

*Annex D***Overview tables of contextual data collection instruments****Table D.1 Type of contextual data collection instruments used in the surveys and their mode of delivery**

Survey	Target population	Contextual data collection instrument	Mode of delivery	Setting for cognitive assessment	
<b>Large-scale international surveys</b>	<b>PISA</b>	15-year-old students (min. Grade 7)	Questionnaires for students, principals; optional for parents and teachers (from 2015)	Paper-and-pencil (up to 2012), computer-based from 2015 (paper-based option available)	Group setting
	<b>PIRLS PrePIRLS</b>	PIRLS: students in Grade 4 PrePIRLS: Grades 4 or 5 or 6	Questionnaires for students, parents, teachers, principals, national curriculum	Paper-and pencil; online option for teacher and principal questionnaire	Group setting
	<b>TIMSS/ TIMSS- Numeracy</b>	TIMSS: students in Grade 4 and 8; Grade 11 for advanced module TIMSS Numeracy: Grades 4 or 5 or 6	Questionnaires for students, parents (2011), teachers, principals, national curriculum	Paper-and-pencil; online option for teacher and principal questionnaire	Group setting
	<b>SACMEQ</b>	Students in Grade 6, teachers in Grade 6 classes	Questionnaires for students, teachers, principals	Paper-and-pencil	Group setting
	<b>PASEC</b>	Students in Grades 2, and 5/6	Questionnaires for students, teachers, principals	Paper-and-pencil	Group setting
	<b>LLECE</b>	Students in Grades 3 and 6	Questionnaires for students, teachers, principals, parents	Paper-and-pencil	Group setting
	<b>WEI-SPS</b>	Grade 4 language and mathematics teachers	Questionnaires for teachers, principals, national curriculum	Paper-and-pencil	–

Survey	Target population	Contextual data collection instrument	Mode of delivery	Setting for cognitive assessment	
<b>School-based surveys</b>	<b>EGRA/EGMA</b>	Students in Grades 1-3	Optional interview with student, teacher, principal, and classroom observation	Paper-and-pencil	One-on-one setting
<b>Household-based surveys</b>	<b>PIAAC</b>	Adults (aged 16-65)	Interview with the participant (individual in the household)	Computer-assisted interview	One-on-one setting
	<b>STEP</b>	Adults (aged 15-64)	Interview with the participant (individual in the household; employer)	Paper-and-pencil; optional computer-assisted for household interview	One-on-one setting
	<b>LAMP</b>	Adults (aged 15+)	Interview with the participant (individual in the household)	Paper-and-pencil	One-on-one setting
	<b>ASER</b>	Children and teenagers in rural areas in India, ages 3-16 for background information, ages 5-16 for assessment	Interview and observation, household survey sheet (interview with head of household), school survey sheet (interview with head master), village observation sheet	Paper-and-pencil	One-on-one setting
	<b>UWEZO</b>	Children and teenagers (aged 6-16)	Interview and observation, household survey sheet (interview with head of household), school survey sheet (interview with head of teachers), village survey sheet (interview with local council chairperson/ village chief)	Paper-and-pencil	One-on-one setting

Note: Reading the “household-based surveys” “contextual data collection instrument” for LAMP, the first part (Introduction) contains screening questions for the head of household. The second part contains questions for the individual selected to respond to the rest of the LAMP questionnaire (primary sampling units are households, therefore interviewers must make contact with the household first, to determine who is residing there and then select an individual to participate in LAMP (UIS, 2006).

**Table D.2 Developing contextual data collection instruments: Bodies involved and main steps**

Survey	Bodies involved in contextual instrument development	Main steps in contextual instrument development	
Large-scale international surveys	<b>PISA</b>	<ul style="list-style-type: none"> <li>OECD</li> <li>PISA Governing Board (PGB)</li> <li>Consortium responsible for questionnaire development</li> <li>Questionnaire expert group</li> <li>National project managers (NPMs)</li> <li>National experts</li> </ul>	<ul style="list-style-type: none"> <li>PGB defines policy priorities</li> <li>Questionnaire consortium and questionnaire expert group develop context framework (based on prior versions)</li> <li>Framework is reviewed through PGB, NPMs and national experts</li> <li>Questionnaire expert group and questionnaire consortium develop new items</li> <li>Review of questionnaires through PGB, NPMs and national experts</li> <li>Field trial, scaling, item statistics and decision about inclusion in main study</li> </ul>
	<b>PIRLS and TIMSS</b>	<ul style="list-style-type: none"> <li>TIMSS and PIRLS International Study Center at Boston College</li> <li>National research co-ordinators (NRCs)</li> <li>Questionnaire Development Group for PIRLS Questionnaire Item Review Committee for TIMSS</li> <li>IEA Data Processing and Research Center</li> </ul>	<ul style="list-style-type: none"> <li>International Study Center develops draft framework with NRCs as main reference source</li> <li>NRCs review each questionnaire</li> <li>International Study Center updates drafts accordingly</li> <li>Questionnaire Development Group/Item Review Committee reviews the updated drafts of the field test questionnaires</li> <li>Data Processing and Research Center ensures that the questionnaire committee's recommendations are amenable to data collection and processing</li> <li>International Study Center implements the committee's recommendations; NRCs review draft questionnaires again, update through International Study Center</li> <li>Field trial, data analyses and finalisation for implementation in main study (Mullis et al., 2012: 15-16)</li> </ul>
	<b>SACMEQ</b>	<p>Committee of experts consisting of:</p> <ul style="list-style-type: none"> <li>SACMEQ Co-ordinating Centre</li> <li>SACMEQ country ministries of education (provide policy questions)</li> <li>Members from all SACMEQ countries</li> <li>UNESCO-IIEP staff</li> <li>SACMEQ scientific committee</li> <li>Private consultants</li> </ul>	<p>SACMEQ III questionnaires were developed following:</p> <ul style="list-style-type: none"> <li>field experiences gained from the SACMEQ II study</li> <li>recommendations arising from analyses of SACMEQ II data</li> <li>policy questions raised by SACMEQ country ministries of education</li> <li>These questionnaires were refined by the SACMEQ scientific committee, then piloted in each SACMEQ country and refined further before they were administered (Hungu, 2011a)</li> </ul>
	<b>PASEC</b>	<ul style="list-style-type: none"> <li>PASEC</li> <li>The Permanent Secretariat of CONFEMEN</li> <li>National centres</li> <li>Scientific committee</li> </ul>	<ul style="list-style-type: none"> <li>The Permanent Secrétariat of CONFEMEN is responsible for monitoring the programme. The national centre conducts the field operations and participates in the analysis and writing parts of the report. The scientific committee is responsible for reviewing and validating the final report (CONFEMEN, 2012: 108).</li> <li>The national centre adapts the instruments, which are then validated through the Permanent Secretariat of CONFEMEN (CONFEMEN, 2012: 108).</li> <li>During the latest programme cycles the coherence of certain contextual constructs has been verified, for example household facilities, nutrition, instructional material, and classroom and school facilities (CONFEMEN, 2012: 110).</li> </ul>

Survey	Bodies involved in contextual instrument development	Main steps in contextual instrument development
Large-scale international surveys (cont.)	<b>LLECE</b> <ul style="list-style-type: none"> <li>National Coordinators Council</li> <li>UNESCO's Regional Bureau of Education for Latin America and the Caribbean (OREALC)</li> <li>International experts</li> <li>Country co-ordinators</li> </ul>	<ul style="list-style-type: none"> <li>National Coordinators Council and UNESCO-OREALC are responsible for defining and deciding all aspects of the study including instrument/questionnaire design, administration and analysis</li> <li>Questionnaire design followed a process of discussion and agreements between the international experts and country co-ordinators at bi-annual/annual meetings</li> <li>A list of proposed items was sent to country co-ordinators, who indicated the relevance of each item for their country's context</li> <li>Country feedback was incorporated into the development of pilot questionnaires</li> <li>Field trial, data analysis, as well as feedback from participants and test administrators to select and refine the final context questionnaires for the main survey</li> </ul>
	<b>WEI-SPS</b> <ul style="list-style-type: none"> <li>OECD</li> <li>UIS</li> <li>Project steering committee</li> <li>Stakeholders</li> <li>International experts</li> <li>Countries</li> <li>National project managers (NPMs)</li> </ul>	<ul style="list-style-type: none"> <li>OECD led the framework and questionnaire development, with support from UIS, international experts, and countries</li> <li>OECD incorporated experience from other large-scale surveys/questionnaires</li> <li>NPMs rated indicators on a draft list of indicators by priority and relevance to their national contexts</li> <li>Several meetings with stakeholders and with the project steering committee until the questionnaire frameworks, and draft questionnaires were finalised</li> <li>Country review of draft questionnaires</li> <li>Pre-pilot in Brazil and update of questionnaires; pilot in 11 countries; finalisation</li> </ul>
School-based surveys	<b>EGRA/EGMA</b> <ul style="list-style-type: none"> <li>Research Triangle Institute (RTI)</li> <li>Network of experts</li> </ul>	<ul style="list-style-type: none"> <li>During the development of the SSME contextual instruments (from Crouch, 2008), practical checklists and tools were reviewed</li> <li>Compilation of a large item data bank</li> <li>Written input from a network of experts</li> <li>In 2007 two pilots were conducted and results were evaluated</li> <li>Second expert panel in 2008 refined the instrument</li> <li>Implementation</li> </ul>
Household-based surveys	<b>PIAAC</b> <ul style="list-style-type: none"> <li>OECD</li> <li>Consortium led by ETS</li> <li>PIAAC Board of Participating Countries (BPC)</li> <li>Background questionnaire expert group</li> <li>Subject matter expert groups</li> </ul>	<ul style="list-style-type: none"> <li>OECD and ETS consortium led the framework and questionnaire development</li> <li>Questionnaire development guided by the background questionnaire expert group, with input from the other subject matter expert groups, particularly in relation to questions regarding the use of and engagement with literacy, numeracy and ICT</li> <li>The PIAAC BPC is closely involved in the development process, reviewing the contents of the proposed background questionnaire twice before its finalisation (Kirsch and Thorn, 2013: 11)</li> <li>Field trial, item selection, and finalisation for main study</li> </ul>

Survey	Bodies involved in contextual instrument development	Main steps in contextual instrument development	
Household-based surveys (cont.)	<b>STEP</b>	<ul style="list-style-type: none"> <li>World Bank STEP team</li> <li>Expert group for skills module</li> <li>Specialists within and outside the World Bank</li> </ul>	<ul style="list-style-type: none"> <li>Surveys developed by the World Bank STEP team and a group of experts that provided drafts for each skills module of the household survey and of the employer survey</li> <li>Drafts of each survey extensively reviewed and revised by a wider group of specialists within and outside the World Bank</li> <li>Pilot (qualitative tests), field trial of full survey, analysis and finalisation of surveys</li> </ul>
	<b>LAMP</b>	<ul style="list-style-type: none"> <li>UIS</li> <li>Participating countries</li> </ul>	<ul style="list-style-type: none"> <li>Background questionnaire is developed by the UIS</li> <li>Field trial, item selection, and finalisation for main study</li> </ul>
	<b>ASER</b>	<ul style="list-style-type: none"> <li>ASER Centre</li> </ul>	<ul style="list-style-type: none"> <li>The ASER Centre in New Delhi is responsible for instrument development</li> <li>No explicit information about the interview and observation sheets development process available</li> </ul>
	<b>UWEZO</b>	<ul style="list-style-type: none"> <li>Twaweza</li> <li>Uwezo regional office</li> <li>National offices</li> <li>Uwezo's Advisory Board – representatives from participant countries, members of research institutions, NGOs, intergovernmental organisations, international experts on global development and social change, donor representatives, director of ASER survey in India.</li> </ul>	<ul style="list-style-type: none"> <li>Twaweza manages the Uwezo initiative</li> <li>Uwezo's methodology is based on ASER but adapted for use in the East African context</li> <li>Tool development is undertaken by the Uwezo regional office</li> <li>National offices review the tools to ensure the relevance of all items</li> <li>Field trial activities are reported for all three participating countries</li> </ul>

Note: The content of this table is based on the information available through the review and does not make a claim to be complete. The main aim was to provide an overview of the main bodies and steps during the development process identified in the review of international surveys.

