



Technical Standards

**Assessment of Minimum Proficiency Level (AMPLab)
February 2023**

The Global Education Monitoring (GEM) Centre drives improvements in learning by supporting the monitoring of educational outcomes worldwide. The GEM Centre is a long-term partnership between the Australian Council for Educational Research (ACER) and the Australian Government's Department of Foreign Affairs and Trade (DFAT).

Acknowledgments

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The Australian Council for Educational Research (ACER) is the technical partner for this project. Support is provided from ACER's Global Education Monitoring Centre (GEM Centre), an ACER initiative in partnership with the Australian government's Department of Foreign Affairs and Trade.

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Background

As part of Sustainable Development Goal (SDG) 4, Indicator 4.1.1 aims to measure the “proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.” To meet this goal, UIS has coordinated efforts to establish common reading and mathematics scales for all three points of Indicator 4.1.1, building on existing cross-national and national assessments. As a result of these efforts, two important points of consensus have been reached: the definition of the Minimum Proficiency Level (MPL) and the Global Proficiency Framework (GPF).

The overarching objective of the AMPLab project is to measure and analyze the performance of students at the end of lower and upper primary using an assessment that aligns with the GPF. This will:

- enable the collection of more informative data about where students are performing in terms of the MPLs at the end of lower and upper primary in reading and mathematics,
- produce baseline measures to set targets and compare learning gains/losses over time
- facilitate reporting on SDG 4.1.1
- aid the tracking of learning progress over time
- complement tools that had been already developed in 2021 in the Monitoring the Impacts on Learning Outcomes (MILO) study.

Acronyms

ACER	Australian Council for Educational Research
AMPL / AMPLab	Assessment of Minimum Proficiency Level
DIF	Differential Item Functioning
DM	Data Manager
DMM	Data Management Manual
DTP	Defined Target Population
NC	National Centre
NPM	National Project Manager
NTP	National Target Population
SDGs	Sustainable Development Goals
STF	Student Tracking Form
PPS	Probability Proportional to Size
QM	Quality Monitor
SC	School Coordinator
STF	Student Tracking From
TA	Test Administrator
UIS	UNESCO Institute for Statistics

Purpose

The purpose of this document is to report to the UIS on the extent to which the technical standards for the AMPLab project were met. There are two types of standards in this document; each with a specific purpose:

- Data quality standards refer to aspects of study implementation that directly concern the quality of the data or the assurance of that quality.
- Project management standards are in place to ensure that all assessment operational objectives are met in a timely and coordinated manner.

The standards for data collection and submission were developed with three major and inter-related goals in mind: consistency, precision and generalisability of the data. Furthermore, the standards served to ensure a timely progression of the project in general.

This report presents the technical standards and the rationale for these standards. Following this a summary of the extent to which the standard was met is provided (fully, partially, not met or unknown). For standards that were the responsibility of the National Centres (NCs) and where there is insufficient evidence available, the 'unknown' category is selected. A brief explanation of how the standard was met is provided and any references used to evaluate the standard are listed.

Data Quality Standards

Target population and sampling

Rationale

The following population definition and sampling standards aim to achieve a level of precision in line with the best practices from established large scale assessment surveys¹.

Meeting the standards specified in this section will ensure that the assessed students come from the same target population. To be able to draw conclusions that are valid for the entire population, a representative sample shall be selected for participation in the assessment for students at the end of primary education. The representative sample should be large enough to achieve a desired precision of measurement. For this reason, minimum numbers of participating students and schools are specified.

Standard I.1

The UIS, ACER and the participating countries will work together to identify the populations to which inferences will be made. These populations are referred to as the Desired Target Populations.

The first target population is all students enrolled in the grade that corresponds to the end of the lower primary, where the language of instruction corresponds to the language of assessment.

The second target population for the study is all students enrolled in the grade that corresponds to the final grade of primary school, in schools where the language of instruction corresponds to the language of assessment.

By agreement, countries may use a grade other than the end of lower primary stage or the end of primary stage where that is the grade that a country references to report against SDG indicator 4.1.1(a) or 4.1.1(b) respectively.

All students enrolled in these grades in schools where the language of instruction corresponds to the language of assessment, belong to the National Target Population (NTP). In simple terms, the NTP is intended to provide full coverage of all eligible students in the education systems of participating countries. Any deviation from the full national coverage must be described and quantified in advance.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Each participating country identified the target grade proposed based on those that correspond to			

¹ Such as the Trends in International Mathematics and Science Study (TIMSS) and the Programme for International Student Assessment (PISA).

	<p>the end of lower primary stage and/or the end of primary stage. The target grades are in the table below.</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td rowspan="2">India (pilot only)</td> <td>3</td> </tr> <tr> <td>5</td> </tr> <tr> <td>Kenya</td> <td>6</td> </tr> <tr> <td>Lesotho</td> <td>7</td> </tr> <tr> <td>The Gambia</td> <td>3</td> </tr> <tr> <td rowspan="2">Zambia</td> <td>4</td> </tr> <tr> <td>7</td> </tr> </tbody> </table>	Country	Grade	India (pilot only)	3	5	Kenya	6	Lesotho	7	The Gambia	3	Zambia	4	7
Country	Grade														
India (pilot only)	3														
	5														
Kenya	6														
Lesotho	7														
The Gambia	3														
Zambia	4														
	7														
References deliverables	<p>2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document</p>														

Standard I.2

The Defined Target Population (DTP) covers 95% or more of the NTP. The UIS, ACER and the National Centres (NCs) will work together to identify schools and students that are impractical to assess. These exclusions are referred to as school-level exclusions and within-school exclusions. The total of the combined school-level exclusions and student level exclusions will be no greater than 5% of the NTP.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All countries have met the exclusion rate standard; no country had combined exclusions greater than 5% of the target population.			
References	4.10 Country specific survey weighting reports			

Standard I.3

Only students within the DTP participate in the assessment.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Based on the sampling instructions prepared by ACER and provided to the NCs, only students from the Defined Target Population were eligible to participate in the AMPL assessment.			
References deliverables	2.1 Study Design			

	4.2 Sample Preparation Guide 4.4 Population definition and sample design document
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Standard I.4

The school sample will be drawn using established and professionally recognised principles of scientific sampling.

