PAL NETWORK
People's Action for Learning

FRAMEWORK

Acknowledgements

Glossary

ACER	Australian Council for Educational Research
ASER	Annual Status of Education Report
CLA	Citizen-led Assessment
DQSF	Data Quality Standards Framework
GAML	Global Alliance to Monitor Learning
GPLA	Good Practice in Learning Assessment
IAEG	Inter-Agency and Expert Group
MDG	Millennium Development Goal
NFER	National Foundation for Educational Research
NGO	Non-Governmental Organization
PAL Network	People's Action for Learning Network
SDG	Sustainable Development Goal
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPE	Universal Primary Education

Contents

The People's Action for Learning Network (PAL Network) is a south-south partnership whose member countries work across three continents to assess the basic reading and numeracy competencies of children, in their homes, through regular citizen-led assessments. The citizen-led assessment model was born in India in 2005 when India's largest NGO – Pratham, designed an innovative approach to assessing the basic reading and numeracy competencies of all children, regardless of their schooling status. This method of assessment came to be known as the Annual Status of Education Report (ASER). Over the past eleven years, the citizen-led assessment model has been borrowed and adapted in a further thirteen countries, and continues to grow. The PAL Network

was formally established in 2015 with a Secretariat based in Nairobi, Kenya.

In every member country, assessments are based on National Curricula expectations for a child in Grade 2[1]. Assessments are administered by trained citizen volunteers, orally (so as not to assume that the child can already read and write) and one-on-one. Citizen-led assessments are administered in the household to ensure a greater representation of children in the sample – not just those children who are enrolled and likely to be in school on the assessment day. Children who are not enrolled in school or who may not be regularly attending school are still included in the sample.

1.1: History of Network Growth

The growth of citizen-led assessments has happened organically, spurred by the interest and enthusiasm of citizens in global South countries to obtain reliable estimates of the acquisition of foundational skills for all children to inform policy and practice. As each new country has studied the citizen-led assessment model, they have adapted the survey tools and tests to their national context. Citizen-led assessments did not set out to be an internationally comparable metric of learning, but a nationally-owned, nationally-relevant, regular

snapshot of what children can or cannot do in that country.

Whilst the citizen-led assessment countries agree on a set of core principles, the processes and execution of citizen-led assessments happens slightly differently in each country. As such, each member country has held the responsibility for developing their own standards outlining how they ensure quality and reliability throughout every process of conducting the assessment.

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[1] This varies slightly across the network with some countries testing according to the national curricular expectations of a child in Grade 3. The Grade level of the tests is stated explicitly in every country publication.

In 2000, the Millennium Development Goals (MDGs) provided the world with a focus for their efforts to reduce global poverty and improve education and health by 2015. The second goal (MDG2) focused on achieving universal primary education. Despite significant progress, the goal was not achieved. Today, 61 million children of primary school age are still out of school. Exactly 40% (25 million) of those children are living in one of the fourteen PAL Network countries[2]. In addition to the crisis of access, PAL Network data demonstrates that many more children who are enrolled in school are not learning[3]. For the last decade, citizen-led assessments have made robust contributions to understanding this dual crisis facing education.

When the PAL Network was formerly established in 2015, the newly formed network advocated for the inclusion of an early grade indicator in the new set of global goals. The first PAL Network Steering Committee was held in the wake of the World Education Forum 2015, where the Incheon Declaration committed Ministries of Education worldwide to provide inclusive and equitable quality education and lifelong learning for all. As work began on designing the indicators for the new global goals, the PAL Network released a public statement in September 2015 to the Technical Advisory Group on Sustainable Development Goal 4. The statement demonstrated the suitability of citizen-led assessments to track progress of children achieving foundational skills in the lower primary grades.

In March 2016, the PAL Network Steering Committee sent an Open Letter to the Inter-Agency and Expert Group (IEAG) on SDG Indicators with an urgent appeal to retain the draft indicator for 4.1: measuring the acquisition of foundational skills in literacy and mathematics. The Network's collective insistence on the need for early grade indicators in the post-2015 framework ensured that SDG Indicator 4.1.1 included the percentage of children at Grades 2/3 who have learned the basics.

Since May 2016, PAL Network representatives have been active members of the Global Alliance to Monitor Learning (GAML) convened by the UNESCO Institute of Statistics. Key representatives from the network are active members of Task force 4.1, 4.2, the Assessment Implementation Task Force and the Strategic Planning Committee. In a consultative meeting held in Oxford in September 2017, the UNESCO Institute for Statistics committed to using citizen-led assessment data to report against the SDG4 Indicator 4.1.1.

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[2] UNESCO eAtlas of Out of School Children http://tellmaps.com/uis/oosc/#!/tellmap/-528275754 accessed 14th September 2017 at 17:30 EAT

[3] PAL Network, Citizen-led Assessments of Basic Learning Brief, http://palnetwork.org/wp-content/uploads/2017/06/2017_PAL_FourPager_Learning_EN.pdf accessed 14th September 2017 at 17:30 EAT

2.1: The Case for a Data Quality Standards Framework

Three key design features of citizen-led assessments often limit the extent to which the model is accepted as a robust and reliable assessment in national and international policy circles.

The first is the involvement of citizen-volunteers in conducting the assessment, which is often used to cast doubt on the quality and reliability of the data. The second is the simplicity of the assessment tools, which is often seen as evidence of a lack of sophistication and rigor. Lastly, the same foundational 'floor level' assessments are given to every child within a sampled household, regardless of their age or grade. This is often used to cast doubt on the scope of citizen-led assessments as they are unable to provide any information about the learning competencies of children who are able to complete the highest level of the basic assessment.