**Table D.3 Languages of contextual data collection instruments, and translation, adaptation and verification**

Survey	Languages	Translation, adaptation and verification process
Large-scale inter-national surveys	<b>PISA</b> <ul style="list-style-type: none"> <li>English (source)</li> <li>French (source)</li> <li>46 languages (for 98 national versions in 2012), including right-to-left scripts (Arabic) and top-to bottom scripts (Chinese traditional and simplified script) (OECD, 2014a: 94)</li> </ul>	<ul style="list-style-type: none"> <li>Two independent translations (preferably from both source versions) and reconciliation through an independent translator in a third step.</li> <li>Extensive linguistic quality control (verification) of translation and adaptations.</li> <li>National options are welcome, but should be administered after the international PISA questionnaire.</li> </ul>
	<b>PIRLS and TIMSS</b> <ul style="list-style-type: none"> <li>English (source)</li> <li>58 languages – for 215 sets of achievement tests and 170 sets of background questionnaires at Grade 4 and 8 (Yu and Ebbs, 2012: 2)</li> <li>The most common languages for the TIMSS assessment were English (19 countries) and Arabic (13 countries), with 21 countries administering all or parts of the assessment in two or more languages</li> </ul> <p>The most commonly used languages for PIRLS were also English (16 countries) and Arabic (7 countries). In PIRLS, 17 countries administered the test and/or questionnaires in more than one language (Yu and Ebbs, 2012: 2)</p> <ul style="list-style-type: none"> <li>South Africa (PrePIRLS Grade 4) was the country with the most languages (11 official languages at Grade 4; teacher and school questionnaire were administered in English and Afrikaans only), followed by Spain (5 languages for PIRLS and TIMSS) (Howie et al., 2012: 10)</li> </ul>	<ul style="list-style-type: none"> <li>Translation from English source version considering thorough translation guidelines.</li> <li>As with other aspects of TIMSS and PIRLS in 2011, the alignment of data collection for the two projects required a co-ordinated approach to the background questionnaires preparation. Countries participating in both studies with the same students conducted a single translation of the Grade 4 questionnaires (Yu and Ebbs, 2012: 2).</li> <li>International translation verification at the IEA Secretariat in co-ordination with an external translation verification company, cApStAn Linguistic Quality Control.</li> <li>National questions: Countries are permitted to add a limited number of questions of national interest to the questionnaires. NRCs are advised to place any national questions at the end of the corresponding module or questionnaire, in the same format as the rest of the questionnaire, to avoid influencing responses to the international questions. All national questions must be documented and approved for inclusion by the TIMSS and PIRLS International Study Center (Yu and Ebbs, 2012: 8).</li> </ul>
	<b>SACMEQ</b> <ul style="list-style-type: none"> <li>English (source)</li> <li>Kiswaili (Tanzania)</li> <li>Portuguese (Mozambique)</li> </ul>	<ul style="list-style-type: none"> <li>SACMEQ recommends two independent translations by expert translators familiar with age-appropriate linguistic demands. In cases of disagreement, consensus should be achieved either by direct negotiation between the two translators or by a third expert making the final choice (SACMEQ, 2007: 29).</li> <li>For test items, back translations were compared with the original (English) versions of the tests in order to check for omissions, additions, unwanted changes in meaning, or other problems (Ross et al., 2004: 11). No information was found if this is also used for context questionnaires.</li> </ul>

Survey	Languages	Translation, adaptation and verification process
Large-scale inter-national surveys (cont.)	PASEC <ul style="list-style-type: none"> <li>Varies from country to country with French as the link language.</li> <li>Madagascar 2005: French, Malagasy</li> <li>Mauritania, 2004: French, Arabic</li> <li>Cameroon, 2005: French, English,</li> <li>Mauritius, 2006: French, English</li> </ul>	<ul style="list-style-type: none"> <li>The translation process is overseen by the PASEC technical team.</li> <li>There are some issues that require adaptation, including: the languages spoken by the teacher and the class, the status, teachers' and directors' academic qualifications and training, types of premium teachers, the type of partnership established by the school, students' household conditions, students' household assets, food consumed and language spoken at home by the student.</li> <li>Measuring nutrition and the variety of meals for children is one of the main difficulties: several variables are used, which vary between countries and even between regions within the same country. There is an interest in the variance between students on the basis of consumption of regular food in the country.</li> </ul>
	LLECE <ul style="list-style-type: none"> <li>Spanish (source)</li> <li>Portuguese</li> </ul>	<ul style="list-style-type: none"> <li>3-step-translation: 1) Spanish source version translated into Portuguese; 2) Portuguese version back-translated into Spanish; 3) source Spanish version and back-translated version compared and validated before the test.</li> <li>Any adaptation in regard to the source version (structural – to the questionnaire format, or linguistic) was documented in a specific form and verified.</li> </ul>
	WEI-SPS <ul style="list-style-type: none"> <li>English (source) translated into 8 languages:</li> <li>Arabic, Assamese, Hindi, Tamil, Bahasa Malaysia, Portuguese, Sinhala, Spanish (standard version with adaptations for different Spanish-speaking countries)</li> <li>English adapted for the Philippines</li> </ul>	<ul style="list-style-type: none"> <li>Same procedures applied as PISA.</li> <li>To ensure international comparability, translation of all instruments verified for each language (UIS, 2009a: 9).</li> </ul>
School-based surveys	EGRA/EGMA <ul style="list-style-type: none"> <li>English (source)</li> <li>Implementing countries translate as required</li> </ul>	<ul style="list-style-type: none"> <li>Core SSME instruments developed in English.</li> <li>RTI highlights specific text in the SSME that requires adaptation.</li> <li>Translation and adaptation is the responsibility of implementing countries. RTI does not oversee or attempt to control the quality of the translation/adaptation/verification of these instruments for use in specific country implementations and local versions. So there is no standard process.</li> <li>Inspection of a few specific country implementation reports showed that there is little information about the specific translation/adaptation/verification processes adopted. For instance, from an EGRA/EGMA/SSME implementation in Morocco: "The EGRA, EGMA, and SSME tools are always carefully tailored to the appropriate country or region, rather than existing tools simply being translated into the language selected for the implementation" (Messaoud-Galusi et al., 2012: 27).</li> </ul>

Survey	Languages	Translation, adaptation and verification process
Household-based surveys	<b>PIAAC</b> <ul style="list-style-type: none"> <li>English (source)</li> <li>The language of assessment was the official language or languages of each participating country. In some countries, the assessment was also conducted in widely spoken minority or regional languages (OECD, 2013a: 26)</li> <li>Translated into about 30 languages</li> </ul>	<ul style="list-style-type: none"> <li>Double translation by two independent translators, followed by reconciliation.</li> <li>Strongly guided translation, adaptation and verification process (similar to PISA).</li> </ul>
	<b>STEP</b> <ul style="list-style-type: none"> <li>English (source)</li> <li>Translated into 8 languages:               <ul style="list-style-type: none"> <li>Wave 1:                   <ul style="list-style-type: none"> <li>Spanish (Bolivia, Colombia), Lao (Lao PDR), Tamil and Sinhala (Sri Lanka), Vietnamese (Vietnam), Mandarin (Yunnan Province of China)</li> </ul> </li> <li>Wave 2:                   <ul style="list-style-type: none"> <li>Armenian (Armenia), English with adaptations (Ghana), Georgian (Georgia)</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Separate translation by two independent translators, reconciliation through a third translator.</li> <li>Any discrepancies documented.</li> <li>The STEP team and ETS checked the translations and worked closely with the survey firms to finalise the instruments. In English-speaking countries, the instruments were adapted to reflect local idioms (Pierre et al., 2014: 58).</li> </ul>
	<b>LAMP</b> <ul style="list-style-type: none"> <li>English, French and Spanish (source)</li> <li>Translated into nine languages belonging to five different language families:               <ul style="list-style-type: none"> <li>Indo-European (French and Spanish)</li> <li>Altaic (Mongolian)</li> <li>Afro-Asiatic (Arabic, Hausa and Tamasheq)</li> <li>Niger-Congo (Fulfulde)</li> <li>Nilo-Saharan (Kanuri and Zarma)</li> </ul> </li> <li>(UIS, 2009b: 22).</li> </ul>	<ul style="list-style-type: none"> <li>Translation and adaptation to the particular characteristics of each country and its language usage are important and based on specific guidelines, but no details about the process were available.</li> <li>Adaptations are verified.</li> <li>The adaptation of the background questionnaire is of utmost importance as it will provide key elements for analysis and, therefore, for accomplishing the goals set at the national level (UIS, 2009b: 37).</li> <li>National options are important but should not exceed 5 minutes.</li> </ul>
	<b>ASER</b> <ul style="list-style-type: none"> <li>English</li> <li>Hindi</li> </ul>	Not applicable
	<b>UWEZO</b> <ul style="list-style-type: none"> <li>English</li> <li>Kiswahili</li> </ul>	Not applicable



**Table D.4 Factors and variables for the seven key topics at individual, family, classroom and school level: International large-scale surveys**

