United Nations
Educational, Scientific and
Cultural Organization

UNESCO
INSTITUTE
for
STATISTICS

TECHNICAL PAPER NO. 1

THE NEXT GENERATION OF LITERACY STATISTICS

Implementing the Literacy Assessment and Monitoring Programme (LAMP)

THE NEXT GENERATION OF LITERACY STATISTICS: Implementing the Literacy Assessment and Monitoring Programme (LAMP)

United Nations
Educational, Scientific and
Cultural Organization

UNESCO
INSTITUTE
for
STATISTICS

UNESCO

The constitution of the United Nations Educational, Scientific and Cultural Organization (UNESCO) was adopted by 20 countries at the London Conference in November 1945 and entered into effect on 4 November 1946. The Organization currently has 193 Member States and 6 Associate Members.

The main objective of UNESCO is to contribute to peace and security in the world by promoting collaboration among nations through education, science, culture and communication in order to foster universal respect for justice, the rule of law, and the human rights and fundamental freedoms that are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations.

To fulfil its mandate, UNESCO performs five principal functions: 1) prospective studies on education, science, culture and communication for tomorrow's world; 2) the advancement, transfer and sharing of knowledge through research, training and teaching activities; 3) standard-setting actions for the preparation and adoption of internal instruments and statutory recommendations; 4) expertise through technical co-operation to Member States for their development policies and projects; and 5) the exchange of specialized information.

UNESCO is headquartered in Paris, France.

UNESCO Institute for Statistics

The UNESCO Institute for Statistics (UIS) is the statistical office of UNESCO and is the UN depository for global statistics in the fields of education, science and technology, culture and communication.

The UIS was established in 1999. It was created to improve UNESCO's statistical programme and to develop and deliver the timely, accurate and policy-relevant statistics needed in today's increasingly complex and rapidly changing social, political and economic environments.

The UIS is based in Montreal, Canada.

Published in 2009 by:

UNESCO Institute for Statistics
P.O. Box 6128, Succursale Centre-Ville
Montreal, Quebec H3C 3J7
Canada

Tel: (1 514) 343-6880
Fax: (1 514) 343-5740
Email: publications@uis.unesco.org
http://www.uis.unesco.org

ISBN 978-92-9189-067-5
Ref: UIS/TD/09-01

©UNESCO-UIS 2009

Cover design: JCNicholls Design
Printed by: ICAO, Montreal

The authors are responsible for the choice and presentation of the facts contained in this book and for the opinions expressed therein which are not necessarily those of UNESCO and do not commit the Organization.

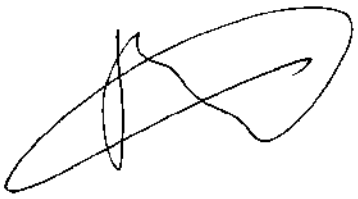
Preface

In 2003, the UNESCO Institute for Statistics (UIS) initiated the development of its Literacy Assessment and Monitoring Programme (LAMP) as a major effort to improve the body of available statistics on literacy.

After five years of developmental work shared with experts, specialised institutions and a group of countries representing different regions of the world, the UIS is now ready to share the first results of this endeavour: a validated approach to measuring literacy skills in developing countries.

The UIS wants to express its deep appreciation for the collaboration over the past years with colleagues at UNESCO, particularly the UNESCO Institute for Lifelong Learning (UIL); the national teams from El Salvador, Kenya, Mongolia, Morocco, Niger and the Palestinian Autonomous Territories; the Educational Testing Service (ETS); Statistics Canada; and the United States Government, which has been deeply committed to LAMP. Over these past five years, LAMP has evolved from a very simple idea into a mature approach that is now ready to provide a substantive service to our Member States.

The aim of publishing this volume is to give a global and comprehensive overview of the LAMP programme, the complexities involved in measuring literacy skills, the scope and limits of our programme, as well as the typical procedures required to implement it at the national level. Thus, this publication is primarily intended to provide decision-makers with a clear idea of what to expect from LAMP, particularly its potential benefits for policymaking. It would enable policymakers to address the needs of citizens who live in a challenging, changing and complex world where access to opportunities in a vast array of fields that touch people's everyday life is mediated by written texts and, therefore, requires the sustained development of literacy skills.



Hendrik van der Pol
Director
UNESCO Institute for Statistics

Acknowledgements

This document was prepared by the UIS LAMP/ALO[1] staff in Montreal: César Guadalupe, Brenda Tay-Lim, Manuel Cardoso and Lucia Girardi.

The UIS would like to thank the following people for their valuable comments: Bryan Maddox, Timothy Ireland, María Luisa Jauregui and Benita Somerfield. Ulrike Hanemann and Christine Glanz from the UNESCO Institute for Lifelong Learning (UIL) and Sabine Kube and Clinton Robinson from the Education Sector at UNESCO Headquarters also provided significant input. The draft version of this report was also made available to the national teams from LAMP pilot countries.

[1] ALO stands for Assessment of Learning Outcomes.

Table of contents

Executive summary

In 2003, the UNESCO Institute for Statistics (UIS) started the Literacy Assessment and Monitoring Programme (LAMP) in partnership with several countries and organisations in order to develop a new methodology for measuring literacy and numeracy skills among youth and adults to improve the available body of statistical evidence. Its design was inspired by surveys conducted mostly in countries of the Organisation for Economic Co-operation and Development (OECD): the *International Adult Literacy Survey* (IALS) and the *Adult Literacy and Life Skills Survey* (ALL), which are thus far the most significant efforts in cross-national measurement of literacy and numeracy. Addressing their strengths and weaknesses helped shape LAMP in its early years.

LAMP aims to provide policymakers with robust information on population profiles in terms of literacy and numeracy, thus helping inform public debates while influencing the design of literacy and adult education programmes to expand the opportunities of individuals, families, communities and countries. It was designed with UNESCO's notion of the "plurality of literacy" in mind, which emphasises the social, economic and cultural bounding of literacy. It explores the distribution of different skills among populations and the need to use those skills in everyday life situations. Therefore, LAMP can meaningfully inform about core elements of people's right to education.

LAMP intends to equip countries with the methodological tools needed for direct assessment of literacy and numeracy skills and to strengthen national capacities. By combining these two elements, it aims to ensure that countries move towards a sustained production of robust literacy data. This would become part of the key set of international statistics that the UIS would monitor and continuously improve.

What does LAMP measure?

LAMP tests literacy in three domains: reading of continuous texts (**prose**); reading of non-continuous texts (**document**); and **numeracy** skills. Prose skills enable individuals to read texts organised in paragraphs, with indentation and headings, that reveal its structure and purpose. Document skills are applied to non-continuous texts in different formats (tables, schedules, charts, maps, etc.) where readers can use different strategies to enter and extract information. Finally, numeracy skills enable individuals to perform short mathematical tasks that require computing; estimating; and understanding notions of shape, length, volume, currency and other measures. The assessment tasks are intended to be meaningful to respondents in everyday life settings: home and family; health and safety; community and citizenship; consumption; work; leisure and recreation.

In addition to these three domains, LAMP explores factors associated with lower performance in order to gain useful information for literacy interventions. In fact, the UIS specifically commissioned an original framework for the measurement of reading components. Assuming that reading requires both word recognition and comprehension skills, this module tests how people apply these skills to process written texts. The ability to name letters and numbers, to process sentences rather than just decoding words and to read paragraphs fluently are proficiency indicators that describe the population according to their reading skills.

Finally, LAMP also gathers data on each respondent's socio-economic background and use of written materials in various daily-life contexts, thus providing key analytical elements to characterise the population. The UIS is constantly exploring new ways to improve LAMP methodology and pays close attention to developments in cognitive science, survey methodology and educational assessments.

Furthermore, LAMP data are intended for cross-national comparisons and progress monitoring at both national and international levels. Therefore, data will be reported by comparable skill levels, which are defined by using clear conceptual statements to make them relevant while precise. International comparisons are meant to shed light on how different conditions affect literacy profiles of various populations.

The general goal of LAMP is to inform policymakers and provide evidence needed for the development of literacy programmes under the overall umbrella of educational policies and social programmes. LAMP will also benefit public policies in other sectors by allowing them to improve communications and increase public awareness of issues that affect everyday life.

LAMP is strongly committed to ensuring country ownership. Thus, it is not a one-off study conducted for its own sake but has been designed to contribute to the development of national capacities by relying on existing expertise and fostering it as the best mechanism to support country initiatives. This, in turn, means that Member States must provide an adequate institutional setting to respond to their own needs. The UIS, for its part, is establishing technical advisory bodies in each region to mobilise support for countries.

What instruments does LAMP use?

1) A background questionnaire collects data on the respondent's socio-economic background, including use of written materials, in order to frame the analysis of the cognitive data.
2) A filter test estimates a broad level of performance for each respondent in order to determine which set of instruments should be used to gain a more in-depth picture of skills possessed.
3) A module for those with lower expected performance more accurately establishes the respondent's location and explores obstacles to improved performance (reading components).
4) A module for those with higher expected performance, again, more accurately establishes the respondent's location.

These instruments are accompanied by thorough documentation that provides guidance on LAMP implementation.

How is LAMP implemented?

Implementation is customised to each country's needs. However, typically the process involves the following steps:

1) In the **exploratory** stage, local authorities express their interest in implementing LAMP, gather information and discuss with national counterparts. If they decide to move forward, they identify institutions and individuals that should be involved. These

typically include units within the Ministry of Education and the unit in charge of conducting household surveys (i.e. most likely the National Statistics Office), linguists and non-governmental organisations (NGOs) working in literacy programmes.

2) A national team then starts constructing the overall design (**preparatory** stage). This includes designing the scope and characteristics of the study and determining the amount of resources required. A National Planning Report (NPR) is drafted, including: i) national objectives; ii) expected use of the generated information; iii) target population; iv) sample design; v) data collection characteristics; vi) data capture and processing; vii) confidentiality and quality assurance provisions; and viii) composition of the national team and distribution of responsibilities. The national team fills in the Costing Template with a detailed account of all implementation costs. The country and the UIS will then sign a *Memorandum of Understanding* to initiate the implementation process. This will give the national team full access to the confidential material needed for implementation.

3) Actual LAMP implementation starts when a **pre-test** and a **field test** are conducted to test instruments and procedures for the main assessment. This stage involves adapting cognitive instruments; developing new items, guidelines and manuals for training purposes; ethnographic elements; scoring, coding and data capture; and the analysis and reporting phase.

4) The **main assessment** follows the same cycle once the initial instruments have been adapted and verified as a result of the pre**-**test and the field test stages. The field work presupposes continuous monitoring of overall operational progress in order to ensure quality. Lastly, the evidence is generated and ready for analysis and dissemination, which entails working together with data users and the media to maximise the impact of the evidence on the public debate.

5) The evidence generated will enable authorities to customise literacy programmes and educational policies. At the same time, the curricula of continuing education programmes; national campaigns; primary and secondary education; social programmes, including those related to health and sanitation; and other communication programmes will also benefit from the **disseminated data**.