The citizen-led assessment model was designed carefully and deliberately to cater to the realities found in global South countries. The design reflects a philosophy that is different from that of standard school-based assessments, as citizen-led assessments train citizen volunteers to assess children regardless of their schooling status, using simple tests and tools, sitting one-on-one with the child, in the household. The initial simplicity is backed up by highly-sophisticated processes designed to ensure that the data generated are reliable. This includes systematic processes for sampling, partner and volunteer selection, training, monitoring and recheck. In addition, careful data cleaning and other methods are used to validate the data. However, due to the organic expansion of the network over time, these processes are not consistent across PAL Network countries, nor visible to people outside the network.

The Data Quality Standards Framework (DQSF) is a central element to the network-wide commitment to producing high quality, robust data to be reported at regional, national and international levels. The DQSF will help PAL Network countries to improve and ensure technical rigour, whilst allowing flexibility to accommodate the diversity of processes and adaptations to local context that is central to the citizen-led assessment model. The DQSF will be accompanied by implementation and monitoring plans, where member countries will support each other to meet the minimum required standards, learn from best practice across the network and help target technical support. The DQSF aims to be clear and accessible to all users, no matter how familiar they are with citizen-led assessments.

2.2: Creation of a Data Quality Standards Framework

In January 2017, ASER Centre, India, convened country leaders and senior data analysts from every network country in a data quality workshop in Aurangabad. Participants agreed on the need to produce a minimum set of quality standards for the network. The PAL Network Data and Design Working Group convened their first meeting and drafted a set of 'irreducible minimum standards' as a starting point for discussion and deliberation. During the workshop, 62 documents pertaining to data quality were collected from the network members for further analysis to inform a larger Data Quality Standards Framework. From the analysis framework, it was clear from the existing instruments and procedural documents that a common core unites the citizen-led assessment countries, with tailored additions relevant to local contexts. Analysis of the existing documents was undertaken by the Data and Design Working Group Secretariat Liaison with follow-up interviews

conducted with data analysts in each of the network countries to finalize. The initial draft of the framework was produced in collaboration with the National Foundation for Educational Research (NFER) working closely with Muhammad Usman at the PAL Network Secretariat. The initial draft was further developed and refined by Dr. Wilima Wadhwa and Hannah-May Wilson. A wider online consultation took place where members of the PAL Network Data and Design Working Group, together with data analysts and statisticians within the network made important contributions to the document. The framework was further refined with the assistance of the Australian Centre for Educational Research (ACER). Finally, a second data quality workshop took place in Nairobi, Kenya in January 2018 convening country leaders and senior data analysts to finalize the document and draft implementation plans.

The PAL Network DQSF is underpinned by the key quality concepts for learning assessments, as outlined in the UNESCO Principles of Good Practice in Learning Assessment (GP-LA). Although these principles are directed towards agencies with, or associated with national governments, the key quality concepts are expressions of fundamental principles specifically related to large-scale learning assessments. The following sections state the respective quality concepts in italics, followed by a statement demonstrating how citizen-led assessments adhere to them.

3.1: Fitness for Purpose

'Fitness for purpose' describes the concept that the ultimate goal of a learning assessment is to generate data that are appropriate for their designated purposes.

The purpose of citizen-led assessments is to provide citizens and key education stakeholders (including the international community in the context of measuring SDG 4) with reliable data about learning based on national curricular expectations for children regardless of their schooling status; enabling citizen engagement and involvement in holding governments accountable for the promise of quality education for all children. For citizen-led assessments to be fit for the purpose of accountability, it is essential that the quality of data is of a sufficient standard to be trusted by government and public audiences. The standards to achieve this are described in this document.

3.2: Clarity and Consistency of Purpose

There can be multiple purposes for conducting large-scale assessments of learning and all decisions made in relation to conducting the assessment should be consistent with its stated purpose. Technical decisions include, for example, who to assess, what to assess, the format and design of the assessment, how it is implemented in the field, which analyses are used, and how results will be reported and disseminated.

Citizen-led assessments take place in the household rather than in the school, to ensure a wider range of children are included in the sample, regardless of their schooling status. Assessments are conducted in reading and mathematics[4], according to the national curricular standards set for that country. This allows the assessments to be nationally-owned and nationally-relevant to inform both policy and practice. All children within a stated age group are assessed to better understand the acquisition of foundational skills as the building blocks for all future progress. Assessments are conducted by trained citizen volunteers, to enable ordinary citizens to see and understand the situation of children's learning first-hand. Tests are designed and presented simply, to enable all citizens to follow the assessment process. Citizen-led assessment data is communicated simply and visually, enabling everyone to understand the results – from ordinary citizens to policymakers.

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[4]   This varies slightly across the network with some countries testing according to the national curricular expectations of a child in Grade 3. The Grade level of the tests is stated explicitly in every country publication.

3.3: Objectivity and Independence

Quantitative data occupy a position of authority in the global landscape when describing phenomena like education quality and equity. Whilst this position is based on the idea that quantitative data provide an unbiased, value-free measure of these phenomena, data are not inherently objective; and can be manipulated at various stages of the assessment process. In order for stakeholders to trust the results of an assessment, the collection of the data must be objective.

Citizen-led assessments are funded by international donor organizations and not by national governments or affiliated institutions, retaining their independence. This provides an important accountability mechanism for citizens to hold governments to account for the promise of quality education for all children. Citizen-led assessment countries publish their sampling strategies and frameworks, which are designed by, or in consultation with, the National Bureau of Statistics or an equivalent agency. Learning assessment professionals and consulting experts from government agencies or academic institutions are involved in the creation of new tests, and sign off to say that these tests adhere to the national curricular expectations. These measures are taken to ensure the technical rigour of citizen-led assessments, avoiding inappropriate influence and retaining objectivity.

