

### **Abstract Book**

### **LEARNING AND TEACHING**

**FOR** 

# SUSTAINABLE DEVELOPMENT:

**Curriculum, Cognition and Context** 

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### EARLY HUMAN CAPABILITY INDEX: MAPPING THE LEARNING GAP WITHIN AND BETWEEN COUNTRIES

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The PISA 2015 survey showed that more than one in five 15-year-old students is below baseline proficiency. Other assessments and data from many countries also show that schoolchildren are failing to acquire the most basic skills. This is a major challenge as countries strive to achieve SDG Goal 4 by 2030 ("Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all") and indicator 4.1.1 ("percentage of children and young people in grades 2/3...achieving at least a minimum proficiency level in reading and mathematics, by sex").

Education involves cognitive and non-cognitive skills, and strategies to assess learning must measure both. Children begin to develop these skills early in life, before primary school, and performance in school relates to early child development (ECD) outcomes (i.e., being ready to learn).

The early Human Capability Index (eHCI) is a population-based tool for measuring ECD outcomes—the PISA of early childhood. It measures cognitive and non-cognitive skills holistically and over time among children ages 3–5 years. The eHCI was adapted and validated in China and applied in two rural poverty counties and Shanghai in 2016. The results showed a large gap in ECD outcomes between rural and urban children. Shanghai first participated in PISA in 2009 and had the highest scores among OECD countries. Students who had attended pre-primary school for more than one year scored more than 60 points higher on the PISA than students who had not. Shanghai educators are using eHCI to explore children's development before primary school and to map gaps in learning to identify at-risk groups. Policymakers intend to collect eHCI data annually to follow children's developmental trajectories and learning readiness.

This session will address population-based measurement of ECD outcomes in China and elsewhere (e.g., Laos, Tonga) as the cornerstone for strategies assessing children's learning.

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### CREATIVE STORY WRITING: FORMATIVE ASSESSMENT APPROACH TO UNDERSTANDING GRAPHS

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"Students cannot learn in school everything they will need to know in adult life. What they must acquire is the prerequisite for successful learning in future life" (OECD, 1999). In the present day world where opportunities to learn, both in formal and informal settings, have grown exponentially, it seems essential to design learning assessments that develop skills and abilities required to undertake activities throughout life. Apart from curricular goals, need of the hour is to design assessments that lay attention upon new- age skills, such as, problem-solving, critical thinking, creativity etc.

The present study reports the findings from an action research project undertaken with secondary grades' STEM learners in a school located in a cosmopolitan city in India. Problem-solving, creativity, thinking critically, comprehending, communicating and working with data- available in different forms, ability to make inferences and predictions are the skills developed through this formative assessment task. Following graph instruction as a part of curricular goals, the author engaged learners in *story writing task* in order to contextualize graph instruction, ability to tabulate data described in a real-world problem context, construction of graphs — choice of scale, origin, index, plotting of coordinates; and analysis of patterns with graphs; so that students can establish correspondence between verbal descriptions, data sets and their graphical representations. Students' misconceptions elicited at all the four stages and how the author used whole-class discussion, peer and self assessment to enhance learners' metacognitive skills regarding graphs are documented. It is argued that assessment should establish linkages of school life with real world by promoting divergent ways of thinking which is essential for sustainable development of whole child.

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### WHAT ARE THE LEARNING NEEDS IN DEVELOPING COUNTRIES: A CASE STUDY OF MOZAMBIQUE

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My presentation shows one insight of philosophical understanding on the learning needs in developing countries, which is often to be abstract and uncommon among countries. The term of learning needs is often stated in policy and projects documents in developing countries. However, the term is often abstract or, if defined, very limited. Moreover, most of developing countries depend on foreign aid, thus they tend to employ the definition of the foreign aid donors, and neglect the country-specific social and cultural needs, such as motivation, teacher-student relationship, and classroom culture. Filling these software needs are crucial as Amartya Sen describes in the capability approach that enable children to have choices to choose, experience, and enact function of opportunities. If the efforts for educational development misconstrue the learning needs, failing to

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recognized the crucial parts of needs, it may result in creating new problems in equality. In this context, I argue that there are undiscovered learning needs, particularly of software needs, and that these needs are only detected through hearing from adult who obtained information from outside and can compare with others, by recalling their past and conceiving other possible choices and options during their school age. To address this argument, I took a case of Mozambique, and conducted asemi-structured interview on forty adults which I purposefully selected based on age, gender, geographical location of their schools, and profession, through two times' field trip in February 2016 and February 2017. Mozambique is a low-income country in Southern Africa with having diverse culture, language and ethnic group, and experienced three drastic change of educational system in the history. Thus, taking a case of this country enable me to observe variety of potential learning needs. Based on this data, I present conceptualized learning needs that contains whole picture of learning needs in Mozambique.