Once the exploratory work has been completed, LAMP implementation should take between 18 and 24 months. As for funding, each country secures the resources needed to implement LAMP. However, the UIS team provides support to countries in their negotiations with partners. Implementation usually requires investing US$250 000 or more, depending on the sample design and national costs. It should be noted that the UIS does not charge any overhead as it aims to provide a service to Member States. Still, some international costs, such as instrument verification and observation or training missions, should be included in the budget.

The UIS must also protect the credibility of LAMP data by assuring that each implementation meets certain quality standards. This is a primary purpose of the *Memorandum of Understanding* between each country and the UIS.

Introduction

In 2003, The UNESCO Institute for Statistics (UIS) started its Literacy Assessment and Monitoring Programme (LAMP) as a major initiative in the field of measuring literacy skills of youth and adults. LAMP was also conceived within the framework of the United Nations Literacy Decade (UNLD) and therefore represents, together with the Literacy Initiative for Empowerment (LIFE), a major UNESCO effort to advance the global literacy agenda. After five years of developmental work, the UIS is ready to release the main results of LAMP in order to set the groundwork for the implementation of this programme in the upcoming years.

Over these five years, the UIS LAMP team has worked with six pilot countries, in addition to other national teams interested in implementing the programme. The UIS has also worked with several international experts and institutions, including the Educational Testing Service (ETS) and Statistics Canada, which played a major role in conducting two surveys in several OECD countries that eventually helped shape the conception and development of LAMP: the *International Adult Literacy Survey* (IALS) and the *Adult Literacy and Life Skills Survey* (ALL).[2]

The results of the developmental work comprise a large set of materials, including a revised conceptual approach for measuring literacy skills and a specific set of instruments and tools that LAMP uses for that purpose. It must be noted that LAMP is both a methodological development endeavour and a capacity building effort. The UIS, together with partner countries and national agencies, has invested significant resources in developing and validating the approach and instruments intended to help Member States obtain an improved picture of literacy-related issues. At the same time, the LAMP team has worked on clearly defining a strategy to conduct the required studies by relying on and fostering existing professional capabilities at the national and regional levels. Thus, LAMP is not an international study conducted by a central agency that withholds the technical knowledge required. The role of the UIS is of a different nature – it involves taking the initiative to develop the methodological approach and organise an institutional arrangement that would enable countries to conduct their own undertakings. At the same time, the UIS is mandated to safeguard the technical soundness of each LAMP implementation at the national level in order to protect the integrity and credibility of the results.

This report presents the general elements that define LAMP, what is measured by the programme and the overall guidelines for implementing it. In so doing, it aims at becoming a self-contained reference that provides a comprehensive view of LAMP, especially to UNESCO Member States.

[2] For more on these studies, see http://www.statcan.gc.ca

This document is divided into three sections. Section 1 addresses the conceptual elements which define the LAMP approach, illustrates common issues in measuring and addresses specific concerns in the field of literacy. The section also provides a critical account of the evolution of LAMP which clarifies what the programme inherited from its predecessors and in how it differs from them. The main thread of this discussion refers to the connection between measuring, policies and the ethical mandates of UNESCO and its Member States in the field of education in general and for literacy in particular.

Section 2 describes what exactly is measured by LAMP. It comprises the assessment frameworks developed for the pilot phases. This discussion, once again, refers back to the frameworks used by the predecessors that set the bedrock for LAMP's original design.

Finally, Section 3 presents an overview of how LAMP is typically implemented at the national level. This section clarifies the operational and institutional implications of implementing LAMP, including the kind of technical support countries can expect from UNESCO. It provides a general roadmap for such an implementation. It also offers an overview of the different tasks involved and touches on additional documentation produced for LAMP implementation. A significant part of this documentation is currently available on the UIS website (www.uis.unesco.org), while some documents are only made available to countries implementing LAMP in order to protect the integrity of these instruments.

Section 1. Why conduct LAMP and what is it about?

1.1 Background: Literacy and the fundamental human right to education

UNESCO defines education as a fundamental human right. UNESCO's mandates and founding principles are based on this vision, which ultimately affects the way educational policies are defined and viewed. Contemporary societies formally proclaimed this view of education in the Universal Declaration of Human Rights in 1948, following the catastrophic experience of World War II.

Education is seen as intrinsically important for human development. It is embedded in the process of enhancing each person's opportunities and freedoms to pursue the kind of life he or she values while respecting other people's rights. Education is, therefore, a key element for the fulfilment of the human condition.

Furthermore, UNESCO's conceptualisation of education is based on the four pillars, as presented in 1996 by the Task Force on Education for the Twenty-first Century (UNESCO, 1996). That is to say, education plays a major role in the development of self-identity (learning to be) in relation to a collective setting where individuals experience sharing their lives with others (learning to live together), enabling them to continuously improve and expand their capacities (by learning to know), which would translate into their capability to act in different domains of the world (learning to do).

For its part, literacy is a central component of education in general and especially in relation to the operation of national education systems conceived as a way to guarantee that each citizen is equipped with basic literacy skills. Ensuring basic literacy skills for all is a central goal of every education system in the world.

Nevertheless, it is important to take into account that views of literacy have evolved over time. UNESCO has made four major statements in relation to this:

a) *A person is literate who can, with understanding, both read and write a short simple statement on his or her everyday life* (UNESCO, 1958);

b) *A person is functionally literate who can engage in all those activities in which literacy is required for effective functioning of his or her group and community and also for enabling him or her to continue to use reading, writing and calculation for his or her own and the community's development* (UNESCO, 1978);

c) *Literacy is the ability to identify, understand, interpret, create, communicate and compute using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve his or her goals, develop his or her knowledge and potential, and participate fully in community and wider society* (set in 2003 and published in UNESCO, 2005); and

d) Finally, the notion of "plurality of literacy" (2004) was advanced to stress the social dimensions of literacy in relation to both acquisition and application. Therefore, literacy is seen as comprising diverse practices embedded in socio-economic, political, cultural and linguistic contexts, acquired in school and outside of school. It also involves family and community contexts; the media in

various forms of technology; skills for further learning; and the world of work and life in general. Thus, this concept of literacy emphasises the literacy challenge as making societies literate and not simply as making individuals literate (UNESCO, 2004).

These evolving ideas pay attention to some key elements that have to be taken into account in any discussion about literacy and literacy measurement: i) the centrality of using texts; ii) the need to use texts with understanding, that is, competently; iii) not to be restricted to texts, but also including numeracy issues; iv) the need to explore these issues anchored to everyday life experiences where the diverse and manifold aspects of social life are instantiated; and v) understanding that everyday life in any social setting is never an isolated, individually-bound reality.

These definitions of literacy are linked to different periods and were established in dialogue with the knowledge advanced by the academic debate on the subject, particularly the outcomes of policy interventions intended to cope with literacy challenges.[3] For instance, the Global Campaign for Education has conducted a major consultative effort that led to the establishment of a set of International Benchmarks on Adult Literacy, which includes a definition that has some common elements with those previously quoted:

> *Literacy is about the acquisition and use of reading, writing and numeracy skills, and thereby the development of active citizenship, improved health and livelihoods, and gender equality. The goals of literacy programmes should reflect this understanding.* (Global Campaign for Education, 2005)

This definition stresses two elements: skills (reading, writing and numeracy) and different arenas of social life where literacy skills are actualised. Thereby, the authors want to stress that literacy skills and their use are inextricably intertwined.

At the same time, it is worth noting that the first three statements defining literacy were intended as a foundation for measurement purposes: the first two (a and b) refer to general guidelines on the development of education statistics approved at the UNESCO General Conference, while the third (c) is the result of an expert meeting on the development of LAMP's groundwork.

1.2 Measuring literacy – What do we know now? What do we need to know?

Given the basic human right to education and its implications on different dimensions of social life, quality data on literacy can be very beneficial for policy interventions. For this reason, it is not surprising that measuring literacy has been a recurrent concern for UNESCO, at least since the recommendation was approved half a century ago.

Currently, most countries produce statistics on literacy based on a single question posed in a population census or household survey, usually phrased as "Do you know how to read and write?", from which they calculate literacy rates.[4] Is this enough for policymaking purposes?

---

[3] This evolving process is summarized in UNESCO (2004).

[4] A literacy rate is computed as the proportion of those who answer "yes" to the above question in the population. It is usually restricted to those of at least 15 years of age.

1.2.1 Literacy rates – What do they represent?

Literacy rates measure the proportion of people who declare they are able to read and write. When analyzing these figures, some care should be exercised in the interpretation:

a) Literacy rates measure a self-reported situation. External factors may influence people to describe themselves in a way that is different from what they would otherwise report. For instance, social stigmatisation or pride might lead the individual to answer "yes" when the answer in actuality should be "no"; while expectations to benefit from social assistance programmes might have the opposite effect.

b) Despite this limitation (which might affect any self-reported data and is, therefore, a challenge for control mechanisms), these rates show how an individual may position him/herself in relation to the distribution of educational opportunities. This actually provides information on one element of self-identity pertaining to the field of social exclusion and, therefore, provides a significant understanding for a person's situation and how to approach it.

c) Literacy rates measure literacy as a dichotomy. According to this procedure, literacy is portrayed as something that an individual either has or has not. There is no in-between situation (e.g. being able to cope with very simple texts and not with more complex ones, or being able to handle short phrases but not texts arranged in a schematic table, etc.).

d) These rates measure literacy as if it were a single domain. Once a person provides an answer, it might be assumed that it applies to different domains. That is, this measure does not take into account various types of texts nor the differences between literacy and numeracy skills.

Currently available literacy rates can be properly used to describe one element pertaining to educational exclusion, i.e. how an individual positions him/herself in the distribution of educational opportunities. However, these rates do not provide information on what individuals know or what they are able to do using different texts and of varying degrees of difficulty. They also do not cover numeracy skills.

1.2.2 What do policymakers need to know?

Literacy is a complex and vast arena, and therefore, a single statistical measure – whatever its complexity – cannot provide a holistic view of it. Literacy skills and their uses entail a set of social settings with manifold, intervening factors.

As stated by the Global Campaign for Education (2005), if the fact that a lack of literacy skills represents a major violation of fundamental human rights is not enough to persuade governments and donors of the need to invest now in coping with literacy challenges, there are other arguments that clearly show the interactions between literacy and other spheres of social life:

- Literacy is a key element to reducing gender inequality;
- Adult literacy is critical for the healthy development and education of children;
- Literacy is a key element for human and economic development, given the deep impact these skills can have on economic performance; and
- Literacy is vital for promoting health and fighting diseases, such as malaria, cholera and AIDS.

This list can surely be expanded and detailed in a way that would only broaden the understanding of the many and complex links between literacy and social life as a whole.

Such a complex situation poses a major challenge in providing the appropriate tools to measure literacy. This challenge is related to the need for a relevant measurement that is feasible. That is, it must be simple enough to allow its implementation, yet complex enough to tell a significant story.