3.4: Transparency and Accountability

All aspects of an assessment program should be open to outside scrutiny. This means that the assessment methodology, implementation processes and data analysis methods and procedures should be clearly described and publicly available. By justifying the decisions made in relation to the assessment methodology, implementation and analysis, the results are not only verifiable by other experts in the field, but they are more robust to criticism. This also helps contribute to the objectivity of the results. Transparency means that an assessment program is held accountable to its stakeholders. It ensures that assessments are objective, feasible, timely, technically robust, consistent with their intended purposes, use resources efficiently, and are useful for education policy and practice. It also ensures that the assessment program adheres to laws governing the generation of education data and statistics.

Citizen-led assessment countries strive to publish their assessment methodology, training materials, sampling frameworks, survey materials and tests online. Data analysis methods are disclosed in the published reports, with datasets available either online or upon request, together with codebooks and accompanying notes to ensure that the analysis can be verified by other experts in the field. Citizen-led assessments are conducted by civil society organizations in partnership with local community-based partner institutions and citizen volunteers in order to hold governments to account for their promises. Using trained citizen volunteers to collect data allows the cost of conducting a large-scale, household-based assessment to remain relatively low whilst making the learning situation visible to hundreds of thousands of people.

3.5: Technical Rigour

It is essential that assessment methodology, analysis and interpretation of data follow scientific principles. The aim of all key areas should be technical rigour so that inferences drawn are valid and their level of certainty can be determined. That includes for example rigorous scientific sampling procedures, selection of appropriate analytic methods, well-constructed contextual instruments, and valid and reliable assessment tools.

Technical Rigour is a high priority for citizen-led assessments. Sampling strategies and frameworks are designed by, or in consultation with, the National Bureau of Statistics or an equivalent agency. Learning assessment professionals and consulting experts from government agencies are involved in the creation and piloting of new tests. Each citizen-led assessment country has a documented monitoring and re-check framework, ensuring that quality data is collected in real time with mechanisms for both purposive and randomised spot-checks. Data analysis methods are disclosed in the published reports, with datasets available either online or upon request, together with codebooks and accompanying notes to ensure that the analysis can be verified by other experts in the field. This Data Quality Standards Framework (DQSF) is a central element to the network-wide commitment to technical rigour.

3.6: Ethicality and Fairness

The broad goal of research ethics and fairness is to ensure that no harm is done to individuals or groups as a result of an assessment of learning outcomes. This broad concept of 'do no harm' should be considered in all areas of an assessment program, from defining the purposes and its development, to administration and data management, to analysis, reporting, interpretation and communication.

Citizen-led assessment countries notify the appropriate national and local authorities in advance of the assessment, obtaining the necessary permissions (where appropriate) to conduct research and safeguard the volunteers. Where it is necessary, permission letters are obtained explaining the nature and type of research being conducted. Where permission letters are issued, every member of staff, training coordinator, partner organization and citizen volunteer carries the permission letter when conducting research. Efforts to inform all levels of government are a priority, including the purpose, aims, duration and target population of the

citizen-led assessment. At the village level, the village leader or 'Chief' is visited first to gain permission to conduct research. In most instances, the village leader or his/her representative will facilitate entry to the sampled households either by accompanying the citizen volunteers or by notifying the head of the household in advance. The head of the household is under no obligation to grant access to the household, or to provide any information. There are no repercussions should the head of the household decide not to participate and this information is made clear by citizen volunteers.

For learning assessments ethics and fairness principles related to the participant seem most important. Assessments should be designed and administered considering the well-being of participants. This includes, for example, considerations about the timing and length of the assessment, which should be appropriate for the target population. Such decisions require a balance between the scientific needs of the assessment design, and the testing load that participants can handle.

Should the parent or guardian decide that they do not wish their child to be assessed, then this decision shall be respected and noted in the survey booklet. Similarly, if a child does not wish to be assessed then they will not be forced to do so. Efforts are made to ensure that the child is assessed in a friendly atmosphere and no undue pressure or stress is put on the child. Where a child may be nervous, citizen volunteers are trained to be kind, speak softly, sit at the same level as the child, assure them that they want them to do their best. Children are given a second chance to complete each competency level, encouraging the child to perform at the highest level they are able to. No child is punished for not being able to complete any section of the assessment.

A primary principle in this regard is to ensure the confidentiality of the participants. This includes anonymizing data for public release, the secure storage of test data whether they be in the form of completed paper-based tests or digital databases, and having staff and contractors sign confidentiality agreements.

Maintaining confidentiality of research participants is extremely important. During data analysis and reporting, information pertaining to the identity of a person, family, household, village or school is anonymized. This data is never released. The lowest level for which data is reported and published is at the district level, or equivalent. All paper-based survey sheets are kept safely and securely in one physical location, with protected access reserved for staff only.

A principle of fairness that is strongly related to technical rigour is the aim to minimise measurement bias. Measurement bias is where a test and/or contextual instrument consistently discriminates against a particular group of participants for reasons unrelated to the learning domain being assessed or background data being collected. For example, complex language in test instructions may prevent some participants from understanding what they are required to do to answer the question. As such, these participants may be unable to fully demonstrate their skills and knowledge or personal background and attitudes.

Citizen-led assessment countries take measures to minimize measurement bias by keeping all tests and tools as simple as possible. All assessment tasks are piloted to gain an understanding of how the tasks work. Volunteer citizens are drawn from the local area where the assessment is being administered and as such, speak the local language. Volunteer citizens are trained to introduce the research, answer questions about the research, and explain the test instructions in the local language that the head of the household and children will understand. The tests are designed and formatted in such a way that many parents are able to follow what is expected of the child, even if they are unable to read themselves.