The sampling design for the assessment is a two-stage stratified sample design. The first-stage sampling units consist of individual schools having students in the grade(s) corresponding to the end of the lower primary and/or the final year of primary school. Schools are sampled systematically from a school sampling frame, with probabilities that are proportional to a measure of size. The measure of size is a function of the estimated number of assessment-eligible students enrolled in the school for the corresponding grade. This is referred to as systematic Probability Proportional to Size (PPS) sampling. Sampling procedures are based on these principles.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Schools for the test administration were selected by ACER in the first stage of sampling following the completion of all sampling forms and the preparation of the sampling frame by the NC.			
References deliverables	2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document			

Standard I.5

The second-stage sampling units consist of selecting one intact class of students from the schools selected in the first-stage sampling. By agreement, a maximum number of students within an intact class can be designated and sub-sampled.

The ACER Maple data management and within-school sampling software must be used to scientifically draw a random class of students from lists in each sampled school.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	NCs conducted the second stage sampling using the ACER Maple software to select students in cases where the target populations exceeded the target			

	cluster size based on the list of students prepared by the School Coordinator.
References deliverables	2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document

Standard 1.6

ACER will work with the key stakeholders to set the sample size to achieve a level of precision in the sample estimates for each country equivalent to a 95% confidence interval of 5 percentage points for estimates of percentages, or 0.1 of the population standard deviation in student achievement for estimates of mean scores.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER consulted with each national centre to determine a sample size that was estimated to achieve the required level of precision.			
References deliverables	4.2 Sample Preparation Guide 4.4 Population definition and sample design document			

Standard 1.7

The school sample size needs to result in a minimum of 150 participating schools. For each sampled school, two substitute schools will be selected where possible, using a systematic method, to ensure a proper level of school response as indicated in Standard 1.9. Note that to achieve Standard 1.6, there may need to be more than 150 schools selected.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER drew a sample of over 150 schools with two substitute schools for each sampled school where possible. The final number of participating schools were as follows: <ul style="list-style-type: none"> • Kenya: 250 • Lesotho: 219 • The Gambia: 220 • Zambia: 250 			
References deliverables	2.1 Study Design 4.2 Sample Preparation Guide			

	4.4 Population definition and sample design document 4.9 Sample Outcomes reports
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Standard 1.8

Unless otherwise agreed, the student sample size is a minimum of 4,000 assessed students. The main consideration in determining the total number of students is meeting the precision levels established in Standard 1.6.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Using the ACER Maple software NCs drew a sample over 4,000 students in each of the participating countries, as seen below: <ul style="list-style-type: none"> • Kenya: 5,755 • Lesotho: 4,014 • The Gambia: 4,345 • Zambia [G4]: 4,953 • Zambia [G7]: 5,566 			
References deliverables	2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document 4.9 Sample Outcomes reports 4.11 Technical paper on weighting and sample outcomes approach			

Standard 1.9

The school response rate must be at least 85% of sampled schools. If the response rate from sampled schools does not reach this level, then substitute schools may be used to reach an acceptable response rate.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The unweighted response rates for schools were as follows: <ul style="list-style-type: none"> • Kenya: 100% • Lesotho: 100% • The Gambia: 100% • Zambia [G4]: 98% • Zambia [G7]: 97% 			
References deliverables	2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document 4.9 Sample outcomes reports			

	4.11 Technical paper on weighting and sample outcomes approach
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Standard I.10

The student response rate is at least 80% of all sampled students across responding schools. This response rate includes students from substitute schools.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The unweighted overall student response rate was as follows:</p> <ul style="list-style-type: none"> • Kenya: 96% • Lesotho: 99% • The Gambia: 97% • Zambia [G4]: 95% • Zambia [G7]: 96% 			
References deliverables	<p>2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document 4.9 Sample outcomes reports 4.11 Technical paper on weighting and sample outcomes approach</p>			

Standard I.11

Absent sampled students cannot be substituted with non-sampled students.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The quality of the implementation of the AMPL test administration was monitored to enable the identification of deviations from standard testing procedures. Quality Monitors were provided a manual, training and forms to maintain quality. No anomalies related to student sampling procedures were reported.</p>			
References deliverables	<p>4.2 Sample Preparation Guide 4.4 Population definition and sample design document 4.11 Technical paper on weighting and sample outcomes approach</p>			

Standard I.12

Sample weights will be calculated to reflect the contribution of each participating student to the survey estimates, taking into account the sample design and adjustments for non-response.

