home learning environment
- Review of recommendations for data collection

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities
- Review of recommendations for data collection

Indicator 4.5.2: students whose first or home language is language of instruction
- Consultation on recommended approaches to measurement

Indicator 4.2.3: positive and stimulating home environments - Review of measurement methods

1. Home Observation for Measurement of the Environment (HOME)

- Examines both quality and quantity of stimulation and support
- Limitations:
    - Long time (45-60 minutes) to administer
    - Requires well-trained and skilled interviewers
    - May require considerable adaptation for use in low- and middle-income countries
    - Includes observations which may be difficult to standardize
    - Does not include measures of family violence or maternal depression
    - Not suitable for large-scale population surveys

Indicator 4.2.3: positive and stimulating home environments - Review of measurements methods

2. MICS Family Care Indicators

- Developed by UNICEF since 2002
- Defines four domains of family care:
    1. Responsiveness and acceptance
    2. Support for learning
    3. Disciplinary methods
    4. Responsiveness during feeding
- Defines three domains of resources for care:
    1. Availability and use of alternate caregivers
    2. Father's involvement with child
    3. Maternal depression symptoms
- Strengths:
    - Validated in several studies: strongly associated with children's development
    - Easy to administer by trained personnel
- Weaknesses:
    - Indicators are self-reported by caregivers, may lead to recall or social-desirability biases
    - Method does not include observations of family environment

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Indicator 4.2.3: positive and stimulating home environments - Review of measurements methods

2. MICS Family Care Indicators (cont.)

Items
In the past 3 days, did you or any household member age 15 or over engage in any of the following activities with (name): If 'Yes', ask: Who engaged in this activity with (name)? Record all that apply. 'No one' cannot be recorded if any household member age 15 and above engaged in activity with child. [A] Read books or looked at picture books with (name)? [B] Told stories to (name)? [C] Sang songs to or with (name), including lullabies? [D] Took (name) outside the home? [E] Played with (name)? [F] Named, counted, or drew things for or with (name)?

4 or more activities must have "yes" to be considered as having early stimulation and responsive care

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Indicator 4.2.3: positive and stimulating home environments - Review of measurements methods

3. Regional Project on Child Development Indicators (PRIDI)

- Regional project launched in 2009 by Inter-American Development Bank
- Includes items on early stimulation and responsive care, availability of books and play materials, inadequate supervision and disciplinary practices from MICS Family Care Indicators
- Includes items about rule setting within home environment that are not included in Family Care Indicators: may require additional testing to establish validity and reliability across different settings
- Only implemented in four countries

Indicator 4.2.3: positive and stimulating home environments - Data availability

1. HOME
- Mainly for purpose of medical and epidemiological research
- Used extensively in low- and middle-income countries in Latin America, Asia and Africa, and in high-income countries (including United States, northern Europe, Australia)
- Results are usually not comparable across countries because of differences in research methods

2. Family Care Indicators
- Collected in 84 countries with MICS, 15 countries with DHS, mainly low- and middle-income (Eastern Europe and Central Asia, Middle East and North Africa, sub-Saharan Africa, East Asia and the Pacific, South Asia, Latin America and the Caribbean)
- Half of countries have data from more than one year

3. PRIDI
- Four countries in Latin America: Costa Rica, Nicaragua, Paraguay, Peru

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Indicator 4.2.3: positive and stimulating home environments - Recommendation

Recommendation in background paper
- Use **MICS Family Care Indicators** to assess positive and stimulating home environment.

Reasons:
- Easy to use
- Well understood by participants
- Take little time to administer
- Do not require highly trained personnel for data collection.
- Designed for and sensitive to context of low- and middle-income countries
- Suitable for large population-level surveys
- Have been used to collect data for more than 80 countries through MICS and other nationally representative household surveys
- Capture multiple domains of positive and stimulating environments
- Validated in several studies

Indicator 4.2.3: positive and stimulating home environments - Consultation

WG will organize consultation on indicator 4.2.3 in 2018.