Another important ethics and fairness principle for large-scale assessments that relates to the participant as well as to the quality concepts of clarity and consistency of purpose and technical rigour, is inclusiveness. Inclusiveness means to design assessments to be relevant for as many members of the target population as possible. Thus, the concept of inclusiveness has an impact on the definition of the target population (e.g. all children between age 5 and 16) as well as on practical matters such as the translation or adaptation of the assessment tools into different national/regional languages or accommodating special needs (e.g. providing large- print test and questionnaire forms for people with visual disabilities). Ideally the judgement about inclusiveness is made in consideration of the main purposes of the assessment, the precision of the data required to fulfil these purposes and the operational costs for collecting data of such precision, especially when resources are limited.

The principle of inclusiveness is a founding principle of the citizen-led assessment design. The Sampling Framework samples at a household level, rather than at the school-level. In global South countries where so many children are either out-of-school or attending irregularly, citizen-led assessments are designed to be administered in the household to ensure that children are included in the sample who:

a) *have never been enrolled in school;*
b) *are enrolled in school but not currently attending;*
c) *happen not to be in school on the day of assessment; or*
d) *do not attend government or private school, but alternative institutions such as non-formal schools, religious schools, low-cost private schools or community-based schools*

However, sampling at a household level, means that there are still children within the target population who may not be included in the household sample, for example: children living in nomadic or travelling families, displaced or refugee children, children in care institutions and children's homes, children attending boarding schools and children in hospital, for example. These children fall outside of the Sampling Framework for citizen-led assessments. There are also children who may be included within the Sampling Framework at the household-level who may still be excluded from citizen-led assessments, for example: children living in the household with disabilities that would not allow them to participate (for example, deaf and blind children) and children living in boarding schools.

Whilst the PAL Network of citizen-led assessment countries recognize the need to include children with special needs who are not yet captured by standard sampling frames, we are restricted by a number of different factors in the citizen-led assessment model. The first constraint in expanding the scope of the sample to include children with disabilities is the additional resources required to design and produce specialist tests and tools. The second is on the specialized nature of training citizen volunteers to administer specialist tests and tools, as well as in-depth training on surveying a household with a child who has a disability. An additional challenge is estimating the extent of disability, rather than just recording the prevalence of a certain disability. Fitness-for-purpose is the guiding principle in making citizen-led assessments as inclusive as possible, within the resource constraints that are present in each country context.[5]

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[5] With the PAL Network of citizen-led assessments, several member countries are taking steps to include previously excluded populations of children in their assessments. ASER Pakistan collects data on the prevalence of children with disabilities; Uwezo Uganda is conducting the assessment in refugee-hosting districts; and ASER Centre in India collects data on street children through the Ward census.

The DQSF presents a tiered set of technical standards, to ensure that all assessments across the network yield high quality, robust and reliable assessment data. Tier A standards are the minimum standards that each country must meet in order to be considered a member of the PAL Network. Tier B standards are the desirable standards recommended for each member country once they have achieved the minimum standards. Tier C standards represent broader goals of best practice, should resources allow, including measures to improve comparability across PAL Network assessments. The chronological order of this document aims to match the order in which the various different processes of conducting a citizen-led assessment are carried out. Tier A standards are listed first, followed by Tier B and Tier C Standards.

Whilst the DQSF recommends a number of standards and best practices, adoption crucially depends on the availability of resources. It is expected that countries will adopt the standards in a phased manner, with all Tier A standards achieved within 12 months of the next planned assessment in each member country.
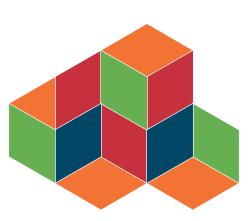
4.1: Development of Survey Tools

Across the network, the overarching research question(s) will provide the framework for the development of the survey tools to collect and record contextual data and children's learning outcomes. In most cases, the survey tools include at least two of the following: the household survey sheet, the school survey sheet and the village survey sheet. The survey tools are usually printed on paper for volunteers to complete during the fieldwork, although some countries collect data and information digitally on a tablet. It is essential that the tools are presented in a way which is simple and easy to understand, has a logical order, is legible and error free. The principle of simplicity should remain at the centre of survey tool development. Collecting extraneous information (which might be useful for analysis) is very tempting, but the architecture of citizen-led assessments is different from that of standard research studies or national data collection efforts. Overloading the survey material with additional questions can make data collection complex and lengthy. Piloting the survey material to ensure that the questions make sense to both the person asking and the person answering is necessary, ensuring that it is possible to get answers to the questions, as well as monitoring how much time is taken to ask all the required questions.

4.1: Development of Survey Tools

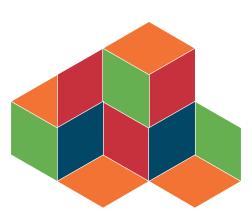| 1A	Research question(s), procedures and rationale for developing survey material is documented and published by each member country. The documentation should clearly state the research questions and rationale for the content to be included in the survey material for each data collection sheet.
2A	Survey materials are reviewed by senior country leadership to ensure that they are clear, simple, legible, error free, and there is sufficient space to record data
3B	Every time a new survey tool is created, or additional questions added, the survey material is piloted to confirm that the survey tool is appropriate for the audience, and that the data obtained is likely to be suitable for the intended analysis
4B	After the pilot has been conducted, the survey tools are reviewed by the head office senior team and signed off for use
5C	Across member countries, a common contextual framework is developed that states the research questions and rationale for developing common questions for household survey material to allow cross-country comparisons
6C	Across member countries, common questions for household survey material is agreed to allow cross-country comparisons

4.2: Test Development[6]

Across the network, tests are designed according to the national curricula expectations of a child in Grade 2[7]. In each member country, it is vital that the standard, quality and difficulty of the tests remain constant across the test samples and across the years. Since one of the overarching objectives of citizen-led assessments is to monitor progress over time, consistency and comparability of testing tools are essential. In order to assess the learning levels of different groups of children validly, tests should be of equal difficulty and have 'linguistic equivalence'. This allows comparisons of children within countries where they learn using different or multiple languages. It is important that any adaptations do not alter the difficulty level of a question to make it easier or more difficult for the child to give a correct response. To ensure consistency in the development of tests, an Assessment Framework and a Test Development Framework are necessary to document the theory and design of developing tests.