International large-scale surveys				
PISA	Student (individual and family level; classroom and school level)	Parent (family level)	Teacher (classroom level) <i>Based on draft framework for 2015 (OECD, n.d.-a)</i>	Principal (school and system level)
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>• Pre-primary education (yes/no)</li> <li>• Grade repetition</li> </ul>	<ul style="list-style-type: none"> <li>• Grade repetition</li> </ul>		
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Language at home</li> <li>• Support with language learning (educational career questionnaire): first language learned at home, age when test language was learned, language usually spoken with parents/friends, language activities, specific language lessons in and out of school</li> </ul>	<ul style="list-style-type: none"> <li>• Language at home</li> </ul>		<ul style="list-style-type: none"> <li>• Proportion of students in national modal grade for 15-year-olds that have a first language that is not the test language</li> <li>• Options for students in national modal grade for 15-year-olds whose first language is not the test language (e.g. additional instruction) (OECD, 2008)</li> </ul>
<b>Student socio-economic status</b>	<ul style="list-style-type: none"> <li>• Parents' highest educational level</li> <li>• Parents' occupation</li> <li>• Employment status</li> <li>• Home possessions</li> <li>• Home educational resources</li> <li>• Books at home</li> </ul>	<ul style="list-style-type: none"> <li>• Parents' highest level of education</li> <li>• Parents' occupation</li> <li>• Annual household income</li> <li>• Parents' educational expectations for child</li> </ul>		
<b>Quality of instruction</b>	<ul style="list-style-type: none"> <li>• Domain-specific and non-domain-specific questions about instruction/activities</li> </ul>		<ul style="list-style-type: none"> <li>• Classroom assessment instruments</li> <li>• Adaptation of instruction based on feedback</li> <li>• Professional development (OECD n.d.-a: 27, 31)</li> </ul>	<ul style="list-style-type: none"> <li>• School's instruction, curriculum and assessment</li> <li>• Grouping or additional instruction based on students' needs/abilities</li> </ul>
<b>Learning time</b>	<ul style="list-style-type: none"> <li>• Learning time</li> <li>• Attendance, truancy</li> </ul>			<ul style="list-style-type: none"> <li>• School attendance, truancy</li> <li>• "Drop-out" (leaving without certificate)</li> </ul>

PISA (cont.)	Student (individual and family level; classroom and school level)	Parent (family level)	Teacher (classroom level) <i>Based on draft framework for 2015 (OECD, n.d.-a)</i>	Principal (school and system level)
School resources			<ul style="list-style-type: none"> <li>• Teacher's employment status, job experience, subjects studied, teaching modal grade? workplace selection (OECD, n.d.-a: 27, 31)</li> </ul>	<ul style="list-style-type: none"> <li>• Funding sources</li> <li>• Size, structure and organisation of the school</li> <li>• Student and teacher body</li> <li>• School resources</li> <li>• Human resources</li> <li>• Responsibility for specific decisions</li> <li>• School location (size of community)</li> </ul>
Family and community support		<ul style="list-style-type: none"> <li>• Cost of educational service</li> <li>• Attitudes to child's school</li> <li>• Parental support for learning in the home</li> <li>• Parents' participation in school activities</li> </ul>		<ul style="list-style-type: none"> <li>• Parental expectations towards school</li> <li>• Parents' participation in school activities</li> </ul>
PIRLS and TIMSS	Student	Parent	Teacher	Principal
Early learning opportunities		<ul style="list-style-type: none"> <li>• ISCED 0 attendance</li> <li>• Primary school starting age</li> <li>• Reading activities before primary school</li> <li>• Information on early literacy and numeracy activities, reading and quantitative readiness at beginning of primary school</li> </ul>		<ul style="list-style-type: none"> <li>• Students' readiness for school</li> </ul>
Language at home and school	<ul style="list-style-type: none"> <li>• Frequency of speaking test language at home</li> </ul>	<ul style="list-style-type: none"> <li>• Most used language at home (father and mother)</li> <li>• Language spoken by child before school started</li> <li>• If the books at home are mainly in test language</li> </ul>	<ul style="list-style-type: none"> <li>• Number of students that have difficulties understanding spoken test language</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of students who have test language as native language</li> <li>• Provisions for reading instruction in mother tongue for students whose mother tongue is not test language</li> </ul>

PIRLS and TIMSS (cont.)	Student	Parent	Teacher	Principal
<b>Student socio-economic status</b>	<ul style="list-style-type: none"> <li>• Number of books at home</li> <li>• Grade 8 only:</li> <li>• Highest level of education completed by parents</li> <li>• Student's expected educational completion level</li> </ul>	<ul style="list-style-type: none"> <li>• Books in the home</li> <li>• Parents' highest educational level</li> <li>• Parents' occupation (main ISCO groups)</li> <li>• Employment status of father and mother</li> <li>• Number of children's books at home</li> <li>• Parents' educational expectations for child</li> </ul>		<ul style="list-style-type: none"> <li>• Average income level of school's immediate area (high, medium, low)</li> </ul>
<b>Quality of instruction</b>			<ul style="list-style-type: none"> <li>• Instructions to engage students in learning</li> <li>• Limitations of teaching (including nutrition of students and if they have enough sleep)</li> <li>• Time spent on language of test instruction and specific activities per week</li> <li>• Grouping of students</li> <li>• Remedial instruction and options for advanced readers</li> <li>• Use of different reading material</li> <li>• Reading instruction strategies</li> <li>• Teacher support to develop reading comprehension skills</li> <li>• Dealing with reading difficulties</li> <li>• Assessing practices for reading</li> <li>• Reading homework</li> <li>• TIMSS includes specific questions about teaching mathematics/science in Grade 4 and 8</li> <li>• Emphasis on academic success</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on academic success</li> <li>• Evaluate the practice of Grade 4 teachers</li> <li>• Primary emphasis on reading skills per grade</li> <li>• Emphasis on literacy skills (reading, writing, speaking/listening)</li> </ul>

PIRLS and TIMSS (cont.)	Student	Parent	Teacher	Principal
<b>Learning time</b>		<ul style="list-style-type: none"> <li>Time spent on homework</li> </ul>		<ul style="list-style-type: none"> <li>Instructional time</li> <li>School enrolment, Grade 4 enrolment</li> </ul>
<b>School resources</b>			<ul style="list-style-type: none"> <li>Years of teaching experience</li> <li>Highest educational level completed</li> <li>Main areas of post-secondary studies and specifications</li> <li>Job satisfaction, safety, working conditions</li> <li>Education in teaching reading</li> <li>Number of students in class</li> <li>Resources for reading instruction</li> <li>Computer and library resources</li> </ul>	<ul style="list-style-type: none"> <li>Resources and technology (computers, science laboratory, library),</li> <li>Shortage of resources for instruction (general, reading, mathematics and science)</li> <li>Discipline and safety</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>Home study support</li> <li>Parents' involvement</li> </ul>	<ul style="list-style-type: none"> <li>Homework activities</li> <li>Parents involvement with child's school work (home-school involvement)</li> <li>Opinion about child's school</li> <li>Parents' reading activities and attitudes towards reading</li> </ul>	<ul style="list-style-type: none"> <li>Information of parents</li> </ul>	<ul style="list-style-type: none"> <li>School location (number of people/rural, suburban; average income level of the school's immediate area (high, medium, low)</li> <li>Involvement of parents</li> </ul>
SACMEQ	Student	Teacher		Principal
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>Preschool attendance</li> <li>Grade repetition</li> </ul>			
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>Frequency of speaking the language of instruction outside of school</li> </ul>			
<b>Student socio-economic status</b>	<ul style="list-style-type: none"> <li>Socio-economic status factor; number of siblings; meals per week; household tasks factor; learning culture at home; parents alive; living with parents/relatives</li> <li>Home environment</li> </ul>			

SACMEQ (cont.)	Student	Teacher	Principal
<b>Quality of instruction</b>	<ul style="list-style-type: none"> <li>Personalised learning support</li> <li>Homework factor</li> </ul>	<ul style="list-style-type: none"> <li>Hours of preparation per week</li> <li>Trained to teach subject</li> <li>Subject matter knowledge</li> <li>School report</li> <li>Frequency of tests</li> </ul>	
<b>Learning time</b>	<ul style="list-style-type: none"> <li>Days absent</li> </ul>	<ul style="list-style-type: none"> <li>Days absent</li> <li>Teaching hours per week</li> </ul>	<ul style="list-style-type: none"> <li>Teaching hours per week</li> <li>School days lost</li> </ul>
<b>School resources</b>	<ul style="list-style-type: none"> <li>Student learning materials</li> <li>Textbook ownership</li> <li>Workspace factor</li> </ul>	<ul style="list-style-type: none"> <li>Teacher characteristics: permanent teacher; education level; years of professional training; years of experience; in-service training</li> <li>Classroom environment</li> <li>Class size; classroom resources</li> <li>Teacher satisfaction (travel distance, if teacher housing provided, and quality of housing; quality of school building, level of salary, quality of educational material, professional development, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Years of professional training; education level; years of experience as a head; years of teaching experience; training through management course</li> <li>School environment</li> <li>Condition of school buildings</li> <li>School resources factor; borrowing books from school; proportion of female teachers; school days lost; location; school inspections</li> <li>Students' behavioural problems</li> <li>Teacher's behavioural problems</li> <li>Pupil-teacher ratio</li> <li>Pupil-toilet ratio</li> <li>Free school meals</li> <li>School size (total number of pupils in the school's biggest shift)</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>Homework help at home</li> <li>Extra tuition</li> <li>Travel distance to school</li> </ul>	<ul style="list-style-type: none"> <li>Frequency of meeting parents</li> <li>Parents sign homework</li> </ul>	<ul style="list-style-type: none"> <li>School community contribution</li> <li>school community problems</li> </ul>

PASEC	Student	Teacher	Principal
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>• Pre-school attendance</li> <li>• Grade repetition</li> </ul>		
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Language spoken at home (if the student speaks French/Arabic/mother tongue at home)</li> </ul>	<ul style="list-style-type: none"> <li>• Languages spoken by the teacher</li> </ul>	
<b>Student socio-economic status</b>	<ul style="list-style-type: none"> <li>• Student socio-economic level (standard of living – poor, intermediate, rich)</li> <li>• Family background of the student (if mother/father are literate)</li> </ul>		
<b>Quality of instruction</b>		<ul style="list-style-type: none"> <li>• Organisation of learning (e.g. multi-grade)</li> <li>• Pedagogical practices</li> </ul>	
<b>Learning time</b>	<ul style="list-style-type: none"> <li>• Work in the household/in agriculture/in retail</li> <li>• If out-of-school work hinders learning/hinders school attendance/hinders during classes because of fatigue</li> <li>• number of out-of-school activities</li> <li>• number of days absent</li> </ul>		<ul style="list-style-type: none"> <li>• School time management</li> </ul>
<b>School resources</b>	<ul style="list-style-type: none"> <li>• Availability of text books for French, mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Profile of teacher (e.g. type of education, qualification, years of teaching)</li> <li>• Classroom infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Profile of principal</li> <li>• School characteristics of the school (e.g. location – rural, urban)</li> <li>• School infrastructure (e.g. electricity)</li> <li>• Pedagogical resources available at school</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>• If there is no support for schooling outside of school</li> <li>• Tuition background</li> </ul>		<ul style="list-style-type: none"> <li>• Community infrastructures</li> <li>• Opinions of the principal</li> </ul>
<b>Health and wellbeing</b>	<ul style="list-style-type: none"> <li>• School environment (wellbeing at school)</li> </ul>	<ul style="list-style-type: none"> <li>• School environment (wellbeing at school)</li> </ul>	<ul style="list-style-type: none"> <li>• School environment (wellbeing at school)</li> </ul>