In the literacy arena, there are significant debates that enrich the knowledge and understanding of the issues but may also lead to inactivity. Any measurement effort will always be limited in scope and subject to debate, but this is inherent to the nature of knowledge. The limitations of any approach are commensurate to its possibilities: awareness of the former helps to shed light on the latter. Therefore, statisticians cannot wait until universal consensus is achieved and every issue is settled, because a perfect, all-encompassing measure is unattainable.

The responsibility of those working on information systems is to provide an approach that is good enough to face the current challenges, while being aware of: i) the limitations of that approach; ii) its potential political implications; and iii) the permanent need for improvement. Literacy challenges pertain to a paramount domain (fundamental human rights), and therefore, a “good enough” approach is urgently needed. There is no room for oversimplifications that would yield non-relevant information or, what Sen termed in relation to the debates on poverty measurement, a “misplaced sophistication” (Sen, 1981) that would not yield any information whatsoever.

LAMP is an attempt to provide a workable approach that would yield significant information on some key elements of the literacy phenomenon. Its major intention is to contribute to a sustainable generation of information on a key element of literacy: literacy skills. In fact, LAMP is intended to generate information about what people know and are able to do in relation to a defined set of key aspects embedded in managing texts in everyday life situations.

The findings of LAMP shed light on core elements needed to manage written materials. In other words, LAMP was created to yield information on:[5]

i) Reading skills expressed as the ability to handle various texts (i.e. continuous phrases/paragraphs, called *prose literacy,* and schematic texts, such as those included in forms, maps or timetables, called *document literacy*).

ii) Numeracy skills expressed as the ability to handle basic arithmetic operations and calculations.

iii) Exploration of the elements that could explain low performance, referred to as *reading components*. These are the basic operations involved in decoding and understanding texts and numbers (i.e. alphanumerical perceptual knowledge – letter and number recognition; word recognition; vocabulary; sentence processing; and passage fluency).

Therefore, LAMP focuses on reading and leaves writing aside. Reliably testing reading skills is already demanding on the respondents given the battery of instruments required. Including a module on writing would only add complexity that might compromise the whole effort.

Additionally, through LAMP socio-economic information on the respondents is generated to enable a rich analysis of the variables associated with the distribution of literacy skills. Its intention is not only to provide a rich picture of the distribution of those skills but also to provide background information that would facilitate policy interventions (e.g. socio-economic profiles of those with lower levels of performance, information on the use of literacy skills in the workplace, evidence on the presence of written texts in local contexts, etc.).

LAMP provides a clear picture of the key elements that are needed for the design, implementation and evaluation of policy interventions. It outlines the distribution of various literacy skills (prose, document, numeracy), while exploring the factors associated with lower performance (reading components). This information is then interpreted in the specific socio-economic context.

LAMP, however, is a statistical approach, no more and no less. It can produce internationally comparable data which shed light on the overall picture of a country and its sub-populations. This information can play a critical role in policymaking, but – as like any other measurement tool – it cannot provide a "complete" picture of literacy; the very nature of knowledge precludes this. Therefore, other studies (i.e. ethnographic studies or self-reported literacy assessments) can also yield key insights to the understanding of literacy in a national setting.

LAMP was also conceived as an effort to enable countries to systematically produce statistics that would be comparable in time and across countries. International and time comparability are seen as major attributes of LAMP, because: i) there is an international dimension involved in monitoring educational phenomena as seen from a human rights

[5] Section 2 gives a description of the domains mentioned here.

informed perspective; and ii) there is a need to monitor progress over time, both at the national and international levels.

Data comparability can pose a major challenge, notably when looking at the use of written text across cultures. In order to address this issue, one of the first steps in LAMP implementation involves a discussion on how the operational definition of literacy relates to the conceptions in a particular country given its language(s) and cultural characteristics.

The domains to be explored (prose, document and numeracy) have a particular manifestation in each language/culture. The same applies to the study of reading components. In this complexity, finding the usability of common definitions, including those concepts used to define thresholds (levels) in the continuum of skills, is a potentially challenging but an inescapable task if LAMP is to succeed in yielding meaningful information. Not taking these elements into account and assuming that a direct replication of what has been previously done in other contexts (mainly developed countries and European languages) is sufficient would be extremely naïve or, in the worst case scenario, a manifestation of ethnocentrism that would void the whole potential of the enquiry.

Thus, the production of internationally comparable data, while being a significant and desirable goal, should not be regarded as an easy task. Nevertheless, the LAMP experience, which has been conducted thus far in rather diverse contexts and in nine languages belonging to five different language families, shows that this is a feasible goal provided that cognitive equivalence is achieved in the measurement instruments.

One major element of LAMP pertains to the definition of skill levels in each domain. Defining those levels entails having a clear conceptual statement about the nature of the tasks for each level. That is, the levels stem from a theoretical framework and cannot be defined exclusively on the basis of the scaling of skills in a specific population. This warrants a key element of expert judgment attached to the way the data are reported.

The levels of literacy skills used by LAMP can be summarised as follows (OECD, Statistics Canada, 2000, p. xi):

- Level 1 indicates persons with very poor skills, where the individual may, for example, be unable to determine the correct amount of medicine to give a child from information printed on a package.
- Level 2 refers to respondents who can deal only with material that is simple, clearly laid out, and in which the tasks involved are not too complex. It denotes a low level of skills, although less obvious than in Level 1. It identifies people who can read but test poorly. These individuals may have developed coping skills to manage everyday literacy demands, but their low level of proficiency makes it difficult to face novel demands, such as learning new job skills.
- Level 3 roughly denotes the skill level formally required for successful secondary school completion and entry to tertiary-level educational institutions. Similar to higher levels, it requires the ability to integrate several sources of information and solve more complex problems. OECD countries considered this level a suitable minimum for coping with the demands of everyday life and working in a complex, “advanced” society.
- Level 4 and 5 describe respondents who demonstrate a command of higher-order information processing skills.

International comparisons will be organised according to the distribution of the population by these skill levels. Nevertheless, the most important reason for having comparable information does not refer to having potentially meaningless "league tables", but mainly to the analytical potential of comparing results given differences in contextual variables. This kind of comparative analysis provides valuable input for national policymaking.

1.2.3 How measuring is affected by some key debates on literacy

Obtaining statistical measurements is not a context-free or culture-free endeavour. Whatever is defined as and constitutes an observable phenomenon and the way that observation is conducted are the results of choices based upon values and perspectives. Being unaware of these factors is usually a clear symptom of ethnocentrism (i.e. assuming that what is valuable in one culture should be valued everywhere) or just poor academic practice.

LAMP's development pays particular attention to UNESCO's principles and view on education. Thus, it takes into account elements pertaining to the United Nations' mandates and, from that perspective, deals with different issues relevant to the measurement of literacy skills.

Some major areas that are currently identified as particularly relevant in defining the scope of LAMP and the issues it has to address include:

a) *Orality, oral cultures and oral languages and their relationship to literacy*

   There is no way to test literacy skills in a language that is not written. Of course, there are significant attempts to provide many oral languages with a written system. In many cases, these attempts are already well developed along with many other rules pertaining to the written use of the language once a standardised script has been adopted. Even when writing systems have been properly developed, however, it might not have a significant presence in the daily life of individuals. In some cases, fluent speakers of an oral language might not be able to recognise it in writing, not because they lack competencies, but due to scarce contact with the written form of the language. To add to the complexity of this issue, several efforts are still pending to create a literate environment even in dominant languages.

   Possessing a good command of one particular language is not necessarily equivalent to having a good command of another in terms of the spectrum of opportunities that each opens up for people. This explains why some minorities or oppressed linguistic groups sometimes demand having educational opportunities in the ruling language instead of their own. Although this might have a catastrophic impact on the development of their own culture, it is a pragmatic response to a given state of affairs where languages are intertwined with power structures. Thus, literacy skills are not "neutral" in relation to power structures (Ostler, 2006).

   Living in an oral environment is not necessarily the result of free choice. It may, in fact, be the result of historical processes of marginalisation and deprivation, which is one argument for how literacy can empower people.

Orality, however, should not be regarded as an anomalous, “bad” or “backward” condition. Oral cultures have cultural traditions as rich as any other. The problem here is that given the current state of world affairs, non-literate cultures translate into isolation for people. In this sense, orality can be seen as an isolating factor that leads to exclusion.

For these reasons, it is possible to identify an element of potential tension between, on the one hand, the value of cultural diversity and the respect for it endorsed by the UN system; and on the other, the promotion of equal opportunities, which is also endorsed by the UN system. Many individuals need to express themselves in foreign languages if their message is to have any impact in certain environments. Paradoxically, in order to protect a particular minority or marginalised language, it may be necessary to advocate in another language that plays a dominant role in that arena (UNESCO-UIS, 2005). This is illustrated by the example of the peasant communities in the Peruvian Andes which needed to learn Spanish in order to protest against the loss of their lands before the judicial system.

b) The relationship between literacy and literacies

The world of literacy is in constant movement. The plurality of literacy refers to the complex interaction between literacy and many arenas of social life. The identification of multiple literacies suggests how those interactions translate into specific sets of skills.

LAMP primarily focuses on the most basic or core elements embedded in coping with written texts and performing certain numeracy-related operations in everyday life. These elements, in turn, are the basic blocks or enabling mechanisms for coping with other text-based social interactions. For instance, “computer literacy” is not measured by LAMP, yet core literacy skills are essential as a prerequisite to using computers and typing on a keyboard.

c) The relationship between the skills of individuals and social practices linked to written materials

The literacy skills of an individual can be measured to provide a better picture of literacy-related phenomena. However, individuals do not live in isolation and use their skills in social settings to interact with one another. As pointed out by several authors (including Street, 2004 and Hamilton, 2001), even individuals who are not competent readers may still cope with situations involving written texts by relying on others such as relatives, friends, co-workers, etc. Complex social practices, however, ultimately rely on individuals being able to exercise their own power when interacting with others. Thus, the previous observations make it even more important to measure those individual skills and how they are distributed across society.

The argument expressed here is yet another reason why measuring individual skills, though extremely important, is not sufficient to address literacy issues as a whole. The standardised measurement of skills provides rich and systematic information to serve key policy purposes, but it does not preclude the significant contributions from other studies.

d) *The value of literacy and education in general and different visions of the social world*

There are different discourses about education and literacy. Some focus on the economic benefits of education for individuals, while others (like those of the UN system) rely on a broader set of reasons to advocate education.

LAMP, as a UNESCO initiative, endorses a view of education and literacy that goes beyond the economic benefits of education for individuals. It stresses the fact that education is a fundamental human right and, therefore, should be a guarantee for everyone. This belief is further strengthened by the many ways that education and literacy impact the lives of individuals, their families and communities, including how it pertains to the exercise of other human rights and, ultimately, the exercise of freedom.

1.2.4 Why is LAMP based upon, yet differs, from IALS and ALL?

LAMP began as an initiative to provide more comprehensive and robust data on literacy. The first step was to learn from previous studies and debates. Thus, the experience of some OECD countries in the 1990s seemed a logical starting point. Some challenging questions were posed by participant countries, external experts (some in the form of academic papers criticising IALS – Darville, 1999; Hamilton and Barton, 2000; Hamilton, 2001, etc.), or the LAMP team at the UIS.