An Assessment Framework should cover the purpose of the assessment; definitions of the domains to be measured (reading, mathematics); a description of the different strands within each domain; a description of the cognitive skills that will be measured and specifying the test content and format of tasks, to ensure consistency and quality in test development from one year to the next. The development of this document ensures external parties understand the scope of the assessment.

A Test Development Framework should include guidelines on who should be involved in a test development panel of experts, describe the process of developing tests, describe the alignment of test content with national curricula; describe the design and structure of the test tool; the mode of delivery and response format; the scoring criteria; the test length and details of required standards for pre-testing and piloting.

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[6]   Standards for Test Development across the network of citizen-led assessment countries are currently being developed and should be published by December 2018

[7]   This varies slightly across the network with some countries testing according to the national curricular expectations of a child in Grade 3. The Grade level of the tests is stated explicitly in every country publication.

4.2a: Ensuring Quality Test Development

1A	An Assessment Framework and Test Development Framework is developed and published by each member country
2A	A framework of the different competencies to be assessed is developed by each member country, documenting how each of the competencies compare across the languages of assessment to ensure linguistic equivalence
3A	Clear Guidelines for ensuring linguistic equivalence of tests administered in multiple languages are developed, including adaptation guidelines, preventing any tests being directly translated across languages
4A	For each new test developed, a panel of experts is convened/consulted to ensure tests are developed in line with the national curricular expectations and the process is documented
5A	For each new test developed, a pilot is conducted to assess usability of tests and consistency of test data across language versions. After the pilot has been conducted, the review process and any amendments made to tests is documented.
6A	Clear standards for verification of final tests by an experienced test developer fluent in both the target and additional language verifies the difficulty of the adapted or translated test version and signs off for use
7C	Across member countries, a common test development framework and test items are developed that includes a description of how the common test items align with the different national curricula, to show and highlight the relevance of the common tasks
8C	Post-survey psychometric evaluation and review of assessment results is conducted to confirm the reliability of the tests

4.3: Sampling

Sample design should be created or validated by the country's National Bureau of Statistics or an equivalent agency, or in consultation with the databases of these agencies, or in consultation with experts. Sampling methods must follow standard statistical principles, using reliable and (wherever possible) official sampling frames. The most recent available government census should be used to draw the sample. The sample size should be based on the desired precision of estimates from the survey as indicated by the sizes of standard errors or confidence intervals around those estimates. Precision standards may vary for different population subgroups – e.g national Vs regional estimates.

The sample design and methodology documentation should include: a description of the target population; stratification of the sampling frame to representatively cover any sub-population of interest; a description and explanation for any exclusions (for example, specific nomadic, ethnic or language groups, children with specific disabilities that would not allow them to complete the test, or areas that cannot be accessed due to conflict or natural disaster).

4.3: Sampling

1A	The most recent available government census is used to draw the sample, and sampling methods follow standard statistical principles using official sampling frames
2A	The sample design, methodology and coverage should be documented and published by each member country ensuring complete transparency
3A	The sample design is either created or validated by the National Bureau of Statistics or equivalent agency, or in consultation with the databases of these agencies, or in consultation with experts
4A	The sample is representative for the target population (and pre-defined sub-populations) at the lowest level of disaggregation (district level or equivalent is recommended) and this is documented in the sample design
5A	The sample size for each sub-population is large enough to enable statistical comparisons and this is documented in the sample design

4.3: Sampling (continued)

6A	The term 'household' is defined in every sampling strategy and framework (ideally conforming to the definition typically used in demographic research in global South countries, of the number of household members eating from the same pot)
7A	The target population of children to be assessed is clearly defined in the sampling strategy with an explanation for the choice of age parameters
8A	The sampling strategy includes a description of weights and how they are calculated and applied to allow users to generate weighted estimates
9A	Any sampling variations during fieldwork are escalated to the member country head office and recorded
10A	A sampling note must be produced to accompany each dataset that includes any special information about the reason for non-coverage, for example: manmade disasters, areas with political or other violent conflict and situations where a replacement village strategy is employed, ensuring complete transparency about coverage
11C	A minimum response threshold, replacement strategy and escalation plan is clearly defined in the sampling strategy
12C	The extent of non-coverage is estimated using available data sources from the National Bureau of Statistics in addition to data from previous and ongoing citizen-led assessment implementation
13C	If the sampling framework is out of date, limitations should be accounted for with estimates of the likely extent of under-coverage
14C	Guidelines for the use of replacement units (for example, in the case a household refuses to participate) is documented in the same design

4.4: Recruitment

The assessment is implemented in partnership with local partner organizations, who are usually responsible for recruiting and training volunteers, managing and monitoring the fieldwork, local level trouble shooting and emergency response, collecting and checking survey data and general oversight of the fieldwork processes. The country head office is usually responsible for the identification and selection of partner organizations, training key personnel from partner organizations to train volunteers in how to conduct the assessment, regional and national-level troubleshooting and emergency response, monitoring and spot-checking fieldwork processes, recruiting and training data entry personnel (where applicable) and transporting the paper survey booklets (where applicable) to be entered into data management software.

As the citizen-led assessment model relies heavily on partner institutions and citizens, it is essential that standards for recruitment are adhered to as the quality of the partners implementing the assessments ultimately determines the quality of data collected.