Questions:
- Do TCG members support the MICS Family Care Indicators?
- Are there alternative surveys or other tools that exist in countries?

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Indicator

- Proportion of schools with access to adapted infrastructure and materials for students with disabilities

Calculation

- Number of schools having access to the relevant facility, as a percentage of all schools, by level of education (primary, lower secondary, upper secondary)

Goal of review commissioned by UIS

- Common set of definitions and data collection methodology applicable in countries at different stages of development.

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Review questions
1. What are the potential **data collection approaches** in both more and less developed countries in different regions of the world in relation to measurement of SDG indicator 4.a.1(d)?
2. What are potential **definitions** of "adapted infrastructure" and "adapted materials" for students with disabilities?
3. What **types of questions** can be used to elicit information from schools on the availability, quality, operational state, and range of adapted infrastructure and materials?

Methodology
- Review of school census forms
- Literature review
- Email or phone communication with officers from ministries of education

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Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Recommendations: Definitions

Modified definition of "adapted infrastructure": Any built environment related to education facilities that has been built or modified to enable accessibility by all users, including those with different types of disability. Accessibility enables students with disabilities/functioning limitations to participate at school in the most independent and equal way possible. It refers to pathways, entry, evacuation and/or use of a building and its services and facilities (including at a minimum, educational, recreational, and water, sanitation and hygiene facilities). Examples of adaptations include ramps, hand rails, widened doorways, modified toilets, clear signage, and tactile markers (for visually impaired).

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Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Recommendations: Definitions

Modified definition of "adapted materials": Learning materials and assistive products that enable students and teachers with disabilities/functioning limitations to access learning and to participate fully in the school environment. Accessible learning materials include textbooks, instructional materials, assessments and other materials that are available and provided in appropriate formats such as audio, braille, sign language and simplified formats, that can be used by students and teachers with disabilities/functioning limitations. Examples of assistive products include hearing loops, Braille machines, modified furniture, alternative or augmentative communication aids and screen-reading software.

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Recommendations: Survey questions

Adapted infrastructure requires three questions:

1. Are **functional toilets and handwashing facilities** accessible to female and male students with disabilities? (ramp access, hand rails, taps and soap (or ash) within reach, closeable door, water available in the toilet, unbroken seat, working drainage system) *Tick only one response*.
- ❑ Yes, all toilet facilities/blocks have at least one functional toilet and handwashing facility accessible for students with disabilities
- ❑ At least one functional toilet and handwashing facility is accessible for female and male students with disabilities
- ❑ No functional toilet and handwashing facility is accessible

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Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Adapted infrastructure (cont.)

2. Are **classrooms** accessible to female and male students with disabilities? (ramp or elevator access or a flat surface from outside to inside the classroom, i.e. no doorway lip; doorway wide enough for wheelchair; routes between classes and buildings are accessible) *Tick only one response*.

❑ All female and male students with disabilities can access all classrooms suitable to their age
❑ All female and male students with disabilities can access at least one classroom that is suitable to their age
❑ No, not all female and male students with disabilities can access a classroom that is suitable to their age.

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Adapted infrastructure (cont.)

3. Are **recreational areas** accessible to female and male students with disabilities? *Tick only one response*.
❏ All female and male students with disabilities can access all recreational areas suitable to their age
❏ All female and male students with disabilities can access at least one recreational area that is suitable to their age
❏ No, not all female and male students with disabilities can access a recreational area that is suitable to their age.

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Adapted materials: present in a matrix

Adapted materials and assistive technology	Yes / No / Not needed	High quality = 1 Average quality = 2 Low quality = 3
Does your school have a sufficient quantity of these materials for the students who need them?		
Braille learning materials		
Audio learning materials (child listens to CD, tape, etc.)		
Hearing loop (for people with hearing aids)		
Modified furniture		
Assistive devices for gripping (e.g. for pencils)		
Computer screen readers/ screen-reading software		
Large, easy-to-read signage		
Simplified-format learning materials		
Alternative or augmentative communication aids (low-tech such as communication boards and/or high-tech aids such as speech generating devices)		
Sign language interpreters	**Most of the time / Some of the time / Not available / Not needed**	**Quality: fluent / basic**
Are sign language interpreters available for the students who need them?		