Elements which are common or different between IALS/ALL and LAMP are summarised as follows:

a) *Institutional discourses and intentionality*

LAMP and IALS/ALL are based on different organisational settings. IALS and ALL were developed by the OECD to address increasing concerns about competitiveness and the importance of skill development in the current economy. As previously mentioned, UNESCO recognises the importance of these variables yet sees education in broader terms. Therefore, LAMP emphasises education as a human right.

Understanding that different approaches can be applied, LAMP does not preclude economic emphases on skill development but is based on the broader set of foundations provided by the principles, values and mandates of the UN system.

b) *Cultural diversity*

IALS and ALL were conducted primarily in OECD countries and exclusively in European languages. The introduction of testing in other contexts poses several challenges that IALS does not address. These include dealing with issues of linguistic diversity *(see **Box 1**)*, orality and how these phenomena are intertwined with power structures.

LAMP was developed with an awareness of these issues and promotes the value of diversity, while recognising that mastering some languages is a way of expanding opportunities for individuals, families and communities. In essence,

literacy is seen as a way to empower people. As such, LAMP's approach has to avoid any form of ethnocentrism, which was less of an issue for international studies conducted in countries sharing basic commonalities, such as those belonging to the Western world.

Ethnocentrism can create obstacles to understanding certain key issues and management practices. Ultimately, LAMP strives to overcome this challenge and benefit from knowledge that is spread across a diverse set of countries, organisations and individuals.

Box 1. Diversity in IALS and LAMP

While IALS and ALL were conducted mainly in industrialised countries and European languages written in the Roman alphabet, LAMP focuses on developing countries with a wider array of language families and scripts.

	IALS/ALL	LAMP pilot
Countries	22	5 countries: El Salvador, Mongolia, Morocco, Niger and Palestinian Autonomous Territories
Communities	25	10
Languages	15	9
Language families	2 families: • Indo-European (13 languages) • Uralic (Finnish and Hungarian)	5 families: • Afro-Asiatic (Arabic, Hausa and Tamasheq) • Altaic (Mongolian) • Indo-European (French and Spanish) • Niger-Congo (Fulfulde) • Nilo-Saharan (Kanuri and Zarma)
Scripts	1 script: the Roman alphabet	3 scripts: • The Arabic consonantal alphabet • The Cyrillic alphabet • The Roman alphabet

c) Country ownership

In direct relation to the previous points, country ownership is a major concern for LAMP. In order to properly address the above-mentioned issues, the involvement of UNESCO's Member States is a key element to ensure diversity and an adequate institutional setting – which is responsive to the actual and diverse needs of each Member State. It must be stressed that LAMP is not a private endeavour. UNESCO as an international civil service organisation is mandated to protect the public interest. Therefore, LAMP and all of its components must be regarded as a public good. Of course, some elements must be kept confidential to protect the integrity of the whole effort, but this is inherent to testing and is not a way of protecting a private interest.

LAMP intends to gather data that would be comparable to IALS/ALL data. This poses some constraints. In order to have comparable data, some common cognitive items which are not produced or owned by the UIS must be used and, as such, the Secretariat has limited margins to operate with them. Although contractual agreements allow the UIS to use those cognitive items, this will only last for a period of time. Therefore, in the following years, national teams and the UIS in a collaborative effort will create and validate new items to replace the original ones.

d) Statistical evidence and the complexity of literacy

As stated before, LAMP has been developed with the understanding that statistical evidence can provide a significant input for policymaking, but it cannot be treated as the only evidence that matters. Literacy is a complex and manifold phenomenon (i.e. Street, 1998, 2004 and UNESCO, 2004), and while data can provide significant insight, they are not necessarily sufficient to provide a detailed understanding. Therefore, other approaches are welcome even if the UIS, given its specialisation as a statistical agency, would not be expected to play a role in them.

e) An international study design versus the need for the self-reliant and sustained production of data

LAMP has been conceived primarily as an attempt to enable countries to produce more robust data on literacy in a sustainable and self-reliant manner.

UNESCO has produced a number of statistical tools over the past decades that countries have been using independently to build and develop their own statistical systems in fields such as education. LAMP is one of those tools, even if it is necessary for the UIS to conduct some key tasks (as described in Section 3) in order to ensure that quality standards are met to uphold the credibility of LAMP-produced data.

Thus, the ultimate goal of LAMP is not to produce an international report and an international dataset to be used for research purposes but to contribute to the development of national capacities.

f) The universe of skills to be measured

LAMP shares with IALS/ALL a common approach to three operationally defined spheres for measuring literacy skills: prose, document and numeracy. This is framed by two major factors: i) the robustness of defining those domains as central elements for measurement; and ii) the need to have a common ground for comparisons.

As previously discussed, measuring reading skills requires taking into account different types of text that individuals encounter in their daily lives. Most of those texts can be described as continuous (prose) or discontinuous (document). Some domains are excluded, such as the use of SMS (text) messages, but the choice is directly linked to the role some texts play in the distribution of opportunities. For instance, regardless of how important SMS messages can be, accessing tertiary education opportunities, the legal regulations of a country and the contractual

provisions a person faces in life are by far much more relevant to actively participating in society. So, ultimately, lacking the skills required to cope with these texts is a social exclusion mechanism; not being competent in communicating SMS messages lacks that character – at least thus far.

The comparison component is related to the need for common ground corresponding to the universality of the right to education, thereby preventing the establishment of differentiated procedures (or double standards) that might involve discrimination. If there are differentiated sets of literacy definitions for the poor versus the rich, women versus men, and indigenous versus non-indigenous populations, it would entail a potentially high discriminatory practice that might imply different entitlements in relation to the right to education.

Having common ground, however, introduces some difficulties, since this would not be the result of compiling empirical evidence but of an expert judgement. This has implications for the nature of the relationships among countries and cultures. Being aware of the asymmetry in power and potential cultural biases, however, is the first step to coping with this situation. Otherwise, there is a risk of making naïve (and ethno/socio-centric) judgements, while mistakenly assuming that one is being "objective" and "scientific" by taking one's values and views as natural facts. Being aware of the normative judgement that lies behind standardisation in measurement is a key component to ensuring the validity of the whole approach.

Thus, LAMP shares with IALS/ALL the frameworks required to define what is measured (these are presented Section 2), and therefore, both measure the same domains in similar ways. At the same time, LAMP makes a sustained effort to ensure that cultural and power-related issues are explicitly dealt with.

g) Reading components

In order to improve the potential benefits of LAMP data in policymaking, the systematic observation of people's abilities in relation to basic reading components has been introduced in the design. Therefore, LAMP is the first international attempt to study these abilities in a diversity of languages.

This feature is unique to LAMP and differentiates it from any existing international study. It makes the programme particularly valuable as it allows countries to identify which skills when lacking negatively affect performance, thereby providing critical information for designing policy interventions. What aspects are measured as reading components is detailed in Section 2.

The reading components module of LAMP introduces a dimension that is strongly intertwined with the specificities of each language and script used in the assessments *(see **Box 2**)*. Therefore, it requires constant awareness of the peculiarities inherent in each language and a sustained alertness against standardising beyond reasonable limits. In addition to its own potential for the generation of information, the reading components of LAMP are a permanent reminder against ethnocentrism.

Box 2. Building reading component instruments across languages

The implementation of LAMP in Niger has involved several specific challenges stemming from the fact that the national team conducted the assessment in French and five African languages (Fulfulde, Kanuri, Hausa, Tamasheq and Zarma).

To accommodate this design, the national leadership appointed five different teams to work, not only on the translation/adaptation of the instruments, but also on the development of the five specific versions of the reading component tools.

In this manner, the Niger national team has made a huge contribution to the development of LAMP and educational assessment in general. This development was sparked by the many challenges posed by working in languages that differ from European and among themselves.

The five African languages used for LAMP implementation in Niger belong to three different language families and each one brings its own specificities including, for instance, a vigesimal numeric system.

1.2.5 How can LAMP inform policymakers?

The central role of LAMP is to provide sound information for policymaking. Thus, LAMP has been developed to yield knowledge on the distribution of literacy skills and to produce data on the following topics:

- Who, where and how many people have lower literacy skills and need more educational opportunities in order to improve their literacy competencies?
- How do factors such as socio-economic status, economic activity and demographics affect the development of literacy, especially for those with lower skills?
- What are the barriers to the development of literacy skills? Who has been left ill-equipped by the education systems? What prevents people from taking advantage of what is offered by the education systems?
- How do people actually use their literacy skills in daily life and how does it vary among people with different skill levels? Where are their skills limited and why?
- How does literacy benefit countries, families and individuals? Would it be possible for a country to attract more economic investments if its labour force is better equipped with literacy skills? Would its citizens be more interested in participating in economic and social life?

In addition to these general questions, each country implementing LAMP is responsible for developing its own research design, which gives them ample opportunity to pose specific questions that can be addressed through LAMP.

It is expected that LAMP would lead to the production of data which are critical to the design of literacy programmes. These programmes, in turn, should address: Who should be the target population of literacy interventions? Where are these populations? What population characteristics would inform the design of each intervention?

Literacy is not an exclusive responsibility of literacy programmes, and thus, LAMP should generate statistics that will feed into the overall design of educational policies. These policies should address the following questions: What areas of weakness should the

education system address to avoid perpetuating the current difficulties? What skills among the population should be taken into account in the design of continuing education programmes?

Social programmes are increasingly being designed to take into account a cross-sectoral approach. Information on literacy skills can have a deep impact on the design of such interventions.

Other sectors can also benefit from this information as it would allow them to better design their communication strategies and written materials to convey messages or to engage citizens in specific activities.

1.2.6 LAMP's main features and instruments

LAMP can be described as a programme intended to improve the quality of literacy data, especially at the national level but also for international policy development and monitoring. Ultimately, LAMP will help improve literacy programmes. In order to attain these goals, LAMP comprises three dimensions:

a) **Methodological development**. LAMP is an initiative intended to produce and validate an approach to measuring literacy skills across different languages and cultural settings, as well as provide information on the distribution of literacy skills and potential barriers to literacy and related socio-economic factors. This component of LAMP takes into account the experiences of each participant country. The pilot phase initiated in 2003 was primarily intended to create robust foundations for the development of LAMP, and this report summarises what this pilot phase has been able to produce.

b) **Development of national capacities**. The development of LAMP is an endeavour that is achieved through collaboration with participant countries *(see **Box 3**)*. The UIS is responsible for organising these efforts and creating an environment where everyone (starting from the UIS itself) can learn from each other. This means relying on and trusting existing expertise and capacities, while fostering their development as the best mechanism to support country initiatives. Country-to-country cooperation has been beneficial in the pilot phase, and the UIS is committed to strengthening this continued exchange.

Box 3. Collaboration among countries

LAMP reinforces capacities in national teams and provides an opportunity for countries to share their experiences, which serves as the best advice to address different challenges involved in LAMP implementation.