- Note 1.1 A student is regarded as a participant if they have responded to 10% or more of the assessment items
- Note 1.2 Data from schools where the student response rate is greater than 25% will be included in the dataset. However, in calculation of school response rates, only schools with more than 50% of participating students will be included.
- Note 1.3 School level exclusions are schools which may be excluded from the sampling frame because:
- of geographical inaccessibility
 - of extremely small size (<5 eligible students)
 - all students within the school would be within-school exclusions
 - of other agreed reasons
- Note 1.4 Student level exclusions are exclusions of particular students from the assessment because of one of the following:
- the student has a functional disability – that is, physical disabilities such that they cannot perform in the assessment situation.
 - the student has an intellectual disability – that is, students who, in the professional opinion of the school principal or other qualified staff, are emotionally or mentally unable to follow the general instructions of the assessment.
 - the student has insufficient language experience – that is, students who are unable to read or speak the language(s) of the assessment and would not be able to overcome the language barrier. Such students meet all of the following criteria:
 - * they are not native speakers of the assessment language
 - * they have limited proficiency in the assessment language
 - * they have less than one year of instruction in the assessment language

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Weights were calculated for all participating countries according to the principles outlined in the weighting, non-response and variance estimation technical paper.			
References	2.1 Study Design 4.2 Sample Preparation Guide 4.4 Population definition and sample design document 4.11 Technical paper on weighting and sample outcomes approach			

Language of testing

Rationale

Learning outcomes are most accurately reported for those students for which the test is administered in a familiar language. In instances where students have limited knowledge of the testing language, the test may underestimate their ability. It is therefore optimum that the test is administered in the language of instruction.

Standard 2.1

Test audio, test booklets and questionnaires will be administered in either English or French. The NC will determine which is the appropriate language of assessment for their respective education systems.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All test and questionnaire materials were administered in English. In addition, AMPLb was also administered in Hindi to select students in India.			
References	2.1 Study Design 10.3 Test Administrators Manual			

Standard 2.2

Audio files in English and French produced using voice actors in standard British English and standard metropolitan French respectively will be provided to NCs for the listening comprehension assessment. To ensure that accent is not a barrier to comprehension, NCs have the option to re-record this script using the local accent.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Audio was provided to all five participating countries in standard British English. All countries (except India) chose to re-record the audio in a national accent. The re-recorded audios were checked for quality by the ACER test development team. Minor adjustments were made.			
References	2.1 Study Design 10.3 Test Administrators Manual			

Test development

Rationale

Instruments should reflect the requirements outlined in the AMPLab Assessment Blueprint and Contextual Framework. The instrument should provide data that can be

analysed to address the research questions of the AMPLab assessment. The tests should provide fair and accurate measures of students' achievement on the domain which is defined by the blueprint and they should adhere to the test specifications. The questionnaires should address issues which are specified in the research questions of the AMPLab assessment to maximise reliability and validity of the measures and to minimise the burden on respondents.

Standard 3.1

An assessment blueprint and a contextual framework will be developed detailing the specifications for the test audio, test booklets and questionnaires. These documents will describe the content of the instruments, the way that they will cover the different constructs of the domain, types of items, the timing and the conditions under which the instrument is administered.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>ACER developed the assessment blueprint for participating NCs describing the domain and constructs assessed, the item types included, the sources of items and a description of how they were selected, and the final test booklet design.</p> <p>ACER also developed the conceptual framework to underpin the design of the AMPLab questionnaires and what data needs to be collected to achieve the project objectives.</p>			
References	<p>7.2 Assessment Blueprint 9.1 Framework for the contextual data collection</p>			

Standard 3.2

The test audio and booklets meet the domain definitions and test specifications. All aspects of the test are clear and accurate including the stimulus, items, and instructions. The items are appropriate for the purpose of the test, the population, and the test specifications.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The AMPLab assessment was initially developed in accordance with the Assessment Blueprint developed for the MILO project. This Blueprint was modified and built upon to form the AMPLab blueprint. The AMPLab assessment was developed in accordance with the AMPLab blueprint.</p>			

	In September 2023 the UIS requested clarity on how the AMPLa assessments meet the criteria for reporting against SDG4.1.1a and specifically on how decoding is measured in the absence of assessment of oral reading fluency. The decoding domain is represented explicitly in AMPL-a by the Precision construct and its two sub-constructs: ‘Identify symbol-sound/fingerspelling and/or symbol-morpheme correspondences’ and ‘Decode isolated words’. This is detailed in the document provided to the UIS on 11 September, titled – AMPLa and the assessment of decoding.
References	7.2 Assessment Blueprint 9.1 Framework for the contextual data collection • AMPLa and the assessment of decoding.

Standard 3.3

The procedures used to develop the test audio and booklets are clearly documented, including detailing the quality assurance processes that are used.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Items for the AMPLa assessment were selected from the UIS’s Global Item Bank or developed by ACER to meet the assessment blueprint after an extensive review process. The same process was adhered to for the AMPLb assessment, which was mostly developed for the MILO project. Expert reviewers used item review guidelines to review a set of material. Only items that attained a high overall rating and for which no significant concerns were identified, were included in the test booklets.			
References	7.1 Guidelines for the item review and a template for recording the results of item review			

Adaptation, translation and linguistic verification of material

Rationale

In order to ensure that measures derived from assessment instruments are comparable within the country it is necessary to use a set of standardised items. Efforts should be made to ensure that each adapted item, booklet and audio element are relevant to the

target population and equivalent to the source version. Specific terms within AMPLab contextual questionnaires need to be adapted in such a way to ensure their comparability. A lack of adaptations or inappropriate adaptations can jeopardise the comparability of data.