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

Rationale for questions
- Allow tracking of progress against policies and commitments to inclusive education, including SDGs
- Support planning, including budget, human resources and infrastructure

Advantages of proposed questions
- Minimize time and effort for data collection by reducing the number of questions
- Capture a range of rights of people with disabilities (e.g. including access to recreation spaces, not only to classrooms)
- Use plain language and examples to increase clarity and reliability
- Flexible definitions and concepts to accommodate likely changes between now and 2030, particularly regarding access to adapted materials and assistive technologies

Indicator 4.a.1(d): adapted infrastructure and materials for students with disabilities

WG will organize consultation on indicator 4.a.1(d).

Questions:
- Review calculation method: which schools are counted in numerator?
- Review proposed definitions
- Review proposed school census questions

Indicator 4.5.2: students in primary education whose first or home language is the language of instruction

Consultation on recommended approaches to measurement: background paper proposes change of definition.

Current definition: percentage of students in primary education whose first or home language is the language of instruction

Proposed definition: percentage of students in primary education who have their first or home language as one of the languages of instruction

Reasons:
- Education systems may be multi-lingual
- Children may speak more than one language at home, including a language of instruction

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Indicator 4.5.2: students in primary education whose first or home language is the language of instruction

WG will organize consultation on indicator 4.5.2.

Questions:
- Review proposed definition, consider alternative wording
- Review recommendations in background paper

Section 5

Indicators requiring further development, without reference documents

Indicators requiring further development, without reference documents: 4.4.3

Indicator 4.4.3: youth/adult educational attainment rates

- Indicator must be simplified.
- WG recommends removing programme orientation.
- WG will organize consultation on indicator: keep economic activity status?

Indicators requiring further development, without reference documents: 4.5.3

Indicator 4.5.3: extent to which explicit formula-based policies reallocate education resources to disadvantaged populations

- GEM Report will conduct research that can be presented at next TCG meeting in 2020.
- Examine national policies, programmes like cash transfers.

Indicators requiring further development, without reference documents: 4.b.2

Indicator 4.b.2: number of higher education scholarships awarded by beneficiary country

- Argentina presented alternative indicator that counts students receiving free tertiary education
- WG will organize consultation to review options for indicator 4.b.2

Indicators requiring further development, without reference documents: 4.c.5

Indicator 4.c.5: average teacher salary relative to other professions requiring a comparable level of education

- UIS commissioned paper to review options for measurement: consultant withdrew because issue was too complex

- Problem: not enough data on teacher salaries
- Solution: UIS collects data on statutory teacher salaries with UIS survey, could be used as proxy for average salary

- Problem: not enough data on salaries for other occupations
- Solution: consider alternative reference points, e.g. GDP per capita or a certain percentile in national income distribution.

- UIS will carry out more research on options for indicator

Indicators requiring further development, without reference documents: 4.c.7

Indicator 4.c.7: percentage of teachers who received in-service training in the last 12 months by type of training

- **Problem:** there is no global standard for measurement of teacher training, data are thus not comparable.
- **Solution:** UIS proposes to develop typology/taxonomy of teacher training programmes that defines "trained" and "qualified" in an internationally comparable manner

- Possible **criteria for classification** include, among others:
  - Education pre-requisites
  - Duration
  - Programme content
  - Qualifications earned
  - Authorized teaching level

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Indicators requiring further development, without reference documents: 4.c.7

Indicator 4.c.7: outputs and timeline

Outputs
- Classification document developed by technical working group
- Operational manual with guidelines for national implementation
- Questionnaire based on criteria for classification, validated and tested by expert group with representatives from countries and international organizations

Timeline: 3-year-project
- Development of classification
- Piloting of teacher survey
- Finalizing the methodology
- National and regional training workshops
- Global data collection
- Dissemination of results, global report on teachers

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