4.4a: Role of Member Country Head Office

1B	A pre-defined criteria for ensuring quality recruitment and assessment processes is documented by each member country
2C	Partnership and recruitment requirements are mapped for each assessment, detailing the number of master trainers, partner organizations, volunteers and data entry personnel (where applicable) to be recruited
3C	A database of master trainers, partner organizations, and data entry personnel involved in each assessment is developed to aid institutional memory and to facilitate performance management
4B	After the pilot has been conducted, the survey tools are reviewed by the head office senior team and signed off for use
5C	Across member countries, a common contextual framework is developed that states the research questions and rationale for developing common questions for household survey material to allow cross-country comparisons
6C	Across member countries, common questions for household survey material is agreed to allow cross-country comparisons

4.4b: Recruitment of Partner Organizations

1A	A predefined minimum criteria for partner organizations is documented by each member country to aid selection and recruitment
2B	A standardized model or 'Terms of Reference' is developed by each member country to clearly define partnership, roles and responsibilities of the partner organization

4.4c: Recruitment of Master Trainers / Facilitators

1B	A predefined minimum criteria for master trainers and facilitators is documented by each member country to aid selection and recruitment
2C	A standardized model or 'Terms of Reference' is developed by each member country to clearly define partnership, roles and responsibilities of the master trainers and facilitators

4.4d: Recruitment of Volunteers

1A	A predefined minimum criteria for volunteers is documented by each member country to aid selection and recruitment, and every effort is made to ensure volunteers meet these criteria, either through recruitment or development
2A	All volunteers are able to complete the highest level of the tests they are going to administer (both literacy and numeracy)
3B	A standardized model or 'Terms of Reference' is developed by each member country to clearly define partnership, roles and responsibilities of the volunteers

4.4e: Recruitment of Data Entry Personnel (only where paper survey booklets are used to collect data)

1A	Some predefined minimum criteria for data entry personnel is documented by each member country to aid selection and recruitment and every effort is made to ensure data entry personnel meet these criteria, either through recruitment or development
2A	A standardized model or 'Terms of Reference' is developed by each member country to clearly define the roles and responsibilities of the data entry personnel

For those countries within the network who use tablets or other digital devices for data collection, the recruitment of data entry personnel may not apply

4.5: Training

The assessment is implemented in partnership with local partner organizations and in some cases, academic institutions. Training therefore is an important component of the citizen-led assessment model, as training the multiple stakeholders involved (master trainers and volunteers etc.) in delivering the assessment can enhance the quality of the data collected. Training plays a key role in familiarising partner organizations, trainers and citizen volunteers with materials, policies, monitoring and recheck activities, and overarching quality control. Auditing training sessions, testing the knowledge of trainees, and ensuring that trainees have access to written guidance are all likely to improve the learning experience and the quality of implementation.

4.5a: Role of Member Country Head Office

1A	A document outlining the expected outcomes of the training sessions for each different target audience is developed by each member country. 'Adequate' training is considered to be where all the documented outcomes are achieved
2A	Adequate training for all staff involved in assessment implementation and re-check is designed, documented and executed by the member country head office.

4.5a: Role of Member Country Head Office (continued)

3A	Adequate training for all staff and contract employees involved in data entry is designed, documented and executed by the member country head office
4B	An auditing procedure is documented to ensure that the training delivered is of sufficient quality to meet the standards set out in the training material

4.5b: General Standards for Training

1A	Training manuals, checklists and user guides are developed for each different set of trainees
2A	Training manuals are published to the website
3A	All levels of training include a module on ethics, covering child safeguarding issues
4B	All levels of training include scoring guides for each test task to ensure a uniform approach to scoring children on each task of the test
5B	Training policies outline how trainees will be assessed and what remedial training options may be offered
6B	An escalation strategy for challenges and emergencies faced in the field are published and included in the training – with a particular focus on security and external events
7C	The household sampling procedures, sampling requirements and recording of sampling issues are included in all training sessions so that trainees understand the importance of, and reasons for, conducting and recording the household sampling

4.5c: Training of Staff, Master Trainers and Partners

1A	The training of staff, master trainers and partners includes classroom learning modules and practice fieldwork
2B	The training of staff, master trainers and partners includes material and guidelines on how to facilitate training sessions, including individual and group activities, role plays, games and other activities
3B	The training of staff, master trainers and partners includes sessions on identifying and responding to citizen volunteers who do not meet minimum standards
4B	The training of staff, master trainers and partners includes training on field monitoring and trouble-shooting

4.5d: Training of Citizen Volunteers

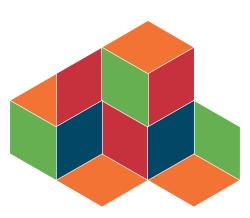| 1A	The ratio of citizen volunteer trainees to trainers is no more than 30:1 to ensure quality of training.
2A	The training of volunteers includes classroom learning modules and practice fieldwork
3A	Training is provided in the local language with adequate attention provided to training volunteers who may have to conduct the explanations in their mother tongue or home language
4A	Training of citizen volunteers must include a section on the importance of completing ALL sections of the survey sheet to ensure no missing data
5B	Every trainee is given a quiz to complete at the end of each training day, to allow the trainers to identify problem areas to be addressed through further training, or citizen volunteers who require additional support or training

4.5d: Training of Citizen Volunteers (continued)

6B	Every trainee is evaluated at the end of the 'classroom' training to ensure they have adequate knowledge to participate in the practice fieldwork training
7B	At the end of the classroom and practice fieldwork training, every trainee takes one final exam to ensure they have adequate knowledge to effectively conduct the assessment. Trainees who do not have adequate knowledge are provided with additional support or are dropped from the assessment
8C	The household sampling procedures, sampling requirements and recording of sampling issues are included in all training sessions so that trainees understand the importance of, and reasons for, conducting and recording the household sampling

4.5e: Training of Data Entry Personnel (where applicable)

1A	The training of data entry personnel includes practice in entering data into the relevant data entry software
2B	An auditing procedure is documented to ensure the training for data entry clerks and data entry supervisors meets the training standards

4.6: Data Collection and Fieldwork

To get a valid understanding of children's learning, the data collected must be of high quality. This means it must be collected in a consistent and valid manner. Standardized and well-documented field methods ensure reliable, consistent and comparable data. Standardization also ensures uniform procedures, thereby reducing non-sampling errors. Uniformity of the testing procedure is important as variations in the procedure are likely to impact test performance.