Jordan initiated LAMP implementation in 2006. They set up a national team and started preparatory work. To aid in this effort, the Palestinian Central Bureau of Statistics was ready to share the instruments they used for the field test and their own expertise. Thus, several activities regarding planning and training have begun through collaboration with the Palestinian team.

A similar situation occurred in Viet Nam where colleagues from Mongolia were prepared to share their experience regarding the planning process and the development of the instruments.

The UIS fosters this type of cooperation to reinforce links among countries and develop global expertise.

c) **Sustainable production of data**. The combination of capabilities and robust methodological tools should lead to a sustainable dataset that is meaningful for countries and would become part of the international database that the UIS is responsible for monitoring and continuously improving.

In order to accomplish its goals, LAMP uses a battery of instruments that include:

- **Background questionnaire:** This instrument is intended to gather information on the respondent, his/her family and settings. This is a key element to gain a meaningful and relevant analysis of the data produced.
- **Filter test:** This is a brief booklet intended to establish if the respondent would most likely possess lower or higher levels of literacy skills. Therefore, it helps in deciding what sort of instruments should be used to gain a more in-depth picture of the respondent's skills.
- **Module for those with lower performance:** This module is composed of two instruments. One instrument supplements the information produced by the filter test with more detail and establishes more precisely where the respondent stands in relation to the lower skill levels. The other enables an in-depth exploration of the operations (reading components) that might be preventing the respondent from achieving a better performance.
- **Module for those with higher performance:** This module comprises one booklet (in two versions) that supplements the information produced by the filter test with more detail and establishes more precisely where the respondent stands in relation to the higher skill levels.

These instruments are accompanied by a comprehensive set of documentation that provides guidance on the different phases of LAMP implementation, as described in Section 3.

Additionally, background documentation on ethnographic elements are used to enrich the information collected through these LAMP instruments.

To conclude this introduction to LAMP, it is important to mention that the programme seeks to empower countries in improving the body of statistical evidence that they can produce on literacy. As any other endeavour, LAMP is not free from challenges and limitations. Nonetheless, it represents a major leap forward as it adds greatly to the current data available, belongs to the countries themselves and will continuously improve with the lessons learnt from each implementation.

The debates on what LAMP is able to provide will certainly be endless. One can easily identify specific aspects of the use of written texts that are not observed through its current design. An illustration of this is the recent phenomenon related to the use of SMS messages, especially by adolescents and youth. This phenomenon may potentially create a new area of enquiry in literacy studies as it may be the main exposure to written texts in everyday life for many individuals. It is important to note, however, that – although LAMP is not currently exploring this area – this does not make it a less meaningful effort. In fact, its development entailed making concise and well-documented decisions as to what should be measured. This, of course, does not mean that LAMP will not be continuously improved and/or expanded as more experience is gained.

LAMP does not strive to be the “final word” on literacy. Rather, the intention is to provide better data on some elements that are at the core of literacy today, which far exceeds what is currently available. The key to keeping this effort fruitful is to listen to the criticisms and be willing to make improvements, while finding the right balance between an excessive or “misplaced” sophistication and the need to deliver information that is good enough to face a phenomenon that affects the lives of millions.

Section 2. What is measured by LAMP?

As previously mentioned, LAMP measures reading skills in relation to continuous (prose) and non-continuous (documents) texts, numeracy skills and reading component skills. This last element should help provide a better picture of the reasons behind poor performance.

The identification of three major domains (prose, document and numeracy) was the result of recognising that skills may be differentiated in relation to the types of material or formats in which written texts appear. This idea was reinforced by the fact that different types of written material do not appear in a similar fashion across the different milieux of everyday life. For instance, work-related settings involve using documents such as forms, graphs or charts, while continuous documents are more present in leisure and in the academic field. Text formats are also associated with purpose, and this, in turn, is linked to different reading strategies.

This organisation of skills, according to the text format, was reinforced by data from the Young Adult Literacy Survey, which was conducted in the United States in the 1990s. This was then the approach adopted for the International Adult Literacy Survey (IALS[6]). LAMP adopted this organisation of literacy domains as its starting point, not only because there was a primary interest in obtaining information that would be comparable to what was produced by IALS, but mainly because the assessment frameworks developed for IALS[7] represented the best available foundations in international literacy skill assessments. Even if IALS was only conducted in European languages in some OECD countries, it is the best previous experience available.

An original effort was commissioned by the UIS (see UNESCO-UIS, 2008) in order to set the foundations to measure reading components. This effort was primarily developed for the English language but also includes guidelines to develop a module to measure in other languages. This framework is also supplemented by what the LAMP experience has already yielded as lessons learnt, which are described below.

This section summarises what was established in those frameworks as the field where LAMP operates as a measurement endeavour. In short, this section is largely based on the previously quoted document (UNESCO-UIS, 2008) and the actual LAMP experience to date.

2.1 Prose, document and numeracy

Typically, prose-related skills involve the ability to process texts formed by sentences organised into paragraphs. These texts are organised using paragraph setting, indentation and a hierarchy expressed by headings that help the reader recognise the organisation of the text.

---

[6] IALS was also based upon the U.S. experience through its National Adult Literacy Survey and is similar to the approach followed by the OECD Programme for International Student Assessment (PISA) in relation to literacy skills.

[7] For reading skills, see Educational Testing Service (2001), and for numeracy skills, see Statistics Canada (2003).

Document-related skills involve the ability to use non-continuous texts organised in a way that allow the reader to employ different strategies to enter and extract information. Mosenthal and Kirsch (1998) suggested that these texts, even if they appear in rather different formats (tables, schedules, charts, maps, forms, etc.), can be classified into four types: simple list; combined list; intersected list; or nested list. Using these types, one can produce matrix (identifiable rows and columns), graphic, locative and entry documents.

Numeracy skills are measured using short tasks with mathematical content that are embedded in hypothetical contexts that simulate real-life situations. Successfully completing these tasks requires computing skills; estimating skills; an understanding of notions of shape, length, volume and monetary units; measuring skills; and understanding some statistical ideas or interpreting simple formulas. Respondents can use, if they wish, a four-function calculator. This approach was applied in the ALL survey and represents a broadening of the scope covered by the Quantitative Literacy Scale as defined in IALS, which only referred to a person's ability to apply arithmetic operations to numbers embedded in print material. Measuring numeracy skills in a comparable manner across cultures, however, poses very specific challenges, since the way people deal with numbers is also culture-specific. The extreme example of this situation is given by the major differences between operating in decimal and non-decimal systems.

LAMP, therefore, includes a number of tasks that involve operating with continuous and non-continuous texts and mathematical-based operations.

2.2 Task classification for prose, document and numeracy

Development of the testing instruments was based on the definitions provided by these frameworks. At the same time, each item in the test poses a task for the individual to perform. These tasks were developed taking into account the following criteria, which also happen to translate into the expected difficulty level of each item.[8]

a) Tasks are developed in relation to a specific context and content that is relevant to a particular situation. These include home and family issues; health and safety issues; community and citizenship; consumer economic situations; work-related situations; and leisure and recreation.

b) Texts can differ in type.

   Prose (continuous text) items are developed using:
   - descriptions: questions beginning with 'what' or space-related attributes;
   - narrations: questions beginning with 'when' or time-related attributes;
   - expositions: questions beginning with 'how' and mental constructs;
   - argumentations: questions beginning with 'why' and propositions including persuasive texts;
   - instructions: directions;
   - documents or records: formalised and formatted records of information; and
   - hypertexts: linked text slots that allow reading in different sequences.

[8] A detailed description can be found in Educational Testing Service (2001).

Document (non-continuous text) items are developed using:

- matrix documents: built upon organising single lists including combined, intersected and nested lists;
- graphic documents: summary representation of quantitative information transformable into a matrix document;
- locative documents: summary representation of non-quantitative information like location, properties, etc;
- entry documents: prompts users to provide information; and
- combination documents: when more than one type of document is used.

c) Tasks can involve different processes or strategies, which include the following major elements:

- Matching information which can involve:
  - locating: matching one feature or more to identical or synonymous information provided;
  - cycling: engaging in a series of feature matches to satisfy conditions stated in the question;
  - integrating: pulling together two or more pieces of information according to a specified rule (comparisons, cause-effect relationship); and
  - generating: producing the rule for integrating pieces of information.

- Type of information requested can be concrete; abstract; or equivalent (higher degree of abstraction).

- Plausibility of distracting information, ranging from the use of no distracters to several with partial qualifying attributes.

- Type of calculation for numeracy items, meaning the type of arithmetic operation and whether it is performed alone or in combination.

- Operation specificity which entails identifying and entering numbers and determining the operation to be performed.

2.3 Reading components

In its design, LAMP includes a reading component module to be administered to those with lower literacy skills in order to identify the elements that contribute to poor performance. The intention is to collect information in order to better customise policy interventions (literacy programmes) by avoiding the assumption that poor performance is explained in every individual in the same fashion (UNESCO-UIS, 2008).[9]

The comprehension or 'meaning construction' processes of reading are built upon a foundation of component skills and knowledge of how one's writing system works. The evidence of this knowledge and these skills can be captured in tasks that examine a reader's ability and efficiency in processing the elements of the written language – letters/characters, words (and non-words), sentences, and larger, continuous text segments.

[9] The following paragraphs are taken from UNESCO-UIS, 2008.

The LAMP reading component module mainly asks whether the adults surveyed can apply their existing language and comprehension skills to the processing of printed texts. The component tasks are not designed to assess separately the level of language skills in the target print literacy system. It is assumed that the adults surveyed will have basic oral vocabulary, syntactic/grammatical and listening comprehension skills in the target language. LAMP provides a component measure of basic oral vocabulary to indicate if individuals have a threshold level of language proficiency. However, an independent measurement of language proficiency is not a basic feature of the component framework.

Each country implementing LAMP will develop a set of component measures unique to its language, script and culture based on the guidelines specified in the reading component framework (UNESCO-UIS, 2008). As the relationship of the language to the writing system may be very different depending on the language, the components and the nature of items and tasks to assess the components will need to be developed and/or adapted.

a) *General elements involved in measuring reading component skills*

In order to measure reading component skills, a basic starting point would be to recognise that reading consists of word recognition and linguistic comprehension; and while each of these components is necessary for reading, neither of them is sufficient by itself.

Another key element pertains to measuring speed or rate of response. This is a straightforward behavioural proxy for cognitive constructs of automaticity and efficiency.

In addition, the clarity and speed of oral instructions and items should be carefully standardised. It is also important to take into account that dialects, accents and other language variations may make spoken/oral responses more difficult to score. Finally, if the individual struggles to produce spoken responses, this will influence speed/efficiency measurements.

b) *Alphanumeric recognition*

This is the most basic step of sight-to-sound correspondence – matching the letter name to the printed symbol and vice versa.