LLECE	Student, parent and teacher		Teacher and principal	
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>• How often someone at home reads aloud</li> <li>• Pre-school education</li> <li>• Age of enrolment</li> <li>• Grade repetition</li> <li>• Early reading with the child</li> </ul>			
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Language spoken at home (distinction between Spanish or Portuguese; a foreign language and indigenous languages)</li> </ul>	<ul style="list-style-type: none"> <li>• Language of instruction for partial or all instruction</li> <li>• Indigenous language services/resources</li> </ul>		
<b>Student socio-economic status</b>	<ul style="list-style-type: none"> <li>• Parental education (level of education; if mother/father reads and writes)</li> <li>• Home utilities (electricity, water, sewage, phone, cable/internet), construction materials of the home</li> <li>• Educational materials</li> <li>• Number of books</li> </ul>			
<b>Quality of instruction</b>	<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Class organisation, structure</li> <li>• Types of formative assessment; type of homework</li> </ul>	
<b>Learning time</b>	<ul style="list-style-type: none"> <li>• Child labour (i.e. does the child work, at home or outside home, if paid for working, type of work; Grade 6 also days per week and hours per day)</li> </ul>	<ul style="list-style-type: none"> <li>• School shift that student attends (morning, afternoon, intermediate, complete day)</li> <li>• Support networks or programmes for students with special needs (above all, programmes for student repetition or drop-out)</li> </ul>	<ul style="list-style-type: none"> <li>• Number of school days, length of school days and teaching time</li> <li>• Enrolment information</li> <li>• Number of planned teaching days and weeks in the academic year; duration of a school day; duration of each class period/class subject in a day; and number of teaching hours per week per academic subject</li> <li>• Support networks or programmes for students with special needs (above all, programmes for student repetition or drop-out).</li> </ul>	

LLECE (cont.)	Student, parent and teacher	Teacher and principal
<b>School resources</b>	<ul style="list-style-type: none"> <li>• Teaching resources</li> <li>• Sources of financing</li> <li>• Available educational materials for each student, frequency of use of classroom texts and school library materials</li> <li>• School violence</li> </ul>	<ul style="list-style-type: none"> <li>• Funding sources</li> <li>• Staff numbers</li> <li>• School infrastructure, school library</li> <li>• Teaching resources (e.g. television, photocopier)</li> <li>• Food, transport, medical and clothing programmes</li> <li>• Level of decision making for finances, curriculum, hiring staff, professional development, student programmes, communication between the school and administrative jurisdiction (taking into account school visits, inspections)</li> <li>• School violence</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>• Parental involvement in child's education: parent participation in school, classroom or advisory meetings and parent-teacher meetings; homework help and reading with the student; parental feeling of school welcome and belonging; parent assessment of school principal and student's education.</li> </ul>	<ul style="list-style-type: none"> <li>• Parent participation in school, classroom or advisory meetings and parent-teacher meetings</li> </ul>
WEI-SPS	Teacher	Principal
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Teacher for language of instruction</li> </ul>	
<b>Quality of instruction</b>	<ul style="list-style-type: none"> <li>• Classroom organisation and management</li> <li>• Student assessment at classroom level (assessment methods, relative importance of different assessment methods, use of student assessment)</li> <li>• Active learning (active teaching in reading, active teaching in mathematics, reproductive and active learning activities)</li> <li>• Differentiation (internal differentiation in instructional approach and grouping)</li> <li>• Structured teaching/scaffolding</li> <li>• School goals and achievement expectations</li> </ul>	<ul style="list-style-type: none"> <li>• Staff professional development</li> <li>• Principal's professional development</li> <li>• Types of professional development activities</li> <li>• Proportion of staff involved in several kinds of professional development activities</li> </ul>



WEI-SPS (cont.)	Teacher	Principal
<b>Learning time</b>	<ul style="list-style-type: none"> <li>• Instruction time in basic subjects:</li> <li>• Official instruction time – language</li> <li>• Official instruction time – arithmetic and mathematics</li> <li>• Lesson time that is spent on other activities than teaching/learning</li> </ul>	
<b>School resources</b>	<ul style="list-style-type: none"> <li>• Instructional resources:</li> <li>• Classroom furniture – tables and chairs</li> <li>• Classroom equipment</li> <li>• Textbooks</li> <li>• Teacher background:</li> <li>• Level of education, training</li> </ul>	<ul style="list-style-type: none"> <li>• Availability and condition of school resources and school facilities</li> <li>• Principal's perceptions of shortages in school human resources</li> <li>• School human resources – staff</li> <li>• School size and class size</li> <li>• Staff qualification</li> <li>• Staff stability</li> <li>• Permanent and temporary teachers, support staff</li> </ul>
<b>Family and community support</b>		<ul style="list-style-type: none"> <li>• Parents and community contributions</li> <li>• School-parent relations</li> </ul>

Notes: Regarding the “Principal” column for PIRLS and TIMSS: The sections about students’ school readiness, emphasis on reading and language skills, as well as provision of reading instruction in mother tongue, are administered in TIMSS for Grade 4 only (IEA, 2013b).

Regarding the “Student, parent and teacher” column for LLECE: Student characteristics were collected from student, parent, and teacher questionnaires; family characteristics were collected from the student and parent questionnaires (LLECE, 2009: 40). The allocation of constructs in the table is indicative only.

Regarding the “Teacher and principal” column for LLECE: Teacher and principal characteristics were collected from teacher and principal questionnaires; school characteristics and educational resources were collected from principal, teacher and student questionnaires (LLECE, 2009: 40). The allocation of constructs in the table is indicative only.

Sources: For PISA: OECD, 2013b. For PIRLS: IEA, 2013a; Mullis and Martin, 2013; Mullis et al., 2009a. For TIMSS: Hooper et al., 2013; IEA, 2013b; Mullis et al., 2009b. For SACMEQ: Hungi, 2011a. For PASEC: CONFEMEN, 2012: 97, 121-122. For LLECE: LLECE, 2009. For WEI-SPS: UIS, 2009a.

**Table D.5 Factors and variables for the seven key topics at individual, family, classroom and school level: School-based surveys**

School-based surveys			
EGRA and EGMA	Student (individual and family level)	Teacher (classroom level)	Principal (school level)
Early learning opportunities	<ul style="list-style-type: none"> <li>Grade repetition, preschool attendance</li> </ul>		
Language at home and school	<ul style="list-style-type: none"> <li>Language at home</li> </ul>	<ul style="list-style-type: none"> <li>Native language of teacher</li> </ul>	
Socio-economic status	<ul style="list-style-type: none"> <li>Household: electricity, type of toilet, method for cooking food, water source for washing, can mother and father read</li> <li>Books at home</li> </ul>		
Quality of instruction	<ul style="list-style-type: none"> <li>Teacher's instructional practices:</li> <li>Observe child's language</li> <li>Note teacher's comments</li> <li>How does teacher respond to child's correct and incorrect answers to questions in class</li> <li>How much homework</li> <li>Did teacher mark last homework</li> </ul>	<ul style="list-style-type: none"> <li>Supervision/support for teacher – frequency of head teacher/supervisor checks of teacher's lesson plans, frequency of formal and informal classroom visits by head teacher</li> <li>Monitoring and assessing students' progress (how is children's progress monitored and assessed)</li> <li>Expectations about learning levels (i.e. grade at which children are expected to be able to read fluently and write)</li> </ul>	<ul style="list-style-type: none"> <li>School records (are records available for examination, how is students' progress monitored)</li> <li>Expectations about learning levels (i.e. grade at which children are expected to be able to read fluently and write)</li> <li>Last visit of grade supervisor</li> </ul>
Learning time	<ul style="list-style-type: none"> <li>Child's absences/lateness</li> </ul>	<ul style="list-style-type: none"> <li>Student attendance – number of different grades in teacher's class, number of boys and girls in class, typical absentee and lateness numbers</li> </ul>	<ul style="list-style-type: none"> <li>Duration of school day – school day start, end, and time taken for breaks/assembly etc.</li> <li>Student enrolment – numbers of boys and girls</li> <li>Unofficial school closures during current year (has school been closed or classes not taught this year, if yes how many days in past month)</li> <li>Teacher attendance (number of teachers absent/on leave/arriving late, what happens to a class when a teacher is absent)</li> </ul>

EGRA and EGMA (cont.)	Student (individual and family level)	Teacher (classroom level)	Principal (school level)
<b>School resources</b>		<ul style="list-style-type: none"> <li>• Teacher's pedagogical preparation and training (highest level of education, pre-service and in-service training for reading and maths)</li> <li>• Safety at school – does teacher feel that he/she and children are safe at school, if no explain</li> </ul> <p>Observation:</p> <ul style="list-style-type: none"> <li>• Number of textbooks, number of students with pencils, presence and number of books other than textbooks for reading, students' work and instructional material displayed on walls, adequate number of seats, teachers materials (blackboard, chalk, pen, notebook, teacher manuals), teacher's lesson plan book (is there one, is it used, does head teacher check it), adequate lighting in classroom</li> </ul>	<ul style="list-style-type: none"> <li>• School resources (adequate numbers of textbooks received from ministry, presence of library and is it used)</li> <li>• School facilities (are they shared between more than one school, if yes how many)</li> <li>• Teacher background (gender breakdown of teaching population, number of teachers for assessed grade)</li> <li>• Safety at school (does head feel that school is safe, does head feel that he/she and children are safe at school, if no explain)</li> </ul> <p>Observation:</p> <ul style="list-style-type: none"> <li>• School resources and facilities: cleanliness of school and surrounds, any major repairs required, presence of electricity source and functioning on day of observation, presence of water source and functioning on day of observation, number of functional toilets overall and for girls, presence of functioning phone, presence and use of library, presence of playground/wall/security guard</li> </ul>
<b>Family and community support</b>	<p>Parents' engagement/investment in education:</p> <ul style="list-style-type: none"> <li>• Help at home with homework</li> <li>• Providing meal to child before school</li> <li>• Parents' knowledge when child does well at school</li> <li>• How often child reads aloud at home and is read to aloud at home</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring and assessing students' progress (how many parents review children's homework, teacher's level of satisfaction with parental involvement)</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of Parent Teacher Association and when did it last meet, head teacher's level of satisfaction with parental involvement</li> </ul>

Sources: RTI International, 2013a, 2013b, 2013c, 2013d, 2013e, 2013f.