Examples of these include but are not limited to: timing of assessments, information given to children and families, objectivity of the citizen volunteer, quality of the support and training materials, noise and environmental disturbances as well as the number of onlookers. To reduce the possibility of these confounding factors impacting the data collected, it is important to keep the process of data collection as consistent and uniform as possible.

4.6: Data Collection and Fieldwork

1A	Every village or enumeration area is visited by two citizen volunteers (preferably one female and one male)
2B	Procedures for collecting information and delivering materials in the field (including confidentiality and security) are standardized, documented and published
3C	Checklists enabling volunteers to summarise key issues encountered in data collection and variations to standard procedures are designed and completed during each assessment cycle
4C	The timing of each assessment is documented and efforts to conduct testing at a similar time of year are included in policy and procedure. Timing should include: time of year for assessment, recommended fieldwork days and full assessment cycle period
5C	Checks to ensure volunteers have adhered to ethical standards during fieldwork are documented in survey tools, covering informed consent and child safeguarding

4.7: Field Monitoring and Re-check

Detailed field monitoring and re-check processes ensure that robust and reliable data is monitored in real time and verified to be accurate. Field monitoring and re-check processes are an important component of the citizen-led assessment model: both for the partner organizations (for real time monitoring during data collection) and at the member country head office (for re-check and follow-up after the assessment has been completed). Documented monitoring and feedback processes ensure that interested stakeholders and the general public can see that the quality assurance measures are adequate to ensure that assessment data are not compromised by inconsistent, incorrect or incomplete administration practices.

4.7a: Field Monitoring

1A	Documented monitoring processes are created and published to support data collection and generation of timely monitoring reports
2A	The minimum number (or percentage) of volunteer pairs to be monitored in the field in live time is documented, using a variety of different monitoring methods, that allow the country head office to systematically document and analyse the observations made during monitoring
3A	Every field monitor should complete a standardized monitoring tool or document to ensure that what is being observed and monitored is the same in every region
4A	The documentation of findings from monitoring processes should be produced annually and discussed with the head office team internally
5B	The monitoring processes feed into the next assessment to ensure that any weak areas or issues of concern are responded to in training
6B	An Escalation and Issues Management Strategy is developed for arising issues during fieldwork, with fidelity to the guidance provided in the training

4.7b: Re-check

1B	Documented re-check framework and processes are created and published
2B	A standard for the method, and minimum number (or percentage) of assessments to be re-checked after survey completion, using a variety of different methods, is published and the process documented
3B	A re-check report is produced and discussed with the head office team internally
4B	The re-check report and findings feeds into the next assessment to ensure that any weak areas or issues of concern are responded to in training

4.8: Data Management

Location of data entry centres and procedures for entry and cleaning vary according to the size of the country, the scale of the assessment, the location of the member country head office, in-house resources and expertise, human resources and equipment. To ensure data entry from paper-based assessments are entered with as few errors as possible, documented data management processes are a key component of the citizen-led assessment model.

Documented data management processes should include: a description of the data entry processes undertaken and accompanying quality assurance procedures to ensure accuracy, the data cleaning procedures undertaken; a description of the database (including key variables, structure, recorded information and additional information about scales or tables) and a complete codebook that accurately matches the final dataset. For those countries within the network who use tablets or other digital devices for data collection, the data management processes may be slightly different.

4.8: Data Management

1A	Documented data management processes are published allowing anyone to replicate the findings
2A	Data entry manuals are developed and published, that clearly describe the entire process of data entry, re-check and accompanying quality assurance procedures, to ensure these processes are followed consistently by all data entry personnel
3A	Where the data entry centre is housed within the organization itself, minimum standards to recruit data entry personnel are developed and published and all applicants are assessed against the minimum criteria as indicated in section 4.4e
4A	Software for data entry is developed where data has been collected in paper formats, incorporating checks and balances to ensure accurate entry of data, minimizing data entry errors and ensuring that there are no missing fields
5A	An assessment of the impact of missing data (for example, due to entry cut off dates) is disclosed in the accompanying documents to the datasets
6A	A data cleaning protocol must be created and published, explaining how data cleaning is undertaken for each new dataset
7A	Any key challenges related to the quality of data that might affect statistical analysis are disclosed in the accompanying documents to the datasets and the published report
8A	A document containing processes for all the steps that are taken to put the data in the public domain is documented and published
9A	Datasets are publicly available, or available on request, with appropriate protocols to ensure that use of data is consistent with the purpose of assessment
10B	Methodologies for re-checking the data entry processes are developed, applied and published including standardization of re-check and other key parameters across the network

4.9: Statistical Analysis and Weighting

For the statistical analysis presented in any publication to be considered reliable, it is important that it is not only checked for errors prior to publication, but can also be replicated by others. To enable this, all steps in the analysis need to be documented. Moreover, data will need to be publicly available (or available on request), and disclosures will have to be made on any challenges related to data quality. The latter elements are particularly important in enhancing the credibility of analysis presented. Any undisclosed discrepancies can lead to a loss of credibility in analysis and findings. Additionally, depending on the sample design and lowest level of disaggregation, estimates may need to weighted for aggregation to the next level of representation. Wherever applicable, weights should be defined and documented and calculated weights should be included as a variable in the dataset.