Letters are a slightly stronger predictor of reading than numbers, but they are generally more strongly correlated with each other than with overall reading. However, it is conceivable in some settings (such as communities with minimal availability of printed material) that there is more exposure to and knowledge of printed digits than letters or vice versa. Therefore, LAMP includes both letter and digit recognition tasks.

c) *Visual word recognition*

There are two basic behavioural skills indicative of proficiency in word recognition: i) the accumulation of sight-word knowledge of real words, along with accurate and rapid recognition of frequent words, are a strong index of word recognition efficiency and proficiency; and ii) decoding.

d) Word meaning (vocabulary)

The measurement of vocabulary in LAMP is not intended to capture the full extent of vocabulary knowledge but to determine whether an individual's component reading skill levels reflect his/her proficiency to read texts that he/she could otherwise understand in a listening context.

Respondents are shown line drawings depicting common things and then asked to provide the verbal label (e.g. book, chair, cat, etc.). Care must be taken to select items that are expected to be well-known by most adults in the population. This is necessary as adults may have varying degrees of exposure to the vocabulary used mostly in the written form of the language in which they are being assessed.

e) Sentence processing

The individual is asked to make true or false judgments based on the content of sentences, either in relation to a common knowledge about the world or based on the internal logic of sentences. Here, the purpose is to assess if the individual can only decode the words or if he/she is able to grasp the meaning of a sentence.

f) Passage reading

Skilled reading is rapid, efficient and fluent (silent or aloud). LAMP considers fluency to be more of an observable property that emerges from skilled reading. Fluency is an indicator of whether visual word identification processes are efficiently feeding language processing systems (e.g. working memory) to produce outputs.

These tasks are designed to provide a choice between a word that correctly completes a sentence and an incorrect word. The incorrect item is meant to be obviously wrong to a reader with some basic comprehension skills. Distracters may be grammatically or semantically wrong. By giving the participant only a fixed amount of time to perform the task, a measure of reading efficiency is assessed.

LAMP items have been mainly designed to measure previously acquired reading components, knowledge and skills. The individual either has the skill level to accurately respond to the item or not. There is not much additional information in each item that would require time to think about a response. Therefore, hesitation in responding is indicative of weak underlying knowledge and skills.

Section 3. How is LAMP implemented?

In an effort to foster the production of data on literacy skills in a systematic and sustainable manner, LAMP is not conceived to operate through international “rounds” or “waves” but according to the specific rhythms and possibilities of each implementing country.

3.1 LAMP implementation: A typical scheme

Although LAMP implementation must be customised according to the characteristics and needs of each country, it is possible to identify some typical key stages. An overall description of these stages is presented below and includes specific references to LAMP documentation.

3.1.1 Developing country ownership and exploratory work

LAMP implementation is, and must be above all, a national endeavour useful to each Member State given its potential impact on policymaking. Therefore, the first key element for implementing LAMP is a clear country ownership of the programme.

Typically, the development of country ownership and LAMP implementation starts with an initial interest and an exploratory phase where the different national counterparts retrieve information about LAMP and discuss whether it would suit their needs. The UIS website (www.uis.unesco.org) contains the information and documentation needed for this exploratory phase, while UIS staff in Montreal and in the regions are ready to provide any additional input a Member State might need.

Once this first exploratory phase is completed and the rationale for implementing LAMP in a given country is clear for the various stakeholders, then LAMP implementation becomes a national initiative.

Besides defining the rationale for LAMP implementation, another key element of this phase is the identification of those institutions and individuals that should be involved in the process to ensure that: i) LAMP implementation clearly reflects the views and interest of relevant partners; and ii) LAMP is successfully implemented once the required expertise is mobilised and the required capacity development staff are involved at the corresponding institutions.

Typically, a LAMP national team is composed of organisations and individuals that should include:

- The organisational unit within the Ministry of Education responsible for literacy programmes and/or adult and continuing education.
- The unit in charge of conducting household surveys at the national level, typically the National Statistical Office.
- Experts in conducting educational assessments (cognitive testing), paying particular attention to item development and cultural/linguistic validity issues. Typically, this is undertaken by the unit in charge of student assessment activities at the Ministry of Education.
- Linguistic experts in the language(s) to be considered in the assessment.
- Non-governmental organisations (NGOs) working in literacy or adult education programmes.

Documents that provide the basic elements for this exploratory phase include:

- This report which provides a general overview of LAMP.
- The *National Planning Report Template*, which provides an outline of the national implementation process.

3.1.2 Preparatory work

Once a preliminary decision is made to conduct LAMP, the national team should initiate the process to define two major elements: i) the scope and characteristics of the study; and ii) the amount of resources required.

In order to define the scope and characteristics of the study, a *National Planning Report* (NPR) should be prepared.

The NPR is a document that establishes the following elements:

- International and national objectives of the study;
- Expected use of the information and an analysis and dissemination plan;
- Target population and sub-populations;
- Languages of literacy to be used in testing, with an indication as to whether these are first or second languages of the population groups concerned (scripts should also be considered);
- Sample design;
- Instruments to be administered, including the specifications of elements to be customised in the cognitive instruments and in the collection of respondent characteristics;
- Pre-testing and the field test;
- Data collection process;
- Data capture and processing;
- Confidentiality provisions;
- Quality assurance provisions; and
- Composition of the national team and distribution of major responsibilities.

In order to facilitate the preparation of the NPR, the UIS has prepared a template which can be downloaded from the UIS website (www.uis.unesco.org).

In order to determine the financial implications of the study, a *Costing Template* (CT) should be prepared according to the characteristics defined in the NPR. The CT is a tool that automatically computes cost once the different units and unit costs of the elements in the study are described in the NPR. The CT includes:

- A summary of costs detailing the major phases (field test and main assessment); and
- A detailed account of the costs differentiating:
  - Training
  - Translation/adaptation and verification of instruments
  - Preparatory work
  - Data collection activities
  - Data capture and processing
  - Reporting for both the field test and the main assessment
  - Dissemination of results from the main assessment.

In order to facilitate the preparation of the budget, the UIS has prepared a template which can be downloaded from the UIS website (www.uis.unesco.org).

A clear definition of what can be expected from LAMP, the required timeframe and its financial implications are the key elements needed to make a final decision on LAMP implementation.

Once this decision is made, the country and the UIS will sign a *Memorandum of Understanding* in order to regulate each element of the process. The signature of this *Memorandum of Understanding* initiates the implementation process and gives the national team access to copyrighted materials. It also provides a guarantee to the country and the community in general that the UIS will oversee the process and ensure that the standards required for LAMP implementation are met.

Documents that provide the basic elements for this preparatory phase include:

- The *National Planning Report template*, which provides an outline of the national implementation process.
- The *Costing Spreadsheet Template*, which facilitates the estimation of the amount of resources needed.
- The *Memorandum of Understanding template*, which details the elements that have to be regulated in order to secure a fruitful collaboration between the country and the UIS, ensuring a successful implementation of LAMP.

3.1.3 Pre-test and field test

The implementation of LAMP entails a first stage which gathers the information required to secure the success of the actual assessment. This consists of the pre-test and field test, which are key elements needed to:

- ensure the validity of the study and its results;
- identify elements that have to be adjusted in the instruments; and
- identify potential logistic and operational problems to be addressed.

This phase of implementation, typically involves the following steps:

a) A technical discussion on the **definition of literacy** used by LAMP to establish how this would fulfil national needs.

b) The **translation/adaptation/verification** of the instruments to be used. The UIS provides a set of instruments in English, French or Spanish (eventually this will be available in other languages if the countries that originally produced those versions kindly authorise their use), which might need to be translated and adapted to the particular characteristics of each country and its language usage. After the cognitive instruments are adapted, a verification process is required to ensure that what is being measured reflects the original design. Typically, verification is a two-stage process that allows for a detailed discussion of changes and ends with an agreement on the final version of every instrument.

   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.

c) **Development of new items**. This task entails the introduction of items in the test that are of particular interest to a country for specific purposes and the need to produce new items for LAMP, in general, in order to renew them over time.

d) **Pre-testing** the instruments is a task that provides key information for the adaptation process (pertaining to the relevance of the instruments for the population). Therefore, pre-testing is an activity that must be embedded in the process of developing the final versions of the instruments.

e) **Translation and printing of instruments, operational guidelines and manuals**. The UIS has produced a set of manuals and guidelines that must be used in order to train and guide those involved in the different operations. In addition, each country might have specific documentation (e.g. interviewing guidelines) that have to be distributed among the staff. Print copies of the instruments are also required for training and the actual field operation. It must be noted that one of the instruments (reading components flipbook) has some specific printing requirements.

f) **Ethnographic elements**. As suggested in 2003 (Uppingham Seminars, 2003), ethnographic inquiry can shed light on different literacy issues, including the statistical measurement of these skills. Even if conducting ethnographic studies falls beyond the scope of a statistical body, such as the UIS, it is important for countries to consider conducting this sort of inquiry concurrently with LAMP implementation. This would help countries explore validity issues and the connection between literacy skills as portrayed by statistical methods and the uses of literacy in social life at a local level.

g) **Planning field operations**. Once the instruments are ready, field work operations can be conducted. The instruments and other documentation are used for training purposes to ensure that all staff involved in the field operations (interviewers, supervisors, coders, scorers, etc.) are fully aware of the characteristics of the study and of what is expected from each of them. Ideally, the training session should end with a rundown of the details of the field work resulting from the pre-determined definition of the sampling elements and the corresponding logistics, so that each individual will be properly prepared.

h) **Field work**. Conducting the field work successfully presupposes the previous steps, as well as a detailed supervision of field operations. A less than careful administration of the instruments can void the entire effort. The planning of activities should also include a site visit and observation by the UIS at this stage. Continuous monitoring of the overall progress of the field operations is essential in order to make any necessary adjustments. Logistics are of crucial importance to ensure that the materials (questionnaires, labels, score sheets, stopwatches, recorders, batteries, etc.) are at the disposal of the field operation staff at the right moment.

i) **Scoring, coding and data capture**. Once the test administration has begun, sets of completed questionnaires will need scoring, coding and data capture.

Scoring is a key task. The rule set by the UIS for the field test specifies 100% double-scoring for the tests and 20% for the reading components flipbook. The purpose of this is to detect any potential bias by individual scorers. Therefore, re-scoring 100% of the cases helps monitor the quality of the work done by each scorer and identify those who perform the task in a way that differs from expectations. Discrepancies between scorers must be settled by a senior scorer.

Coding is a task that focuses on some particular sections of the background questionnaire: classification of occupation, economic activities and educational background (attainment and current enrolment). The intention here is to obtain a systematic recording of this information that would also help in cross-national comparisons (since international classifications are used). A particularly demanding issue is related to harmonising all structures of the education system that have been in place over the past decades, leading to different ways of recording individual experiences (according to their age).

j) **Analysis and reporting**. Once the data are captured, the analytical tasks commence with quality control procedures and basic processing, including psychometric elements. The main purpose is to identify elements that might not work properly and, therefore, need to be adjusted for the assessment. The field test report will identify these issues and make corresponding recommendations. The field test is not intended to and cannot produce publishable data. Rather, its purpose is to test the instruments and procedures to guarantee that the main assessment (from which data on literacy skills will be produced) works properly and to ensure maximum benefit. The UIS has defined quality standards for the datasets and developed procedures for quality control. It has also developed procedures for the psychometric analysis that can be conducted jointly or concurrently with each country.