**Table D.6 Factors and variables for the seven key topics at individual, family, school and village level: Household-based surveys (child population)**

Household-based surveys (child population)			
ASER	Head of household (individual and family level)	Head teacher (school level)	Village (system level)
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>• Pre-school status of the child (in which programme)</li> <li>• School-status (in which programme)</li> <li>• Out-of-school status; this refers to children currently not enrolled, age 5-16: never enrolled, dropped out, schooling status when child left the school, year of drop out</li> <li>• If child goes to the school observed</li> </ul>		
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Language spoken at home by family members</li> </ul>		
<b>Socio-economic status</b>	<ul style="list-style-type: none"> <li>• Economic conditions of the household (type of house, electricity connection and availability on the day of interview, availability of toilet, TV (including a paid facility), and mobile phone)</li> <li>• Availability of reading material (books and daily newspapers)</li> <li>• If anyone in the household knows how to use a computer</li> <li>• Father's and mother's background information (age, if attended school and which level completed, if never attended school)</li> </ul>		
<b>Quality of instruction</b>		<ul style="list-style-type: none"> <li>• Official medium of instruction in school</li> </ul>	
<b>Learning time</b>		<ul style="list-style-type: none"> <li>• Student enrolment and attendance (for classes 1-8)</li> <li>• Teacher numbers and attendance</li> </ul>	

ASER (cont.)	Head of household (individual and family level)	Head teacher (school level)	Village (system level)
<b>School resources</b>		<ul style="list-style-type: none"> <li>• Grouping of students of different grades in one class</li> <li>• Where children are seated (classroom, veranda, outdoors)</li> <li>• Availability of a blackboard (and if one can easily write on it)</li> <li>• Availability of other material apart from text books</li> <li>• Availability of midday meal (and if cooking facilities are available at school)</li> <li>• Facilities observation (total number of teaching rooms, office, playground, library, hand pump or tap, drinking water, boundary wall or fencing, computers at school for children's use; toilets for boys and girls)</li> <li>• School grant information and activities carried out (repairs, purchase, expenditures)</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of basic facilities such as a road, electricity, a post office, a bank, a shop, a health care centre (government), private health clinic, and internet café and supply of solar energy</li> <li>• Government schools in the village (yes/no): pre-school, primary school, upper-primary, secondary school, private school</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>• How much household spent on paid tuition in 2013</li> </ul>		
<b>UWEZO</b>	<b>Head of household</b>	<b>Head teacher</b>	<b>Village</b>
<b>Early learning opportunities</b>	<ul style="list-style-type: none"> <li>• Child's schooling/enrolment status</li> </ul>		
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>• Language spoken at home</li> </ul>	<ul style="list-style-type: none"> <li>• Number of Kiswahili, English and maths textbooks</li> </ul>	
<b>Socio-economic status</b>	<ul style="list-style-type: none"> <li>• Socio-economic status, including home possessions and main source of income: number of members who eat from the same pot (the definition of a household), type of house, lighting in house, presence of protected water source, presence of toilet, number of meals per day, possessions: radio, TV, computer, mobile phone, cattle, donkeys, camels, sheep/goats, bicycle, motorbike, cart, number of books in the home</li> <li>• Parents' level of education</li> </ul>		
<b>Learning time</b>		<ul style="list-style-type: none"> <li>• Children's enrolment</li> <li>• Teacher numbers and attendance</li> </ul>	

UWEZO (cont.)	Head of household	Head teacher	Village
<b>School resources</b>		<ul style="list-style-type: none"> <li>Classroom organisation (based on observation) including: how many children, where are children sitting, do most of them have writing materials, is there a chalkboard, is there a timetable and is it being followed, are there any other teaching and learning materials, number of Kiswahili, English and maths textbooks, availability of teaching and learning materials</li> <li>Background data about teacher of observed classroom, including highest level of education completed</li> </ul> <p>School facilities, including electricity, admin building, playing field, fence, toilets</p> <ul style="list-style-type: none"> <li>Drinking water</li> <li>Library</li> <li>Grant activities – application and receipt of grants</li> </ul>	<ul style="list-style-type: none"> <li>Electricity availability</li> <li>Basic facilities</li> <li>School types</li> <li>Health facilities</li> <li>Village meetings</li> <li>Awareness of Uwezo</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>Parents' involvement in child's education</li> <li>Parents' awareness of Uwezo</li> <li>Parents' sense of how much their opinions about education are heard by local and national officials</li> <li>Parents' view of most pressing issues facing community</li> </ul>	<ul style="list-style-type: none"> <li>Awareness about Uwezo</li> <li>Number of parents that attended last school meeting</li> <li>How many parents in the last year came voluntarily to talk about children's education</li> </ul>	
<b>Health and wellbeing</b>		<ul style="list-style-type: none"> <li>Health and other services: presence of nurse, main health issue keeping children out of school (malaria, diarrhoea, cough/flu, other), provision of sanitary items for girls, availability of drinking water, presence of food services</li> </ul>	

Sources: For ASER: ASER Centre, 2012a, 2012b, 2013. For UWEZO: Uwezo Kenya, 2013a.

**Table D.7 Factors and variables regarding the seven key topics at individual level: Household-based surveys (adult population)**

Household-based surveys – adult target population	
PIAAC	Respondent (individual level)
Language at home and school	<ul style="list-style-type: none"> <li>• Language first learned at home in childhood</li> <li>• Second language learned</li> <li>• Language spoken at home most often</li> </ul>
Socio-economic status	<ul style="list-style-type: none"> <li>• Socio-economic status derived from five indicators: highest level of education ever attained by parents (HISEI), occupational code (ISCO) of both parents when respondent was age 16, and number of books in the household when respondent was age 16 (as indicator of level of cultural capital in the parental home)</li> <li>• Education and training: highest level of education (ISCED 97 classification), area of study, working while studying, other organised learning/training activities, time spent on learning/training</li> <li>• Parental education</li> <li>• Current status and work history: current status in paid/unpaid work, work history</li> <li>• Current work/last job: job title (ISCO 2008), work responsibility, type of work, employer/employee, size of the employer, type of employment contract, hours of work, flexibility, learning at work, wage</li> </ul>
Family and community support	<ul style="list-style-type: none"> <li>• Household composition</li> <li>• Cultural capital</li> <li>• Parental home</li> </ul>
Health and wellbeing	<ul style="list-style-type: none"> <li>• Health: single item on subjective health retained for main study (OECD, 2013a: 39): “In general, would you say your health is excellent, very good, good, fair, or poor?” (OECD, n.d.-b: 106)</li> </ul>
STEP (Household survey only)	Respondent
Early learning opportunities	<ul style="list-style-type: none"> <li>• Module 2: Participation in early childhood education</li> </ul>
Language at home and school	<p>Module 7 language:</p> <ul style="list-style-type: none"> <li>• Mother tongue (first language a person learned; up to two languages can be recorded)</li> <li>• Language that is mainly spoken in the house</li> <li>• The total number of people in the household that <i>speak</i> any of the official country language</li> <li>• Languages in which the respondents speak</li> <li>• Languages in which the respondents read and write well enough to work in a job that requires that language</li> </ul>

STEP (Household survey only) (cont.)	
STEP (Household survey only) (cont.)	Respondent
<b>Socio-economic status</b>	<ul style="list-style-type: none"> <li>Module 1b dwelling characteristics, used to measure SES: domestic water supply, cooking conditions, source of lighting and other issues related to housing conditions in which the household lives</li> <li>Module 2: education and training: level of formal education and whether academic or vocational, field of study for highest qualification (13-15 categories), reasons for dropping out (if applicable), reason for interrupting schooling (if applicable), apprenticeship (y/n) and trade, number of training courses, participation in literacy courses, school class rank, parental encouragement questions related to formal education, lifelong learning, and other types of training and certificates; ISCED 97 is used to classify education</li> <li>Module 4 employment: basic employment information, such as employed, unemployed, or inactive, including self-employed (with and without paid work), underemployed, or holding low-productivity jobs</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>Module 3 health: information on a number of key health indicators (e.g. on the individual's level of satisfaction regarding own life, height (cm), weight (kg), number of days the individual was prevented from working during the last four weeks due to sudden illness, accident or chronic illness, existence and kind of health insurance)</li> </ul>
LAMP	
LAMP	Respondent
<b>Language at home and school</b>	<ul style="list-style-type: none"> <li>Languages used by the respondent: the number of languages that the respondents knows and which language they use most often in their daily lives</li> <li>Parental language</li> </ul>
<b>Socio-economic status</b>	<ul style="list-style-type: none"> <li>SES measure created from questions about household facility and living environment (respondent); questions include structure of the household (materials used for the house, number of rooms etc.), the equipment available in the household (electricity, running water, stove, refrigerator, TV, radio, telephone, kind of toilet facility etc.), air quality and household waste disposal, and ownership of assets (bank account, land, animals etc.)</li> <li>Education attainment (current and history); ISCED 97 is used to classify education</li> <li>Attendance of literacy programmes (incl. formal education, non-formal-education)</li> <li>Attendance of training courses (incl. formal education, non-formal-education), employment status (and history): if respondents are in the labour force, for how long, type of work, part-time, full-time, for an organisation or self-employed; pay</li> <li>Educational attainment and occupation of parents or guardians</li> </ul>
<b>Family and community support</b>	<ul style="list-style-type: none"> <li>Human and social capital (social context, literate environment)</li> <li>Household characteristics and structure (head of household screening questions about number of individuals living in the household, classified by relationship to head of household, age, sex, and highest level of education)</li> </ul>
<b>Health and wellbeing</b>	<ul style="list-style-type: none"> <li>Personal wellbeing and health-related literacy questions (respondents are asked about their health condition and if they can perform basic functions like filling in medical forms, reading medical labels and food labels)</li> </ul>

Sources: For PIAAC: See OECD, n.d.-b. For STEP: Pierre et al., 2014. For LAMP: UIS, n.d.