1A	A codebook must be created and published for every dataset. A codebook is a description of the variables in the dataset so that the user knows what a 'bad record' is when conducting analysis
2A	Codebooks are thoroughly reviewed internally to ensure that all variables are listed and labelled correctly
3A	Any discrepancies between data used for analysis and the raw dataset are disclosed in the accompanying documents to the datasets and the published report
4A	Descriptive records of the analysis performed on data are saved and stored to ensure the analysis can be replicated at a later date.
5A	Protocols to ensure that data analysis and data tables are checked thoroughly before publication are documented to verify that: the tables are complete; the base of each table is correct and the source for the data is provided
6A	Weighting methodology is clearly defined and articulated, in accordance with the defined target population, sampling strategy and approach to representativeness. Weights are available in the dataset
7A	The conditions under which weighting is advisable / methodologically sound is defined in the weighting methodology, with guidelines on when it is necessary to introduce weights developed and published

4.10: Reporting

Publications remain the main avenue for dissemination of findings. As a consequence, some basic standards around how reporting is done are needed to ensure that findings are credible. This section highlights some of these basic standards, and attempts to set out some best practices in the area. Many of these best practices may not necessarily affect data quality, but allow users to understand any challenges related to data quality instead.
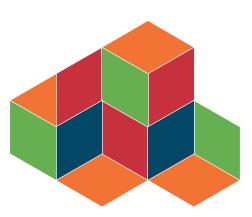
1A	Published reports must contain a brief description of the assessment purposes, main characteristics and methodology (including sampling; challenges; limitations), headline results of learning levels, results disaggregated at an appropriate level.
2A	If comparative conclusions are being drawn, publications must include sufficient contextual information to ensure that differences between groups can be understood in relation to their contexts
3A	Publications include sufficient description of the process of analysis so that the validity of the analysis is clear
4B	Conclusions drawn from the findings in a report are directly based on/backed-up by these findings (and if they go beyond to be supported by findings from other studies/research literature)
5B	Report templates are designed and published in consistent professional format, appropriate to the target audience
6C	Where possible, comparison over time is included in publications and only made with data from assessments that are consistent over time in: a) the comparability of the target population; b) the data collection procedures; and c) the content assessed
7C	If and when cross-country comparisons are included in publications, further caveats on comparability are included as indicated above in 6C
8C	Reports are published in the official language(s) of that country

4.10: Reporting (continued)

9C	Where inferential analysis is undertaken, technically sound and appropriate analysis techniques are used for the data available (for example, calculating standard errors) and included in an appendix, accompanied by a specific note on how to read the standard errors
10C	Where deemed necessary, annexures and technical notes are included in the national reports

4.11: Statement of Ethics

A core principal of the PAL Network is that the assessments and procedures should be constructed and conducted in an ethical fashion. To this end, all member countries must have an ethics statement to demonstrate that the following key ethical principles have been considered and that procedures are in place to ensure they will be met consistently.

1. Assessments and procedures are created so that the data collected is of high integrity and quality.
2. Participants must be fully aware of the following before they undertake the survey
   a. *the purpose of the survey*
   b. *what is required of them*
   c. *that they have the right to refuse their participation*
   d. *how their data will be used*
3. There should be documented evidence that participants have understood principle b. what is required of them, and have given informed consent to participate. As the PAL Network Members assess children, informed consent should be sought from adult family Members and/or guardians of the children. Ideally, assent from the child should also be obtained before assessments commence.
4. Care is taken to keep the survey responses confidential and that anonymity of the participants is maintained throughout reporting and in the published database.
5. Care is taken to ensure any potential harm to the participant and citizen-led assessment (CLA) members is minimised. Harm includes but is not limited to: emotional harm, risk of upset [undue pressure to perform], reputational damage and physical harm. Additionally, procedures should be in place to insure that any serious issues are swiftly dealt with by the country member.
6. Care has been taken to ensure child safeguarding is a primary concern and is considered at all times.
7. Care is taken to ensure that staff and volunteers understand the importance of impartiality
8. Any potential commercial conflicts of interest are documented and the PAL Network is notified.

To meet these ethics standards, all member countries should not only construct a statement sensitive to their particular cultural context but also demonstrate how they plan to make all staff and volunteers aware of and understand this statement. Furthermore member countries should demonstrate how they plan to record/document evidence of this awareness and understanding.

4.12: Data Protection

Protecting data from misuse is an increasingly important issue. Families and communities place trust in the fact that insights from the PAL assessments will be used to benefit them and that they have anonymity in the responses they give. The utmost care should be taken to ensure that the test materials, completed surveys and assessments, as well as the inputted data, are kept secure at all times. Care should be taken to store the data in such a way that the participants' identities cannot be easily joined with their survey responses, wherever possible. To this end each member country must have a data protection policy. This should cover the following aspects:

1. How the blank test materials, before during and after assessments, will be stored and kept confidential. This is so no child can get prior familiarisation with the assessment, confounding the results.

2. How the confidentiality of completed material will be ensured during fieldwork, data entry and archiving/storage. How long it may be stored before secure destruction.

3. How the completed forms and answers will be delivered from the point of assessment to the point of data entry within each member country in order to ensure confidentiality of responses.

4. How the member country will ensure the ICT systems used to manage and store the data have adequate protections and back-up mechanisms in place. This is to help prevent unauthorised and unlawful processing of the data as well as to insure against any accidental loss, damage or destruction of the data.

5. How the member country will ensure that the data is kept in an anonymised format and confidential at an individual level. All information in the dataset that can be used to identify the respondent should either be removed or coded. For instance, village names can be removed and villages can identified by codes. Similarly, any names of participants or surveyors should be removed from the dataset.

As with the ethics statement, to meet the data protection standard, all member countries must demonstrate how they plan to make all staff and volunteers aware of and understand the data protection standards. Furthermore, member countries must demonstrate how they plan to document evidence that staff and volunteers are adhering to the data protection standards they have set.

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