Similarly, it is essential that equivalent information is provided to all students participating in the assessment. Any instructions given to the students, as well as the procedures used throughout the test administration need to be equivalent. To achieve this goal, all individuals who play a key role in the data collection process, i.e., the Test Administrators (TAs) and School Coordinators (SCs), should receive and deliver a set of standardised instructions.

Standard 4.1

Both English and French versions of AMPLab student test audio, test booklets and contextual questionnaires are conceptually equivalent. Agreed upon AMPLab questionnaire adaptations to the language-specific context are made if needed.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The adaptation guidelines developed by ACER, specified that the National Centres were required to negotiate the national adaptations of the questionnaires with ACER by completing the QAS. NCs submitted the QAS to ACER for approval to ensure the national versions of the questionnaires were equivalent to the source versions.</p> <p>No adaptations were permitted to the English source versions of the test booklets or test audio.</p> <p>In the case of India, cultural adaptations to the AMPLab test booklets were negotiated using a translation, adaptation verification manual (TAVM) (similar to the QAS).</p>			
References	9.5 Adaptation Guidelines (QAS)			

Standard 4.2

The following documents are translated into the French language in order to be linguistically equivalent to the English source versions.

- test booklets
- test audio

- contextual questionnaires (student, school and system level questionnaires)
- The TA script from the TA manual.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Although no French speaking countries participated in AMPLab, the test and questionnaire materials were translated into French, following translation, adaptation and verification procedures.			
References	9.5 Adaptation Guidelines (QAS)			

Standard 4.3

The English source version of AMPLab audio, booklets and contextual questionnaires translated into French will be independently verified prior to implementation to ensure that generic and item-specific translation guidelines have been followed.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Verification of the French versions of instruments was undertaken by Capstan. Following best practice, English instruments were first translated by two independent translators, and then a third translators reconciled any differences.			
References	NA			

Standard 4.4

Localisation of the listening comprehension audio script must be equivalent to the English or French source version in the following aspects:

- Script content
- Tone, animation, clarity, and speed of delivery
- Length of time of the recording, including pauses for students to answer questions
- Sound quality

Further specification will be outlined in the Instrument Construction Guidelines.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Audio was provided to all five participating countries in standard British English. All counties			

	(except India) chose to re-record the audio in a national accent. The re-recorded audios were checked for quality by the ACER test development team. Recordings with the local accents were compared to the original version and script, to ensure that it met the elements of this standard. Minor adjustments were made to the Gambia recording, removing five words and adding in longer pauses.
References	Instrument Construction Guidelines

Standard 4.5

All localised listening comprehension audio will be verified by ACER prior to implementation to ensure its equivalence with the source version as described in Standard 4.4.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The re-recorded audios were checked for quality by the ACER test development team. Recordings with the local accents were compared to the original version and script to ensure that they met the elements of this standard.			
References	Instrument Construction Guidelines			

Duplication of materials (print and audio)

Rationale - Print

Variations in print quality may affect data quality. When the quality of paper and print is poor, the performance of students may be influenced not only by their levels of proficiency, but also by the degree to which test booklets and contextual questionnaires are legible. To rule out this potential source of error, and to increase the consistency and precision of the data collection, paper and print quality samples are required from the NC.

Standard 5.1

All student test booklets and the contextual questionnaires are printed using high quality paper and print quality. They will be printed on 80gsm (grams per square metre) paper.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER provided Instrument Construction and Printing guidelines to the NC. These guidelines included the minimum requirements for secure printing of the AMPL instruments, as well as the printing specifications that needed to be followed to ensure the quality of the print paper and printing organised by the participating countries. Country Liaison Officers communicated with NCs to ensure that these guidelines were adhered to and offered support where needed.			
References	Instrument Construction Guidelines Printing Guidelines			

Standard 5.2

The cover page of the test booklets and contextual questionnaires used in schools contains all information as specified by ACER and outlined in the NPM manual.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER provided the cover page requirements for the AMPL test booklets to the NCs. The booklets were provided to countries in PDF format. ACER Maple produced student information labels, based on the list of sampled students, that NCs adhered to the front of each booklet. The required information was entered into ACER Maple to capture the data.			
References	10.1 National Project Manager Manual 11A.1 Data Management Manual Instrument Construction Guidelines			

Standard 5.3

The format, pagination and layout of both English and French language versions of the test booklets are equivalent.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The pagination of the pdf versions of the English and French versions of the test booklets have been reviewed and are equivalent.			

References	7.4 Set of Items (English and French test booklets)
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Standard 5.4

The format, pagination and layout of both English and French language versions of the contextual questionnaires are equivalent.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The pagination of the pdf versions of the English and French versions of the test booklets have been reviewed and are equivalent.			
References	7.4 Set of Items (English and French test booklets)			

Rationale – Audio

Variations in audio quality may affect data quality. When the sound quality is poor, the performance of students may be influenced not only by their levels of proficiency, but also by the degree to which the listening comprehension script is audible. To rule out this potential source of error, and to increase the consistency and precision of the data collection, the NC is required to provide any localised version of the listening comprehension audio to ACER.