3.1.4 Main assessment

Once the field test is completed, the main assessment begins, producing the actual data on the distribution of literacy skills of the target population.

This main assessment typically involves the following elements:

a) **Adjusting and verifying the instruments**. According to the results of the field test, some modifications to the instruments might be needed. Once they have been proposed, a verification of the modifications should take place to ensure that they consistently measure the concepts stated in the original design. As in the case of the field test, verification is a two-stage process that allows for a detailed discussion of changes and ends with an agreement on the final version of every instrument.

b) **Adjusting the procedures**. According to the results of the field test, some modifications to the procedures might be needed. These modifications should guarantee a successful implementation and address the potential issues revealed by the field test.

c) **Ethnographic elements**. Although ethnographic studies do not fall under the domain of the UIS, countries should explore the possibility of conducting them concurrently with LAMP implementation.

d) **Printing of instruments, operational guidelines and manuals.** The updated versions of the instruments and guidelines have to be used for training purposes, with special attention given to those elements which were modified.

e) **Planning field operations**. Once the instruments are ready, field work operations can be conducted. Particular attention must be given to the following areas:

- The sampling procedures should be clearly established and the logistics consequently arranged.
- The instruments and other documentation should be used for training purposes to ensure that all staff involved in the field operations (interviewers, supervisors, coders, scorers, etc.) are fully aware of the characteristics of the study and of what is expected from each of them. Ideally, the training session should end with details of the field work.
- It is critical to set up a detailed supervision and overall monitoring mechanism. This would allow any necessary corrections/adjustments to be made and remedial action to be taken as the field work progresses.

f) **Field work**. Same as for Section 3.1.3.

g) **Scoring, coding and data capture**. Once the test administration has begun, sets of completed questionnaires will need scoring, coding and data capture.

Scoring is a key task. The rule set by the UIS for the main assessment specifies 25% double-scoring for the tests and 10% for the reading components flipbook. The purpose is to detect any potential bias by individual scorers. Discrepancies between scorers must be settled by a senior scorer. In addition, a sample of the cases will be scored by an international scorer to identify any potential bias in scoring at the country level.

h) **Analysis and reporting: national and international**. Once the data are captured, the analytical tasks commence with quality control procedures and processing, including psychometric elements. The analysis plan should be ready in advance and discussed with potential users. At this stage, the connection between the analysis and the planning phase (where potential users and their needs were included in the design phase to anticipate the use of the data) becomes critical. The whole effort is conducted in order to utilise the results, not just produce them.

3.1.5 Dissemination and use of results

The data collected will become part of the international database managed by the UIS, available on its website (www.uis.unesco.org). The datasets will be available under certain conditions as stipulated in the non-disclosure agreements in the *Memorandum of Understanding* signed at the end of the preparatory phase.

For national purposes, the NPR should specify which documents and publications are expected to be produced at this stage. it should also outline the data dissemination plan.

There are a few general elements to consider:

a) The dissemination plan should prevent any potential oversimplification of the data, which requires detailed collaboration with the **media**. The results of international studies which are simplified into league tables can often generate misperceptions, creating a huge impact in the media with headlines such as: “We are at the top of the world/region”; “We are at the bottom of the world/region”; “We beat our neighbour”; “We were beaten by country x”; “x percent of our citizens can barely read”. These are examples of catchy headlines that ‘create noise’ and eventually raise the profile of literacy issues but usually translate into emotional reactions and not into effective policy decisions.

The media can play an important role in highlighting literacy challenges. This entails working together to design a strategy that emphasises common issues, such as: the need to improve the environments in which we live and work so that they include written material; the need to promote an enriched use of written material (including the printed press); the connection between the results and the performance of the education system in the recent decades; the need to address, in a comprehensive way, the needs of specific sub-populations; etc.

b) The design of **literacy programmes** should benefit from data produced using various methods. These programmes can be customised using LAMP results, for example, using information collected on barriers to reading in specific sub-populations. How should a literacy programme treat, for instance, indigenous populations in rural areas? Should this be the same approach in poor urban settings? Specific information, especially data derived from the reading components study, should have a major influence on the design and delivery of literacy programmes.

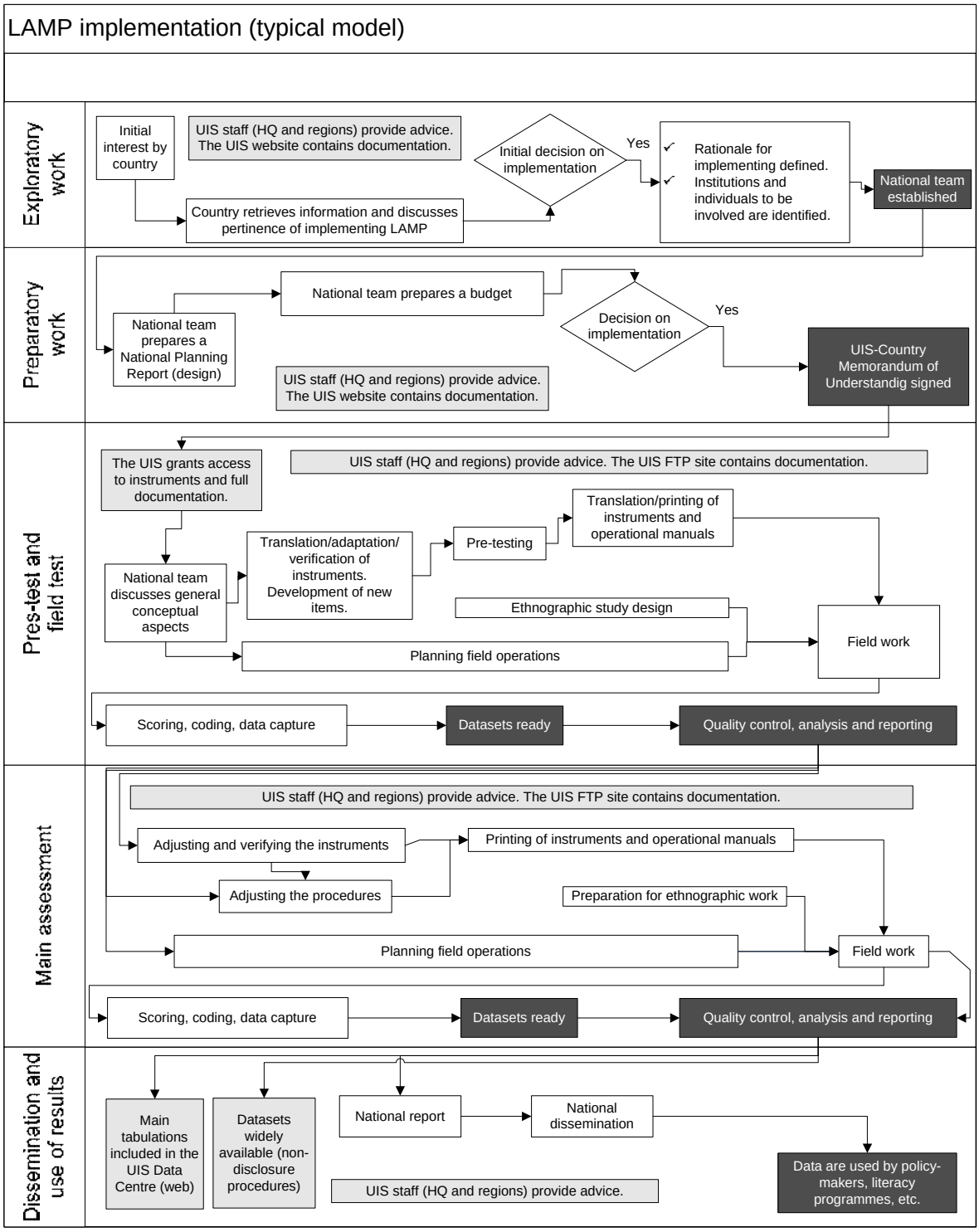
c) **Educational policy** should not only benefit those at the bottom of the distribution of proficiency skills but also take into account the overall development of a country's population. A comprehensive picture of the entire population allows the design and/or improvement of educational policies by identifying the skills of the population. Continuing education programmes, national campaigns, adjustments in the curricula of primary and secondary education (both for children as well as youth and adults in formal and informal settings) should profit from the data produced by LAMP.

d) Literacy issues need to be addressed from a cross-sectoral perspective that affects manifold aspects of social life. Therefore, the data produced through LAMP should assist in designing **social programmes**, including health-related and sanitation issues. For instance, better information on the literacy proficiency of the population can help shape the design of an immunisation campaign by helping to create better communication strategies and printed material and/or include literacy education elements in what they do, especially when the immunisation campaign is integrated in overarching social policy interventions.

e) Data on what people know and are able to do can have a significant impact on the way **each sector** communicates with another. For instance, the Revenue Service can improve the way tax obligations are communicated and tax returns are designed in order to increase compliance.

Figure 1 summarises the typical model for LAMP implementation.

Figure 1.


LAMP implementation (typical model)
Exploratory work
Initial interest by country
UIS staff (HQ and regions) provide advice. The UIS website contains documentation.
Initial decision on implementation
Yes
Rationale for implementing defined.
Institutions and individuals to be involved are identified.
National team established
Country retrieves information and discusses pertinence of implementing LAMP
Preparatory work
National team prepares a budget
National team prepares a National Planning Report (design)
Decision on implementation
Yes
UIS-Country Memorandum of Understandig signed
UIS staff (HQ and regions) provide advice. The UIS website contains documentation.
Pres-test and field test
The UIS grants access to instruments and full documentation.
UIS staff (HQ and regions) provide advice. The UIS FTP site contains documentation.
Translation/printing of instruments and operational manuals
Translation/adaptation/ verification of instruments. Development of new items.
Pre-testing
National team discusses general conceptual aspects
Ethnographic study design
Field work
Planning field operations
Scoring, coding, data capture
Datasets ready
Quality control, analysis and reporting
Main assessment
UIS staff (HQ and regions) provide advice. The UIS FTP site contains documentation.
Adjusting and verifying the instruments
Printing of instruments and operational manuals
Adjusting the procedures
Preparation for ethnographic work
Planning field operations
Field work
Scoring, coding, data capture
Datasets ready
Quality control, analysis and reporting
Dissemination and use of results
Main tabulations included in the UIS Data Centre (web)
Datasets widely available (non-disclosure procedures)
National report
National dissemination
Data are used by policy-makers, literacy programmes, etc.
UIS staff (HQ and regions) provide advice.

This process takes varying amounts of time depending on each country. Nevertheless, a general breakdown for a reference timeframe is as follows:

- Exploratory work : a few weeks to several months
- Pre-test and field test : 6-9 months
- Main assessment : 9-12 months
- Dissemination : 3 months

Once the exploratory work is completed, the implementation of LAMP should typically take between 18 and 24 months.

3.2 When should LAMP be conducted again?

LAMP is a complex undertaking that typically takes two years to implement. Unless a major intervention has occurred, the results of LAMP should not change dramatically over a short period of time since they cover the 'stock' of abilities among youth and adults. Therefore, re-implementing LAMP too soon would not make much sense. As a general rule, the UIS advises countries to implement LAMP in cycles of five to ten years, unless specific circumstances create an urgency for earlier implementation.