**Table D.8 Scaling/computing of relevant contextual constructs in international surveys reviewed**

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)
Large-scale international surveys	<p><b>PISA</b></p> <ul style="list-style-type: none"> <li>PISA calculates simple indices and scale indices from contextual data:</li> <li><i>Simple indices</i> are constructed through arithmetic transformation or recoding of one or more items (e.g. recoding of the 4-digit ISCO Code into HISEI, or teacher/student ratio based on information from the school questionnaire).</li> </ul> <p><i>Scale indices</i> are the variables constructed through the scaling of multiple items. Unless otherwise indicated, indices were scaled using a weighted likelihood estimate (Warm, 1989), using a one-parameter item response model (a partial credit model was used in the case of items with more than two categories). For details on how each scale index was constructed see the PISA 2012 Technical Report (OECD, 2014a). In general, the scaling was done in three stages:</p> <ul style="list-style-type: none"> <li>The item parameters were estimated from equal-sized subsamples of students from all participating countries and economies.</li> <li>The estimates were computed for all students and all schools by anchoring the item parameters obtained in the preceding step.</li> <li>The indices were then standardised so that the mean of the index value for the OECD student population was 0 and the standard deviation was 1 (countries being given equal weight in the standardisation process). (OECD, 2014b: 260)</li> </ul>	<ul style="list-style-type: none"> <li><i>Language background</i>: (1) language at home is the same as the language of assessment, and (2) language at home is a different language than the language of assessment (LANGN).</li> <li>In order to capture between-country variation, the <i>relative Grade index</i> (GRADE) indicates whether students are at the modal Grade in a country (value of 0), or whether they are below or above the modal grade level. (OECD, 2014b: 260-266)</li> </ul>
	<p><b>PIRLS and TIMSS</b></p> <ul style="list-style-type: none"> <li>Most context questionnaire items in TIMSS and PIRLS 2011 were designed to be combined into scales measuring a single underlying latent construct. The scales were constructed using IRT scaling methods, specifically the Rasch partial credit model (Masters and Wright, 1997). As a parallel to the International Benchmarks of achievement in TIMSS and PIRLS, each context scale was divided into regions corresponding to high, middle, and low values on the construct. To facilitate interpretation of the regions, the cutpoints delimiting the regions were defined in terms of combinations of response categories (Martin et al., 2012: 1).</li> <li>The TIMSS and PIRLS 2011 context questionnaire scaling was conducted using the ConQuest 2.0 software (Wu et al., 2007).</li> </ul>	<ul style="list-style-type: none"> <li><i>Early literacy activities before beginning primary school scale</i> (Grade 4): this scale was created based on parents' frequency of doing nine activities (e.g. read books, tell stories, sing songs, play word games etc.)</li> <li><i>Early numeracy activities before beginning primary school scale</i> (Grade 4): based on parents' responses to six statements (e.g. say counting rhymes or sing counting songs, count different things, play with building blocks or construction toys)</li> <li><i>Could do early literacy tasks when began primary school scale</i> (PIRLS Grade 4): Based on parents' responses to how well their children could do five tasks (e.g. recognise most of the letters of the alphabet, read some words, read some sentences etc.)</li> <li><i>Could do early numeracy tasks when began primary school scale</i> (TIMSS Grade 4): based on parents' responses to the six statements (e.g. count by himself/herself, recognise different shapes (e.g. square, triangle, circle etc.)</li> </ul>

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)
Large-scale international surveys (cont.)	PIRLS and TIMSS (cont.)	<ul style="list-style-type: none"> <li>• <i>Instruction affected by reading resource shortages scale</i>: based on principals' responses concerning 11 school and classroom resources: 7 general resources and 4 reading specific resources</li> <li>• <i>Instruction affected by mathematics resource shortage scale</i> (TIMSS Grades 4 and 8): principals' responses concerning 12 school and classroom resources: 7 general resources and 5 mathematics specific resources</li> <li>• <i>Instruction affected by science resource shortage scale</i> (TIMSS Grades 4 and 8): Principals' responses concerning 12 school and classroom resources: 7 general resources and 5 science specific resources</li> <li>• <i>Teachers' working conditions scale</i> (PIRLS, TIMSS Grades 4 and 8): Based on teachers' responses concerning five potential problem areas (school building needing significant repair, classrooms being overcrowded, teachers having too many teaching hours, teachers not having adequate workspace, teachers not having adequate instructional materials and supplies)</li> <li>• <i>School emphasis on academic success – Principal reports scale</i> (PIRLS, TIMSS Grades 4 and 8): based on principals' responses characterising five aspects (e.g. teachers' understanding of the school's curricular goals, teachers' expectations for student achievement etc.)</li> <li>• <i>School emphasis on academic success – teacher reports scale</i> (PIRLS, TIMSS Grades 4 and 8): based on teachers' responses, same as principals' scale</li> <li>• <i>Emphasis in early grades on reading skills and strategies scale</i>: based on principals' responses about the earliest grade at which each of 11 reading skills and strategies were emphasised.</li> <li>• <i>Safe and orderly school scale</i> (PIRLS, TIMSS Grades 4 and 8): based on teachers' degree of agreement with five statements (e.g. this school is located in a safe neighbourhood, I feel safe at this school, the students behave in an orderly manner etc.)</li> <li>• <i>School discipline and safety scale</i> (PIRLS, TIMSS Grades 4 and 8): based on principals' responses concerning ten potential school problems (e.g. arriving late at school, absenteeism, as in unjustified absences, vandalism etc.)</li> <li>• <i>Teacher career satisfaction</i> (PIRLS, TIMSS Grades 4 and 8): based on teachers' degree of agreement with six statements (e.g. I am content with my profession as a teacher, I do important work as a teacher, etc.)</li> <li>• <i>Collaborate to improve teaching scale</i> (PIRLS, TIMSS Grades 4 and 8): based on teachers' responses to how often they interacted with other teachers in each of five teaching areas (e.g. discuss how to teach a particular topic, visit another classroom to learn more about teaching etc.)</li> </ul>

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)	
Large-scale international surveys (cont.)	PIRLS and TIMSS (cont.)	<ul style="list-style-type: none"> <li>• <i>Instructions to engage students in learning scale</i> (PIRLS, TIMSS Grades 4 and 8): based on teachers' responses to how often they used each of six instructional practices (e.g. summarise what students should have learned from the lesson, praise students for good effort etc.)</li> <li>• <i>Students engaged in reading lessons scale</i>: based on students' degree of agreement with seven statements (e.g. I like what I read about in school, know what my teacher expects me to do, I am interested in what my teacher says etc.)</li> </ul>	
	SACMEQ	<ul style="list-style-type: none"> <li>• Using Rasch IRT model, six factors were constructed: one factor derived from Level 1 (student) variables, and five factors derived from Level 2 (school and class) variables (Hungj, 2011b: 32).</li> <li>• School community contribution factor: Sum of the presence of community contributions towards nine school activities including construction and maintenance of school building, construction and repair of school furniture, provision of school meals, buying textbooks, stationery and supplies, payment of teacher salaries, and extra-curriculum activities.</li> <li>• Students' behaviour problems factor: Sum of existence of behavioural problems among pupils (e.g. lateness, skipping classes, classroom disturbance, cheating, use of abusive language, theft, fighting, and vandalism)</li> <li>• Teachers' behaviour problems factor: Sum of existence of behavioural problems among teachers (e.g. lateness, absenteeism, skipping classes, use of abusive language, drug abuse, and alcohol abuse) (Hungj, 2011b)</li> </ul>	
	PASEC	<ul style="list-style-type: none"> <li>• PASEC uses classical IRT for scaling (CONFEMEN, 2012: 113)</li> <li>• For the analysis of questionnaire responses the same techniques are applied as for the analysis of test items.</li> <li>• Questionnaire analysis (Cronbach's alpha, point-biserial correlations) are carried out to measure internal consistency (CONFEMEN, 2012: 110).</li> </ul>	Not applicable
	LLECE	<ul style="list-style-type: none"> <li>• LLECE reports assessment results using a single continuous scale obtained from the application of the Rasch IRT model for each subject.</li> <li>• For the analysis of factors associated with student achievement (i.e. contextualising results) LLECE uses hierarchical linear models. (LLECE, 2009)</li> </ul>	<ul style="list-style-type: none"> <li>• Index of educational opportunity: classroom time, learning resources, school library, financial resources, school infrastructure, and teacher and leader quality as processes that mediate pedagogy (curriculum coverage, language of instruction, school autonomy, use of teaching materials, homework and school climate). Analyses are conducted at the classroom, school and education system levels.</li> <li>• Index of accessibility of basic school services: five items from Question 11 in the principal questionnaire (census questionnaire, in Spanish, "<i>Ficha de Empadronamiento</i>") if the following exists in the school (yes/no): electricity/lights; drinkable water; sewage system; phone; sufficient number of bathrooms.</li> </ul>

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)
<p><b>Large-scale international surveys</b> (cont.)</p>	<p><b>LLECE</b> (cont.)</p>	<ul style="list-style-type: none"> <li>• Index of school infrastructure: created from 15 items from Question 12 of the principal (census) questionnaire: principal's office; additional offices (secretary/administration); staff room; sports field/court/oval; science room; gym; school garden; computer room; auditorium; kitchen' cafeteria; art/music room; medical office; speech-psychology services; school library. (LLECE, 2009)</li> </ul>
	<p><b>WEI-SPS</b></p>	<ul style="list-style-type: none"> <li>• Composite indices were used to summarise the responses from school principals and teachers.</li> <li>• Some indices were nationally standardised so that the mean of the index for each country was zero and the standard deviation was 1.0.</li> <li>• Some other indices were internationally standardised so that the mean of the index value for all of the WEI-SPS countries was zero and the standard deviation was 1.0. In the latter case, countries were given equal weight in the standardisation process. Unless otherwise indicated, decisions about the standardisation were taken on the basis of theoretical considerations. (UIS, 2009a: 70, Appendix III)</li> </ul> <p>Six indices about instruction were computed based on teachers' responses about how often they implement these activities:</p> <ul style="list-style-type: none"> <li>• Learning style – active learning activities</li> <li>• Learning style – group work</li> <li>• Learning style – rote repetition</li> <li>• Teacher-centred teaching practices</li> <li>• Strongly structured teaching practices</li> <li>• Pupil-centred teaching practices</li> </ul> <p>Eight indices about opportunity to learn in reading were computed:</p> <ul style="list-style-type: none"> <li>• Difficulty of reading materials</li> <li>• Variety of reading materials</li> <li>• Emphasis on creative activities</li> <li>• Emphasis on grammar and other formal exercises</li> <li>• Emphasis on locating information</li> <li>• Emphasis on interpreting the meaning of the text</li> <li>• Difficulty of reading activities</li> <li>• Grade where (the sample question was) appropriate (UIS, 2009a: 70, Appendix III)</li> </ul>
<p><b>School-based surveys</b></p>	<p><b>EGRA/EGMA</b></p>	<ul style="list-style-type: none"> <li>• No general guidelines are provided by RTI about how contextual variables should be processed/analysed.</li> <li>• In reports from specific implementations that used SSME contextual instruments, contextual data are usually just analysed with frequency analyses (i.e. percentages in particular categories).</li> </ul>

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)
Household-based surveys	PIAAC	<ul style="list-style-type: none"> <li>Indices are derived with IRT.</li> <li>Indices from continuous variables were all standardised to have mean equal to 2 and standard deviation equal to 1 across the pooled sample of respondents in all countries. This results in indices for which at least 90% of the observations lay between 0 and 4, whereby values approaching 0 suggest a low frequency of use and values approaching 4 suggest a high frequency. (OECD, 2013c: 43)</li> </ul>
	STEP	<ul style="list-style-type: none"> <li>Construction of simple scales (derived from Likert scales).</li> <li>Most of the skill measures collected under the STEP surveys can be scored using simple algorithms (simple averages across questions will work in most of the cases).</li> <li>Negatively scored items were recoded prior to the aggregation. (Pierre et al., 2014: 69)</li> </ul>
	LAMP	<ul style="list-style-type: none"> <li>Basically some background information is selected to build the reporting scale.</li> <li>Plausible values are created every time with a different set of context variables that should be included in the analyses (e.g. gender, or gender by location; SES). This has practical reasons: in LAMP there not much background information available as a lot of questions have been skipped. That way it's more accurate and programming is not as complex (B. Tay-Lim, personal communication, 13 November 2014).</li> </ul>
	ASER	<ul style="list-style-type: none"> <li>Usually frequency analyses and some aggregated variables are reported.</li> </ul>