Standard 5.5

Audio files for the listening comprehension assessment should be in 192 bps MP3 format.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Audio files have been provided in both mp3 and Wav formats and are at 192 bps.			
References	7.4 Set of Items (audio recordings)			

Standard 5.6

Speakers used for playing audio during administration of the test should adhere to minimum specifications as outlined in the Instrument Construction Guidelines.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All participating countries agreed to adhere to speaker specifications. Two countries suggested			

	using the speakers of the mobile phones of Test Administrators, but this was strongly advised against by ACER. And working with the UIS, these countries acquired additional speakers.
References	Instrument Construction Guidelines

Standard 5.6

All files should be accessed either directly from the location provided by ACER or downloaded from that location and accessed on a device provided to the TA. To ensure no loss of sound quality, the audio file should not be transferred using any other method. Further specifications will be outlined in the Instrument Construction Guidelines.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Audio files were provided to NCs via the AMPLab Partner Collaboration MS Team.			
References	NA			

Test administration

Rationale

Certain variations in assessment procedures are likely to affect test performance, such as the session timing, the administration of test materials and instructions given prior to and during testing, and rules for excluding students from the assessment. A full list of relevant assessment conditions is given in the assessment operational manuals.

The TA plays a central role in the assessment procedures. Special consideration is therefore given to the training of the TAs, ensuring that as little variation in the data as possible is caused by random or systematic variation in the activities of TAs.

The AMPLab assessment covers a wide range of content areas. Given the time constraints, the test booklets include clusters of test items on a rotated basis, and test booklets are allocated to students in a statistically random fashion. Student Tracking Forms (STFs) will be used to ensure the correct allocation of AMPLab test booklets to students by TAs.

Standard 6.1

All AMPLab assessment sessions follow the procedures as specified in the TA manual, particularly the procedures that relate to:

- Test session timing (countries participating in the AMPL-A or the AMPL-A+B study designs are recommended to administer the study over two days).
- Student tracking:
 - a STF is prepared for each sampled school
 - test booklets are distributed to students according to the order specified in the STF
- Maintaining the AMPLab assessment conditions.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All countries were required to implement the administration procedures as described in the TA manual. All countries were requested to train TAs to comply with the test session timing, to prepare the Student Tracking Forms and allocate booklets accordingly, and to maintain standardised assessment conditions. This standard was the responsibility of the NCs to monitor.			
References	10.5 Test Administrator Training Package (TA Manual)			

Standard 6.2

TAs are trained in the field operations procedures outlined in the TA manual. TAs receive a copy of the TA manual prior to the AMPLab assessment session.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	NCs were provided with the TA manual and TA training package by ACER. All countries reported that they had delivered training to their TAs. The QM reports for Kenya and Zambia outlined that the training process had been implemented. The TAs received the TA manuals and other relevant material from the TA training package as recommended at the training session which was organised in advance of the assessment day.			
References	10.5 Test Administrator Training Package (TA Manual)			

Standard 6.3

TAs read out the standard TA script prior to the students sitting the AMPLab assessment session.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The TA Script was provided in the TA manual and was part of the TA Training Package. It was the responsibility of the NCs to monitor compliance with this standard.			
References	10.5 Test Administrator Training Package (TA Manual)			

Standard 6.4

TAs administering the listening comprehension assessment (AMPL-A and AMPL-A+B) play the listening comprehension audio to students in a space and using devices that ensure all students can hear the audio clearly.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Instructions about playing the audio component of AMPLa relating to the space and device were provided in a documented titled – ‘Listening comprehension audio requirements’. It was the responsibility of the NCs to monitor compliance with this standard.			
References	Listening comprehension audio requirements			

Standard 6.5

The relationship between TAs and participating students must not compromise the credibility of the AMPLab assessment session. The TA will be independent from the students and the school staff, which means he or she should **not** be:

- An instructor of any student in the AMPLab assessment session he or she will administer
- A member of staff in the school in which he or she will administer the AMPLab assessment
- A relative of any of the staff in the school in which they administer the AMPLab assessment
- A parent or close relative of any of the participating students in the AMPLab assessment.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER provided the requirements on TAs to be independent from the students, school staff and			

	parent or close relative of any student not to compromise its credibility. It was the responsibility of the NCs to monitor compliance with this standard.
References	10.5 Test Administrator Training Package (TA Manual)

Security of material

Rationale

The goal of the assessment is to improve the quality of education through measuring students' learning outcomes and understanding the contextual factors associated with learning outcomes. Prior familiarisation with the assessment materials, or training of students to the assessment, may affect the validity and comparability of the data, and changes in learning outcomes. Therefore, confidentiality of the assessment materials is essential.

Standard 7.1

The AMPLab assessment materials designated as secure are kept confidential at all times. Secure materials include all test materials, data and draft materials. In particular:

- Only approved project staff and participating students during the test session are able to access and view the test booklets.
- Only approved project staff and participating students during the test session are able to listen to the test audio.
- Only approved project staff have access to secure data and embargoed materials.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER provided confidentiality and security requirements to NCs as well as instructions on how to keep all assessment materials and data secure before, during, and after the assessment session in the TA manual. It was the responsibility of the NCs to monitor compliance with this standard.			
References	10.5 Test Administrator Training Package (TA Manual)			

Standard 7.2

Formal confidentiality arrangements are in place for all approved AMPLab project staff.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>For National Centre staff, Country Liaison Officers ensured that all confidentiality agreements were signed by relevant personnel. Confidentiality Agreements signed by members of the National Centre were saved in the National Team Channel of the AMPL Partner Collaboration MS Team, and recorded in the National Team spreadsheet.</p> <p>For Test Administrators, ACER communicated confidentiality requirements through the Test Administrators Manual and provided a confidentiality form as an appendix in that manual.</p> <p>For personnel external to the NC team, e.g. printers, ACER communicated security and confidentiality requirements via the NPM manual.</p> <p>It was the responsibility of the NCs to monitor compliance with this standard.</p>			
References	<p>10.1 National Project Manager Manual 10.5 Test Administrator Training Package (TA Manual) National Team spreadsheets</p>			

Quality monitoring

Rationale

To obtain valid results from the assessment, the data have to be collected in a consistent, reliable and valid fashion. Independent Quality Monitors (QMs - observers) are responsible for assessing the implementation of activities that align with this goal during the test administration.