Given the recommended re-implementation time, how can information on literacy be gathered for the periods in between? Since the distribution of literacy skills among a population is associated with other variables that can be observed through household surveys, the UIS is developing a procedure to make reasonably good estimations. Obviously, the quality of estimations would depend on several factors, notably: i) the quality of the statistical model used for estimations, for which the UIS can provide support to countries to ensure that it functions properly; and ii) to what extent the associations used to build the estimation model and found during a LAMP implementation still hold true after a certain period of time. This second element is particularly vital.

Let us assume that the literacy proficiency levels of the population are mostly associated with certain basic variables: educational attainment, gender, age, area of residence, mother tongue and income level. The model can be developed using the information on those variables and their association with the distribution of literacy skills. It should to be noted, however, that policies should attempt to break at least some of those associations so that the development of literacy skills will be more equitable. Thus, policies should not discriminate by gender, age, area of residence, mother tongue and income level. So, if equity-oriented policies aimed at improving the skills of those living, for instance, in rural areas, are successful, the association found at a given moment would no longer hold true, rendering the estimation model less useful. Eventually, if a significant national effort to improve educational opportunities and outcomes in an equitable manner (i.e. not just for children but also youth and adults) is successfully conducted, the entire model will become obsolete.

In other words, if no significant transformations are introduced in relation to the actual conditions of youth and adults, the estimation model can reasonably operate for a certain period of time. Otherwise, a new LAMP implementation should be conducted to ensure that data effectively depict the actual conditions in an updated and accurate manner. This will also translate into an update of the estimation model.

3.3 The role of the UIS in LAMP implementation

The UIS plays many roles in relation to LAMP implementation, which comprises the following elements:

a) The first element relates to the continuous improvement of the programme. The UIS has been responsible for the developmental work, but it is unreasonable to assume that once this work is completed it will never be addressed again. The UIS is constantly exploring ways to improve the methodological components of LAMP, paying close attention to developments in cognitive science, survey methodology and educational assessment. Thus, it is expected that following the public release of the major LAMP documentation in 2009, the UIS will continue publishing methodological materials regarding different elements involved in the implementation of LAMP and the use of the data it generates.

b) The second element pertains to the provision of technical support to countries during implementation. In order to perform this task, the UIS is establishing technical advisory bodies in each region of the world. This should allow the UIS to expand its operational capabilities, promote existing capacities, rely on existing expertise – including countries that have already implemented LAMP -- and work from a closer proximity to countries (thus reducing time zone differences). These bodies are being organised around the UIS presence in the field. In 2008, one of these groups was established in Latin America and the Caribbean, and the preparatory work has commenced for another in the Asia-Pacific region.

c) Safeguarding the integrity of LAMP as a programme is an important role for the UIS. A major factor in any statistical endeavour is to guarantee that quality standards are clearly established and met so that the meaning and scope of the information can be assured. Quality standards must be guaranteed each time LAMP is implemented at the national level. In order to perform these tasks, the UIS is entitled, as prescribed in the *Memorandum of Understanding*, to vet critical elements in the procedure, make direct field observations and refuse to publish data if the quality standards are not met.

d) One of the UIS' primary mandates is to act as a repository for cross-nationally comparable data on the areas of UNESCO's fields of competence: education, science and technology, and culture and communication. This includes literacy and, consequently, the data generated by each LAMP implementation. Main tabulations from LAMP are expected to be incorporated into the UIS Data Centre, while the complete datasets will be at the disposal of Member States, educational institutions, research organisations, etc. The UIS will regulate access to the datasets according to what is stipulated in the *Memorandum of Understanding* with each participant country.

e) The UIS is also a repository for cognitive items used in LAMP. In this way, the UIS establishes procedures to renew the items over time, while safeguarding the interest of Member States by providing items that are not copyrighted by any private organisation. This task also includes performing psychometric analysis on the item properties – a key element for performing the analysis of the information generated by LAMP.

f) Finally, the UIS is establishing a Global Advisory Panel for LAMP to provide overall expert input that would lead to improvements in the different elements implied in the development of LAMP.

3.4 Funding considerations

The way LAMP is funded corresponds to its characteristics as a country-led initiative. The UIS has invested significant resources in developing LAMP, which has entailed the following efforts:

- Conducting and completing the developmental work in order to validate its approach, instruments and tools. Most of the budget allocated to LAMP between 2003 and 2008 was devoted to this task.

- Establishing and sustaining a central team to develop and maintain LAMP's major elements (including cognitive items and instruments), publishing the results at the international level and overseeing the implementation of LAMP in general.

- Establishing and regularly training regional advisory groups to provide technical support to countries implementing LAMP under the guidance and on behalf of the UIS, guaranteeing that each national implementation meets the established quality standards.

The UIS, therefore, provides the conceptual, methodological and technical foundations for LAMP implementation.

The national implementation of LAMP falls beyond what the UIS can fund. This means that each country is responsible for securing the funding required to implement LAMP, although the UIS team (in Montreal and in the regions) is ready to provide support to negotiate funding opportunities. Some countries will be able to fund the entire implementation, while others will require donor support. Once the design (NPR) and the budget (CT) are finalised, the chances of securing funding are greater since both documents will provide a solid foundation for a proposal intended to address a key area of educational policy.

It is difficult to provide an overall figure that would represent the costs of implementing LAMP in general. Costs vary from country to country and, ultimately, are dependent upon the design that each country would like to implement. For instance, sampling 5,000 households (and 5,000 individuals) in one national sample would be much cheaper than sampling 20,000 in order to get a similar level of accuracy for four regions. Of course, a larger sample will allow reporting on more subdivisions of the population. Therefore, there is a potential conflict between overall costs (and their implications on feasibility) and the level of coverage of sub-populations.

Each country will need to assess the amount of funding required to correspond to their needs as expressed in the design. This figure should, in general, be affordable, especially when compared with the actual costs of not having the information. It is important to bear in mind that a lack of sufficient information leads to decisions that might compromise success (including in the design of literacy interventions).

In any event, a typical LAMP implementation would require investing no less than US$250,000. However, this figure would vary depending on the sample design and some major cost elements, such as printing and conducting field work (transportation and accommodation costs plus per diem). It also should be noted that the UIS does not charge an overhead as its mission is to provide a service to Member States. However, some international costs should be included in the budget (verification of instruments, observation and training missions to countries and consultants hired for specific tasks in the country).

References

Darville, Richard (1999). "Knowledges of adult literacy: Surveying for competitiveness" in *International Journal of Educational Development,* Vol. 19, Issues 4-5, pp. 273-285.

Educational Testing Service (2001). *The International Adult Literacy Survey (IALS): Understanding what was measured*. Princeton: ETS.

Global Campaign for Education (2005). *Writing the Wrongs: International Benchmarks on Adult Literacy*. London, Johannesburg: Global Campaign for Education and ActionAid International.

Hamilton, Mary (2001). "Privileged Literacies: Policy, Institutional Process and the Life of the IALS" in *Language and Education*, Vol. 15, Nos. 2&3, pp. 178-196.

Hamilton, Mary and David Barton (2000). "The International Adult Literacy Survey: What Does It Really Measure?" in *International Review of Education – Internationale Zeitschrift für Erziehungswissenschaft – Revue Internationale de l'Education*, Vol. 46(5), pp. 377-389.

Mosenthal, P. B. and I.S. Kirsch (1998). "A new measure for assessing document complexity: The PMOSE/IKIRSCH document readability formula" in *Journal of Adolescent and Adult Literacy*, Vol. 41(8), pp. 638-657.

OECD and Statistics Canada (2000). *Literacy in the Information Age: Final report of the International Adult Literacy Survey*. Paris: OECD.

Ostler, Nicholas (2006). *Empires of the Word: A Language History of the World*. New York: Harper Collins Publishers.

Sen, Amartya K. (1981). *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press.

Statistics Canada (2003). *Adult numeracy and its assessment in the ALL survey: A conceptual framework and pilot results*. Ottawa: Statistics Canada.

Street, Brian (1998). "New Literacies in Theory and Practice: What are the implications for language in education?" in *Linguistics and Education*, Vol. 10(1), pp. 1-24.

Street, Brian (2004). "Understanding and defining literacy". Background paper for *EFA Global Monitoring Report 2006*. Paris: UNESCO.

UNESCO (1958). *Recommendation concerning the International Standardization of Educational Statistics* in Records of the General Conference. Tenth session. Paris: UNESCO.

UNESCO (1978). *Recommendation concerning the International Standardization of Educational Statistics*. Adopted by the General Conference at its 20th session, Paris, 27 November 1978. Paris: UNESCO.

UNESCO (1996). *Learning: The Treasure Within*. Paris: UNESCO.

UNESCO (2004). "The Plurality of Literacy and its Implications for Policies and Programmes". Position paper. Paris: UNESCO.

UNESCO (2005). "Aspects of literacy assessment". Topics and issues from the UNESCO expert meeting. Paris, 10-12 June 2003. Paris: UNESCO.

UNESCO-UIS (2005). *Measuring Linguistic Diversity on the Internet*. Montreal: UNESCO Institute for Statistics (UIS).

UNESCO-UIS (2008). *Literacy Assessment and Monitoring Programme (LAMP): Framework for the Assessment of Reading Component Skills*. Montreal: UNESCO Institute for Statistics (UIS).

Uppingham Seminars (2003). *Measuring literacy: Background papers*. Retrieved from http://uppinghamseminars.com/index.htm.

Developed by the UNESCO Institute for Statistics (UIS), the Literacy Assessment and Monitoring Programme (LAMP) enables countries at all stages of development to test the literacy and numeracy abilities of their populations using the latest techniques in educational assessment.

Marking the first edition of a new series of UIS publications, this Technical Paper serves as a guide to implement LAMP. In doing so, it addresses the key questions facing any policymaker, donor or citizen looking to make an informed decision about literacy assessment. What sets LAMP apart from other surveys? What skills does it measure and how? What can countries expect when implementing the programme? Most importantly, how can LAMP respond to the specific conditions and priorities of individual countries?

These questions and others are addressed in order to highlight LAMP's contribution to the global body of literacy statistics. Initiated in 2003, LAMP began as a pilot programme undertaken in collaboration with several countries from different regions of the world. The diverse linguistic, cultural and institutional settings of these countries provided an exceptional opportunity to refine the programme's conceptual approach, tools and procedures. As a result, this is the only literacy assessment to have been validated in nine languages in five linguistic families.

United Nations
Educational, Scientific and
Cultural Organization

UNESCO
INSTITUTE
for
STATISTICS

UNESCO Institute for Statistics
P.O. Box 6128, Succursale Centre-Ville
Montreal, Quebec H3C 3J7
Canada
http://www.uis.unesco.org

The UNESCO Institute for Statistics (UIS) is the statistical office of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and is the UN depository for internationally comparable statistics in the fields of education, science and technology, and culture and communication.