Survey	Scaling methodology	Constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)
Household-based surveys (cont.)	<p><b>UWEZO</b></p> <ul style="list-style-type: none"> <li>For the regional report, average teacher attendance rates were calculated for each of the three countries (Kenya, Tanzania and Uganda) in the Uwezo regional report (see Uwezo, 2014: 17).</li> <li>The Tanzania national report from 2012 presents the following calculated indices: pupil attendance rates (percentage of enrolled children who are present on the day school is surveyed), pupil-teacher ratios (calculated for each region), percentage of teachers absent (calculated for each region), pupil/textbook ratio (calculated for each region) (see Uwezo Tanzania, 2013: 36-39).</li> <li>The Kenya national report from 2012 presents the following calculated indices: pupil/textbook ratio (see Uwezo Kenya, 2013b: 12), student attendance rates and teacher-pupil ratios based on enrolment and attendance figures (for national indices see Uwezo Kenya, 2013a: 15). Student and teacher attendance rates are also calculated for each country (see Uwezo Kenya, 2013b: 21-67).</li> </ul>	

Notes: Detailed information about all questionnaire scales in PIRLS and TIMSS are documented on the PIRLS and TIMSS website: <http://timssandpirls.bc.edu/methods/t-context-q-scales.html>.

Concerning the “large-scale international surveys” “scaling methodology” for PIRLS and TIMSS, the “students confident in reading scale” consists of seven statements. For each of the seven statements, students were asked how much they agreed with the statement: agree a lot, agree a little, disagree a little, or disagree a lot. Using IRT partial credit scaling, student responses were placed on a scale constructed so that the mean scale score across all PIRLS countries was 10 and the standard deviation was 2. Statements expressing negative sentiment were reverse coded during the scaling (statements 3, 5, and 7). Students “confident in their reading” had a scale score greater than or equal to the point on the scale corresponding to agreeing a lot, on average with four of the seven statements and a little with three of the statements. Students “not confident” in their reading had a score no higher than the point on the scale corresponding to disagreeing a little with four of the statements, on average, and agreeing a little with three of them.

Concerning the “large-scale international surveys” “constructs relevant for PISA-D in regards to the seven key areas (without SES-related measures)” for PASEC, specific information on contextual constructs computed in PASEC was not available for the review of international assessments.

Table D.9 SES-related measures in the surveys reviewed

Survey	SES-related measures
Large-scale international surveys	<p><b>PISA</b></p> <ul style="list-style-type: none"> <li>• <i>Occupational status of parents</i> (recoding ISCO-08 into ISEI-08): mother's occupational status (OCOD1), father's occupational status (OCOD2), the highest occupational level of parents (HISEI) corresponds to the higher SEI score of either parent or to the only available parent's SEI score.</li> <li>• <i>Education level of parents</i> (using ISCED 97/11): mother's education level (MISCED), father's education level (FISCED), highest education level of parents (HISCED) corresponds to the higher ISCED level of either parent. Highest education level of parents was also converted into the number of years of schooling (PARED).</li> <li>• The index <i>Wealth</i> (WEALTH) is based on students' responses on whether they had the following at home: a room of their own, a link to the Internet, a dishwasher (treated as a country-specific item), a DVD player, and three other country-specific items; and their responses on the number of cellular phones, televisions, computers, cars and the number of rooms with a bath or shower.</li> <li>• <i>Home educational resources</i> (HEDRES) is based on the items measuring the existence of educational resources at home including a desk and a quiet place to study, a computer that students can use for schoolwork, educational software, books to help with students' school work, technical reference books and a dictionary.</li> <li>• <i>Cultural possessions</i> (CULTPOSS) is based on the students' responses to whether they had the following at home: classic literature, books of poetry and works of art.</li> <li>• <i>The PISA index of economic, social and cultural status</i> (ESCS) was derived from the following three indices: HISEI, PARED, and HOMEPOS (which comprises all items on the indices of WEALTH, CULTPOSS and HEDRES, as well as books in the home recoded into a four-level categorical variable (0-10 books, 11-25 or 26-100 books, 101-200 or 201-500 books, more than 500 books). The ESCS was derived from a principal component analysis of standardised variables (each variable has an OECD mean of zero and a standard deviation of one), taking the factor scores for the first principal component as measures of the PISA index of economic, social and cultural status. Principal component analysis was also performed for each participating country to determine to what extent the components of the index operate in similar ways across countries. The analysis revealed that patterns of factor loading were very similar across countries, with all three components contributing to a similar extent to the index (for details on reliability and factor loadings, see the PISA 2012 Technical Report (OECD, 2014a) (OECD, 2014b: 260-266)</li> </ul>
	<p><b>PIRLS and TIMSS</b></p> <ul style="list-style-type: none"> <li>• <i>Home resources scale</i> (PIRLS, TIMSS Grades 4 and 8): Number of books in the home (students), Number of home study supports (students), Number of children's books in the home (parents), highest level of education of either parent (parents), Highest level of occupation of either parent (parents).</li> <li>• Detailed information about all questionnaire scales in PIRLS and TIMSS are documented on the PIRLS and TIMSS website: <a href="http://timssandpirls.bc.edu/methods/t-context-q-scales.html">http://timssandpirls.bc.edu/methods/t-context-q-scales.html</a>.</li> </ul>
	<p><b>SACMEQ</b></p> <ul style="list-style-type: none"> <li>• <i>Student socio-economic status factor</i> derived from 18 items on: home possessions (books at home, newspaper, magazine, radio, TV set, VCR, cassette player, telephone, refrigerator, car, piped water, table to write on), parental education (mother's education, father's education), home quality (floor, roof, outside walls) and lighting to read (Dolata, 2005: 40)</li> <li>• <i>Classroom resources factor</i>: sum of the existence of the following eight items in the classroom: writing board, chalk/marker, wall chart, cupboard, bookshelves, classroom library or book corner, teacher table, and teacher chair.</li> <li>• <i>School resources factor</i>: two versions of this scale were considered. Version 1: sum of the existence of 22 school resource items in the school including a school library, school meeting hall, staff room, separate office for school head, sports area, water, electricity, telephone, fax machine, overhead project, radio, TV set, photocopier, and computer. Version 2: Rasch score involving school resources items (e.g. school library, staff room, water, electricity, and computer) as well as classroom resource items such as teacher table, teacher chair, sitting places, cupboard, and bookshelves. (Hungu, 2011b)</li> </ul>
	<p><b>PASEC</b></p> <ul style="list-style-type: none"> <li>• <i>Student socio-economic level</i>: standard of living – poor, intermediate, rich.</li> <li>• <i>Student familial context</i></li> </ul>

Survey	SES-related measures	
Large-scale international surveys (cont.)	LLECE	<ul style="list-style-type: none"> <li>• <i>ISEC – Index of socio-economic and cultural background</i>: considers child wellbeing, and cultural access at local, regional and global levels. This index has an emphasis on home assets, assuming that assets in the home facilitate access to culture and learning. Items include the following six questions from the parent questionnaire: parent level of education; mother tongue of the child; construction material of home; available home utilities (water, electricity etc.); home possessions (appliances not cultural items); number of books in the home. (LLECE, 2009)</li> </ul>
	WEI-SPS	<ul style="list-style-type: none"> <li>• <i>Social advantage of school intake index</i> has been computed based on school principal's responses about the number of students (e.g. none, most, all) for three items about student SES and home background (e.g. parental education; students receiving feeding/clothing programmes; school intake compared to national GDP per capita) and based on teacher's responses about the number of students (e.g. none, most, all) for six items about student SES and home backgrounds (e.g. child labour; family health problems).</li> <li>• <i>Social advantage of classroom intake index</i> has been computed based on teacher's responses about the number of students (e.g. none, most, all) for six items about student SES and home backgrounds (e.g. child labour; family health problems). (UIS, 2009a: 70, Appendix III)</li> </ul>
School-based surveys	EGRA/EGMA	<ul style="list-style-type: none"> <li>• <i>Household SES</i> includes data about electricity, type of toilet, method for cooking food, water source for washing, can mother and father read.</li> <li>• <i>Books at home</i> information is available as well (but no information if used for SES information).</li> </ul>
Household-based surveys	PIAAC	<ul style="list-style-type: none"> <li>• The background questionnaire contained five indicators of respondents' socio-economic background, namely <i>the highest level of education ever attained by parents</i> (HISEI), the <i>occupational code of both parents</i> when the respondent was age 16 (ISCO 2008), and the <i>number of books in the household</i> when the respondent was age 16 (as indicator of the level of cultural capital in the parental home). (OECD, 2013a: 32)</li> </ul>
	STEP	<ul style="list-style-type: none"> <li>• An <i>asset index</i> was constructed for urban areas as a proxy for wealth (Pierre et al., 2014: 15), using the information collected in Module 1b of the STEP household questionnaire on dwelling characteristics and household assets. Since the focus of the survey is to obtain detailed information at the individual level, the household-level information is kept to a minimum (Pierre et al., 2014: 14).</li> </ul>
	LAMP	<ul style="list-style-type: none"> <li>• Respondents are <i>classified into four socio-economic groups</i>: 1) affluent (well-off); 2) comfortable; 3) poor; 4) subsistence level. This is based on information on SES collected through questions about <i>household facility and living environment</i> and includes the structure of the household (materials used for the house, number of rooms, etc.), the equipment available in the household (electricity, running water, stove, refrigerator, TV, radio, telephone, etc.), air quality and household waste disposal, and ownership of assets (bank account, land, animals etc.). More details about creating SES can be found in the forthcoming LAMP international report (mid-2015) (B. Tay-Lim, personal communication, 13 November 2014).</li> </ul>
	ASER	<ul style="list-style-type: none"> <li>• SES measures include:</li> <li>• Economic conditions of the household (type of house, electricity connection and if there was electricity available on the day of interview, availability of toilet, TV (including a paid facility), and mobile phone</li> <li>• Availability of reading material (books and daily newspapers)</li> <li>• If anyone in the household knows how to use a computer</li> <li>• Father's and mother's background information (age, if attended school and which status completed, if never attended school)</li> </ul>