Standard 8.1

The AMPLab test administration is monitored using school visits by trained independent QMs.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The AMPLab Field Operations Manual details the requirement for NCs to ensure that school visits are included in quality monitoring. This includes</p>			

	<p>advising how many school visits to allocate per QM, scheduling and logistics.</p> <p>All five participating countries confirmed that they appointed QMs.</p> <p>It was the responsibility of the NCs to monitor compliance with this standard.</p>
References	Field Operations Manual

Standard 8.2

At least 5% school visits are conducted in each participating country to observe AMPLab test administration sessions. A range of different types of schools will be included in the sample for monitoring.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The AMPLab Field Operations Manual directs NCs to ensure at least 5% of participating schools are visited by a QM. It also details how to calculate this proportion.</p> <p>It was the responsibility of the NCs to monitor compliance with this standard.</p>			
References	Field Operations Manual			

Standard 8.3

AMPLab Test administration sessions that are the subject of the national QM visit are randomly selected.

c	Fully	Partially	Not met	Unknown
Brief explanation	<p>The AMPLab Field Operations Manual directs NCs to randomly select schools for visits by a QM. It also details how to randomly select schools, including stratifying the sample, so that schools across regions are represented.</p> <p>It was the responsibility of the NCs to monitor compliance with this standard.</p>			
References	Field Operations Manual			

Standard 8.4

QMs will be familiar with the test implementation procedures of the AMPLab assessment, complete the quality monitoring checklist and observation form, and be familiar with the education system of that country. Also, QMs must not have a personal interest in the results of the school or be personally affiliated with the observed school.

c	Fully	Partially	Not met	Unknown
Brief explanation	The AMPLab Quality Monitoring Manual details this standard and provides guidance for QMs. It was the responsibility of the NCs to monitor compliance with this standard.			
References	Quality Monitoring Manual			

Data management

Rationale

To obtain valid results from the assessment, the data collected must be of a high quality, using consistent, reliable, and valid approaches. Consolidating and merging national databases is a time-consuming and difficult task. To ensure the timely and efficient progress of the project, ACER needs continuous access to national staff helping to rule out uncertainties and to resolve discrepancies. This standard aims to prevent substantial delays to the whole project which could result from a delay in processing the data from one or more NCs and to avoid the loss of the data.

Standard 9.1

Each NC should appoint a data manager (DM). DMs will be required to attend training on data management and use of ACER Maple data management software, provided by ACER prior to data collection. DMs will train NC data administration and data entry personnel on the use of ACER Maple in line with the procedures described in the Data Management Manual (DMM).

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All five countries appointed a DM. DMs attended the data management training that ACER provided on 28 and 30 of March 2023.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Standard 9.2

ACER Maple data management software must be used for class and student sampling, data entry and data verification as outlined in the DMM.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The NCs used ACER Maple software for data management, data entry and preliminary data verification prior to submitting data to ACER according to the procedures described in DMM.			
References	11A.1 Data Management Manual 11A.2 ACER Maple tool			

Standard 9.3

The data verification procedures, as specified in the DMM, will be executed by the NC staff in ACER Maple software before submitting the final database to ACER.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The NC staff executed the data verification procedures in ACER Maple software before submitting the final database to ACER as specified in the DMM.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Standard 9.4

A DM from the NC will be available upon submission of the database to ACER. The DM:

- is authorised to respond to ACER data queries
- is available for a four-week period immediately after the database is submitted unless otherwise agreed upon
- is able to respond to ACER queries in English within three working days
- is able to resolve data discrepancies.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The data managers from the NCs complied with the requirements described in this standard and ACER corresponded with the data managers following the data submission to resolve any queries.			

References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)
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Data submission

Rationale

The timely progression of the project depends on the quick and efficient submission of all collected data. Therefore, participating counties are asked to submit only one standard database to ACER.

Standard 10.1

Participants' tracking data, test booklets data and contextual questionnaire data collected by the NC must be entered into ACER Maple data management software provided by ACER, as specified in the DMM.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	As specified in the DMM, the NCs entered all data collected (e.g., participants tracking data, AMPL test booklets and contextual questionnaire data) into ACER Maple data management software provided by ACER.			
References	11A.1 Data Management Manual 11A.2 ACER Maple tool			

Standard 10.2

Each NC submits its data to ACER in a single database in the specific format produced by ACER Maple software, as specified in the DMM.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	Each NC submitted its data to ACER as a single database in the specific format produced by ACER Maple software according to the instructions in the DMM.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Standard 10.3

NC submits its data to ACER after the data for all instruments and all participants are entered into ACER Maple and all discrepancies are resolved, as described in the DMM.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The NCs submitted their data to ACER after they entered data for all instruments and all participants			

	into ACER Maple and all discrepancies were resolved.
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)

Standard I0.4

All data are submitted without recoding any of the original response variables.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The NCs submitted their data to ACER without recoding any of the original response variables.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Standard I0.5

The timeline for submission of national databases to ACER is within eight weeks of the last day of assessment, unless otherwise agreed between the NC and ACER.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The national databases for countries participating in the international study were submitted within eight weeks of the last day of assessment. The database for India was submitted without following protocols, and ACER is working with India to resubmit the databased in late 2023.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Psychometrics and data analysis

Rationale

The production of a high-quality database and the use of modern psychometric and statistical methods is essential to the integrity of the AMPLab Assessment. A high-quality database will ensure that researchers can analyse the data in a standard way, following methods established in high-quality large-scale education surveys. Following standardised procedures will help ensure that the AMPLab Assessment database is

consistent and comparable. Note that the standards in this section apply to the technical partner, ACER.

Standard I 1.1

Data will be cleaned. Anomalies regarding duplicate identification variables, out of expected range values, and invalid codes will be resolved and reported.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER cleaned the data and resolved anomalies regarding duplicate identification variables, out of expected range values, and invalid codes. The Item Analysis Report provides information about the treatment of missing values and invalid values.			
References	12.1 Item Analysis Report			

Standard I 1.2

Sample weights will be calculated and included in the final database.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER calculated sample weights and included them in the final database.			
References	11.b1 clean dataset			

Standard I 1.3

For assessment data, missing responses are scored incorrect, and all trailing missing are treated as not administered except for the first in the sequence, which is treated as incorrect for the item calibration stage.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER scored missing responses as incorrect, and all trailing missing were treated as not administered except for the first in the sequence, which was treated as incorrect for the item calibration stage.			
References	12.1 Item Analysis Report 14.1 International Report			

Standard 11.4

Assessment data will be scaled using models derived from Item Response Theory. The choice of model will be approved by the UIS.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER scaled assessment data using models derived from Item Response Theory (IRT). ACER provided information about the scaling models to the UIS in drafts of the AMPLab International Report which were approved by the UIS.			
References	12.1 Item Analysis Report 14.1 International Report			

Standard 11.5

Differential Item Functioning (DIF) by gender and by language will be calculated and reported. Treatment of items showing DIF will be reported.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The quality of the items was explored by assessing differential item functioning (DIF) by gender for each country and domain. The gender DIF estimates range between -0.12 and 0.2 for AMPLab Mathematics and between -0.18 and 0.18 for Reading. No instances of substantial gender DIF were encountered so no items were removed for this reason.</p> <p>All internationally comparable assessments were administered using unaltered versions of the English source instruments. As such, differential item functioning (DIF) analysis across languages was not needed.</p> <p>ACER reported the DIF analysis in the AMPLab International Report and Item Analysis Report.</p>			
References	12.1 Item Analysis Report 14.1 International Report			

Standard 11.6

Item statistics will be reported. These will include indications of missing, facility, item-rest correlations, estimates of ability across category and estimates of goodness of fit to model.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER reported item statistics, including indications of missing, facility, item-rest correlations, estimates of ability across category and estimates of goodness of fit to model. Information is available in the AMPLab International Report and Item Analysis Report.			
References	12.1 Item Analysis Report			

Standard 11.7

Learner ability and item difficulty estimates will be placed on separate scales, for each of reading and mathematics.

The learner ability estimates for students at the end of lower primary and the end of upper primary school will be placed on the same empirical scale. This applies for both the reading scales and the mathematics scale.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER placed learner ability and item difficulty estimates on a single scale covering the end of primary school for each of reading and mathematics. This information can be found in the AMPLab Item Analysis Report.			
References	12.2 Item Analysis Report			

Standard 11.8

A Plausible Values method will be used to generate unbiased population estimates of learner ability. Plausible Values will be included in the final database.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER used a Plausible Values method to generate unbiased population estimates of learner ability. ACER included Plausible Values in the final			

	AMPLab database. A description is included in the AMPLab International Report.
References	14.1 International Report 11.b1 clean dataset

Standard 11.9

Conditioning of the psychometric population model will be used to improve sub-population estimates. Conditioning on gender and participating country, at least, will be implemented.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER used conditioning of the psychometric population model to improve sub-population estimates. ACER implemented conditioning on gender and participating country.			
References	14.1 International Report			

Standard 11.10

Sampling variance will be calculated using an appropriate method, such as sample replication or linearization. The choice of method will be documented. If replication is used, replicate weights will be included in the final database.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The sampling variances of population statistics were estimated using the jackknife repeated replication technique (JRR). This chosen method was documented in the AMPLab International Report. ACER included replicate weights in the AMPLab database.			
References	14.1 International Report 11.b1 clean dataset			

Standard 11.11

All analysis of assessment data will include adopting Plausible Value methods, using sample weights, and using appropriate methods for determining sampling variance. Standard Errors for all statistics will be provided to the UIS.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER adopted Plausible Value methods to analyse the assessment data, using sample weights, and			

	using appropriate methods for determining sampling variance. These methods are provided in the AMPLab International Report. Standard Errors for the AMPLab cognitive data are included in the AMPLab International Report.
References	14.1 International Report

Project Management Standards

Communication

Rationale

To ensure the timely progression of the project, delays in communication among all parties involved should be minimised.