Survey	SES-related measures	
Household-based surveys (cont.)	UWEZO	<ul style="list-style-type: none"> <li>• Socio-economic status measures include home possessions and main source of income: number of members who eat from the same pot (their definition of a household), type of house, lighting in house, presence of protected water source, presence of toilet, number of meals per day, possessions: radio, TV, computer, mobile phone, cattle, donkeys, camels, sheep/goats, bicycle, motorbike, cart, number of books in the home.</li> <li>• Parents' level of education is captured as well.</li> <li>• For the regional report an <i>SES indicator</i> was created: "...households in the survey were categorised into three socio-economic groups according to durable assets owned, access to electricity and/or clean water, and mother's formal education level" (Uwezo, 2014: 16). Children are then categorised into three groups: 1) non-poor; 2) poor; and 3) ultra-poor.</li> </ul>

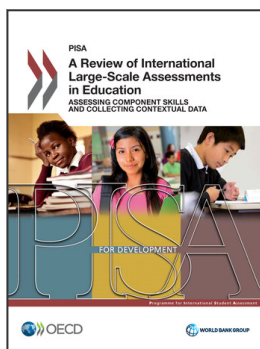
## References

- ASER Centre (2013), *Guidelines for Development of ASER Tools*, ASER Centre, New Delhi.
- ASER Centre (2012a), ASER 2012 - Household Survey Sheet, ASER Centre, New Delhi, <http://img.asercentre.org/docs/Bottom%20Panel/Key%20Docs/hhsheet.pdf>.
- ASER Centre (2012b), ASER 2012 - School Observation Sheet, ASER Centre, New Delhi, [http://img.asercentre.org/docs/Bottom%20Panel/Key%20Docs/schoolobservati  
onsheet.pdf](http://img.asercentre.org/docs/Bottom%20Panel/Key%20Docs/schoolobservati<br/>onsheet.pdf).
- CONFEMEN (2012), *Améliorer la Qualité de l'Éducation au Tchad : Quels sont les Facteurs de Réussite? Évaluation Diagnostique PASEC-CONFEMEN 2e et 5e du Primaire Année Scolaire 2009/2010*, CONFEMEN, Dakar.
- Crouch, L. (2008), “Snapshot of school management effectiveness aims, initial development, instruments, methods”, presentation, SSME workshop, Washington DC, 18 December 2008, [www.eddataglobal.org/management/index.cfm?fuseaction=pubDetail&ID=164](http://www.eddataglobal.org/management/index.cfm?fuseaction=pubDetail&ID=164).
- Dolata, S. (2005), “Construction and validation of pupil socioeconomic status index for SACMEQ education systems”, conference paper, International Invitational Educational Policy Research Conference, Paris, 28 September to 2 October 2005.
- Hooper, M., I. V. S. Mullis and M.O. Martin (2013), “PIRLS 2016 context questionnaire framework”, in I. V. S. Mullis and M. O. Martin (eds.), *PIRLS 2016 Assessment Framework*, TIMSS and PIRLS International Study Center, Lynch School of Education, Boston College and International Association for the Evaluation of Educational Achievement, Massachusetts, pp. 33-55.
- Howie, S. et al. (2012), *PIRLS 2011: South African Children's Reading Literacy Achievement, Summary Report*, Centre for Evaluation and Assessment, University of Pretoria, Pretoria, [www.up.ac.za/media/shared/Legacy/sitefiles/file/publications/2013/pirls\\_2011\\_report\\_12\\_dec.pdf](http://www.up.ac.za/media/shared/Legacy/sitefiles/file/publications/2013/pirls_2011_report_12_dec.pdf).
- Hungi, N. (2011a), “Characteristics of Grade 6 pupils, their homes and learning environments”, *SACMEQ Working Paper*, SACMEQ, Paris.
- Hungi, N. (2011b), *Accounting for Variations in the Quality of Primary School Education*, SACMEQ, Paris, [www.sacmeq.org/?q=publications](http://www.sacmeq.org/?q=publications).
- IEA (2013a), *PIRLS 2011 User Guide for the International Database: PIRLS Released Passages and Items*, TIMSS and PIRLS International Study Center, Boston College, Chestnut Hill, MA, and International Association for the Evaluation of Educational Achievement (IEA), Amsterdam.

- IEA (2013b), *PIRLS 2011 User Guide for the International Database: PIRLS Percent Correct Statistics for the Released Items*, TIMSS and PIRLS International Study Center and IEA, Chestnut Hill, MA and Amsterdam.
- Kirsch, I. and W. Thorn (2013), “Foreword: The Programme for International Assessment of Adult Competencies - an overview”, in *Technical report of the Survey of Adult Skills (PIAAC)*, OECD, Paris.
- LLECE (2009), *SERCE: Segundo Estudio Regional Comparativo y Explicativo: Los Aprendizajes de los Estudiantes de América Latina y el Caribe; Reporte Técnico*, (Second International Comparative Study of Student Learning in Latin American and the Caribbean: Technical Report), Office Santiago and Regional Bureau for Education in Latin America and the Caribbean, LLECE, Santiago.
- Martin, M.O. et al. (2012), “Creating and interpreting the TIMSS and PIRLS 2011 context questionnaire scales”, in M.O. Martin and I.V.S. Mullis (eds.), *Methods and Procedures in TIMSS and PIRLS 2011*, TIMSS and PIRLS International Study Center, Chestnut Hill, MA.
- Masters, G.N. and B.D. Wright (1997), “The partial credit model”, in W.J. van der Linden and R. K. Hambleton (eds.), *Handbook of Modern Item Response Theory*, Springer-Verlag, New York, pp. 101-21.
- Messaoud-Galusi, S. et al. (2012), *Student Performance in Reading and Mathematics, Pedagogic Practice, and School Management in Doukkala Abda, Morocco*, RTI International, North Carolina.
- Mullis, I.V.S. et al. (2012), “Assessment framework and instrument development”, in M.O. Martin and I.V.S. Mullis (eds.), *Methods and Procedures in TIMSS and PIRLS 2011*, TIMSS and PIRLS International Study Center, Chestnut Hill, MA.
- Mullis, I. V. S. et al. (2009a), *PIRLS 2011 Assessment Framework*, TIMSS and PIRLS International Study Center and IEA, Chestnut Hill, MA, and Amsterdam.
- Mullis, I.V.S. et al. (2009b), *TIMSS 2011 Assessment Frameworks*, TIMSS and PIRLS International Study Center and IEA, Chestnut Hill, MA, and Amsterdam.
- Mullis, I.V.S. and M.O. Martin (eds.) (2013), *PIRLS 2016 Assessment Framework*, TIMSS and PIRLS International Study Center and IEA, Chestnut Hill, MA and Amsterdam.
- OECD (2014a), *PISA 2012 Technical Report*, OECD Publishing, Paris, [www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf](http://www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf).
- OECD (2014b), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>.
- OECD (2013a), “Technical report of the Survey of Adult Skills (PIAAC)”, pre-publication copy, OECD, Paris.
- OECD (2013b), *PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264190511-en>.
- OECD (2013c), *The Survey of Adult Skills: Reader's companion*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264204027-en>.

- OECD (2008), School questionnaire for PISA 2009 main survey, OECD, Paris.
- OECD (n.d.-a), “PISA 2015 draft questionnaire framework”, [www.oecd.org/pisa/pisaproducts/PISA-2015-draft-questionnaire-framework.pdf](http://www.oecd.org/pisa/pisaproducts/PISA-2015-draft-questionnaire-framework.pdf) (accessed 5 August 2015).
- OECD (n.d.-b), “PIAAC Background Questionnaire: MS version 2.1 d.d. 15-12-2010,” OECD, Paris.
- Pierre, G. et al. (2014), *STEP Skills Measurement Surveys: Innovative Tools for Assessing Skills*, working paper, World Bank Human Development Network, Washington DC.
- Ross, K. et al. (2004), “Chapter 2: Methodology for SACMEQ II Study”, IIEP, UNESCO, Paris.
- RTI International (2013a), *SSME Classroom Inventory*, RTI International, North Carolina.
- RTI International (2013b), *SSME Head Teacher Questionnaire*, RTI International, North Carolina.
- RTI International (2013c), *SSME Item Bank*, RTI International, North Carolina.
- RTI International (2013d), *SSME School Inventory*, RTI International, North Carolina.
- RTI International (2013e), *SSME Student Questionnaire*, RTI International, North Carolina.
- RTI International (2013f), *SSME Teacher Questionnaire*, RTI International, North Carolina.
- SACMEQ (2007), *SACMEQ III: Manual for National Research Co-ordinators: Main Study*, SACMEQ, Paris.
- UIS (2009a), *WEI Survey of Primary Schools: Technical Report*, UNESCO Institute for Statistics, Montreal.
- UIS (2009b), *The Next Generation of Literacy Statistics: Implementing the Literacy Assessment and Monitoring Programme (LAMP)*, UNESCO Institute for Statistics, Montreal.
- UIS (2006), *Literacy Assessment and Monitoring Programme (LAMP) Background Questionnaire (BQ)*, UNESCO Institute for Statistics, Montreal.
- UIS (n.d.), *Literacy Assessment and Monitoring Programme (LAMP) - Background Questionnaire*, UNESCO Institute for Statistics, Montreal.
- Uwezo (2014), *Are Our Children Learning? Literacy and Numeracy across East Africa 2013*, Uwezo and Hivos/Twaweza, Nairobi.
- Uwezo Kenya (2013a), “Volunteer workbook - Kenya”, [www.uwezo.net/assessment/training](http://www.uwezo.net/assessment/training) (accessed 11 March 2014).
- Uwezo Kenya (2013b), *Are Our Children Learning? Annual Learning Assessment Report 2012*, Uwezo and Women Educational Researchers of Kenya (WERK), Nairobi.
- Uwezo Tanzania (2013), *Are Our Children Learning? Annual Learning Assessment Report 2012*, Uwezo and Tanzania Education Network (TEN/MET), Dar es Salaam.

- Warm T.A. (1989), “Weighted likelihood estimation of ability in item response theory”, *Psychometrika*, 54, Springer US, New York, pp. 427-450, <http://iacat.org/sites/default/files/biblio/wa99-02.pdf>.
- Wu et al. (2007), *ACERConQuest Version 2: Generalised Item Response Modelling Software*, Australian Council for Educational Research, Camberwell.
- Yu, A., and D. Ebbs (2012), “Translation and translation verification”, in M.O. Martin and I.V.S. Mullis (eds.), *Methods and Procedures in TIMSS and PIRLS 2011*, TIMSS and PIRLS International Study Center, Chestnut Hill, MA.



**From:**

## **A Review of International Large-Scale Assessments in Education**

**Assessing Component Skills and Collecting Contextual Data**

**Access the complete publication at:**

<https://doi.org/10.1787/9789264248373-en>

### **Please cite this chapter as:**

Cresswell, John, Ursula Schwantner and Charlotte Waters (2015), "Overview tables of contextual data collection instruments", in *A Review of International Large-Scale Assessments in Education: Assessing Component Skills and Collecting Contextual Data*, The World Bank, Washington, D.C./OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264248373-13-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).