Standard 12.1

Qualified staff from all parties involved in the processes of the data management and data submission are available to communicate and respond to queries during all stages of the project based on the work plan activities.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	ACER communicated with the NPMs and Data Managers from the National Centres. Country Liaison Officers were appointed for each country, who relayed information between specialist staff, such as ACER data management experts, and NCs. Additionally, ACER data management experts were available to respond to queries, including through a specific help desk email that was used to respond to NC queries. The NPM manual outlined that communication should be through the NPM or an authorised delegate of the NPM and the DMM outlined the responsibilities of the Data Manager.			
References	11A.1 Data Management Manual 11A.3 Webinars provided to participating countries on using ACER Maple (Slide decks)			

Schedule for submission of materials

Rationale

In order to progress according to project timelines, efforts should be made to ensure that all parties involved can submit project materials within the allocated timeframes.

Standard 13.1

All parties involved will keep to pre-determined schedules for all activities, including:

- population definition and stratification variables
- assessment window definition
- sampling
- contextual questionnaire item review
- translation review
- contextual questionnaire adaptation
- data submission
- reporting.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	For some countries there were delays to the sampling and adaptations. The Gambia did not join the project until early 2023, which delayed when they submitted their sample and commenced test administration. India was delayed in providing translation and adaptation verification, partially due to translation into Hindi being required, which was not in the original contract. The schedule was updated to accommodate all delays, preventing timelines being overtly stretched.			
References	10.1 National Project Manager Manual 11A.1 Data Management Manual			

Archiving of materials

Rationale

The NC will maintain an archive of electronic and paper forms of all assessment material for the AMPLab Assessment. This will provide an overview of all materials. This will also ensure that instruments will be available to all parties involved to assist with data cleaning and processing.

Standard I4.1

The NC will maintain a permanent electronic archive of all assessment materials, including:

- all test booklets, including audio files and script for the listening comprehension assessment
- all contextual questionnaires
- sampling forms and sampling frame
- school sample results and selection numbers
- tracking forms
- QM assessment forms.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The Field Operations manual details this standard referring to keeping a permanent electronic archive of all assessment materials.</p> <p>A reminder about archiving requirements for National Project Mangers was posted on the AMPL Partner Collaboration MS team on 19 September.</p> <p>The extent to which this standard was met is unknown and it was the responsibility of the NCs to monitor compliance with this standard.</p>			
References	10.1 National Project Manager Manual Field Operations Manual			

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Standard I4.2

The NC will archive and retain all assessment materials a minimum of one year. Materials to be archived include:

- all completed test booklets and contextual questionnaires in paper format
- student lists

- student tracking instruments
- all submitted data.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The Field Operations manual details this standard referring to keeping a permanent electronic archive of all assessment materials. ACER also directs NCs to store assessment material in a secure place, as part of the process of monitoring the return of assessment materials, in the NPM Manual, in both the checklist of tasks and the National Centre Work Plan template that is provided in Appendix 5.</p> <p>A reminder about archiving requirements for National Project Mangers was posted on the AMPL Partner Collaboration MS team on 19 September.</p> <p>It is the responsibility of the NCs to monitor compliance with this standard.</p>			
References	10.1 National Project Manager Manual Field Operations Manual			

Standard 14.3

Archived materials will be stored in one location only and will be under the guardianship of the NC.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The Field Operations manual details this standard referring to storing archived materials in one place.</p> <p>A reminder about archiving requirements for National Project Mangers was posted on the AMPL Partner Collaboration MS team on 19 September.</p> <p>The extent to which this standard was met is unknown and it was the responsibility of the NCs to monitor compliance with this standard.</p>			
Reference	Field Operations Manual			

Standard 14.4

Upon request by the appropriate authority, materials will be deleted from all electronic sources and physical materials shredded in line with the requirements of national laws.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	<p>The Field Operations manual details this standard referring to keeping an archive of all assessment materials.</p> <p>A reminder about archiving requirements for National Project Mangers was posted on the AMPL Partner Collaboration MS team on 19 September.</p> <p>The extent to which this standard was met is unknown and it was the responsibility of the NCs to monitor compliance with this standard.</p>			
References	10.1 National Project Manager Manual			

Reporting and dissemination

Rationale

The success of the study is dependent upon the reporting and sharing of results with all relevant national stakeholders. This reporting includes the conclusions derived from national data collection. It is important to ensure that the circulation of information occurs within time periods that are appropriate to both key stakeholders and the project as a whole.

Standard 15.1

The NC develops appropriate mechanisms in order to promote participation and effective implementation.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	All countries successfully implemented the AMPLab project.			
References	N/A			

Standard 15.2

Adherence to the Technical Standards will be monitored and reported by the NC to the UIS.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	This activity will occur between the NC and the UIS should the UIS choose to undertake this activity.			
References	N/A			

Standard 15.3

The reporting will indicate the relative levels of achievement of students in each of the two subjects.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The AMPLab International Report and India Country report provided information on the proportion of students that met the MPLs in Reading and Mathematics in 2023.			
References	14.1 Final report (International Report, India Country Report)			

Standard 15.4

The reporting will include the findings regarding the relationship between background variables and learning outcomes.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The Final International Report and India Country Reports include findings on the relationship between the contextual data and learning outcomes.			
References	14.1 Final report (International Report, India Country Report)			

Standard 15.5

The reporting will include contextual findings in their own right relevant to the study research questions in relation to the students, schools and systems.

Extent to which standard met	Fully	Partially	Not met	Unknown
Brief explanation	The Final International Report and India Country Reports include information on the contextual variables from the school and student questionnaire. Information was included on: student characteristics, home environment, school environment, teaching and learning and assessment and monitoring.			
References	14.1 Final report (International Report, India Country Report)			