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### IMPROVING ESTIMATES OF ENROLMENT AND OUT-OF-SCHOL RATES WITH CITIZEN SURVEYS: EVIDENCE FROM EAST AFRICA

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The paper explores the possibility that citizen-led surveys provide a better coverage of populations and specifically of hard-to-reach poorer areas than the international standardised household surveys which are the basis for many of the estimates used in assessing progress towards meeting SDG 4; and especially for enrolment and out-of-school rates. This hypothesis is based on the argument that, the local volunteer enumerators of citizen-led surveys are likely to be more sensitive to the specificities of local population distribution and (recent) changes than those centrally trained; and may be more effective at reaching hard-to reach groups such as those nomadic groups and those in urban slums.

To test the hypothesis, the results of citizen-led surveys carried out in Kenya, Tanzania and Uganda have been compared at a sub-national level with those of contemporaneous Demographic and Health Surveys for estimates of access to water. Overall, at national level, we find that the estimates from citizen-led surveys for access to clean water were lower than those of the contemporaneous DHS surveys at a statistically significant level and these differences were statistically significant at the 0.01% level; moreover the differences were very large in regions where there are high concentrations of nomads and of urban slums, implying that the citizen-led surveys 'catch' more poverty.

Further, using the *lowest* estimate of the percentage 'missing' in urban slums and extrapolating to all developing countries, there are an estimated 369 million adults and 61 million 6-15 year old children missing from the sampling frames of standardised household surveys in developing countries worldwide. This has important implications for the 'Leave no one behind' appeal of the UN Secretary General and for the UN's 'Data Revolution'; and makes nonsense of OECD's effort to extend their empire to lower middle income countries through PISA for Development.

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### A NEW GLOBAL APPROACH TO MONITOR LEARNING?

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This symposium will explore and debate new approaches being developed to measure learning globally, with the aim of raising understanding of the learning crisis, galvanising commitment, and demonstrating progress.

The UNESCO Institute of Statistics (UIS) is currently developing new tools to track progress towards the Sustainable Development Goal 4 (SDG4). The new vision emphasises the quality and equity of education, which were largely absent from the previous focus of getting children into school. This includes a new UIS Reporting Scale, which will provide a global scale of learning and enable comparisons to be made between different assessments, and a Learning Data Quality Framework. Following the recommendation from the Education Commission, UIS is also developing a new 'flagship education indicator' to easily communicate current learning levels, track progress and galvanise support for the learning crisis. These initiatives could have significant implications for measuring learning for researchers, practitioners and policy makers.

This symposium will begin with a presentation from UIS on the latest progress towards developing a global approach to measuring learning. It will address questions such as: what are the desirable features of a flagship education indicator — both political and technical? How do we ensure the indicator can be used for both advocacy and understanding? How do we ensure that the indicator is fit-for-purpose in terms of timeliness and coverage? The session will answer some of these questions and present guiding principles and possible formulations.

This will be followed by an alternative perspective, from citizen-led assessments, of assessing learning for local action, with comments on how these global and local initiatives can support each other and potential risks.. A panel of experts will then debate implications of a new global approach to measuring learning from a variety of perspectives. The objective will be to consider the future challenges and opportunities..

The debate will consider questions such as:

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How can we develop a global reporting scale which is meaningful across different contexts? How do we promote rigorous assessments that are comparable across diverse contexts, and recognise diversity in learners?

How do we strike the right balance between concept validity, cross-country comparability and local precision in international and regional assessments?

What role does the growth of citizen-led assessment have to play in this regard?<

The work on learning metrics has been discussed in other forums, but it is moving quickly and this will be an opportunity to debate the latest developments. This symposium will be the first opportunity to debate advanced plans for a new Global Learning Indicator with a broad range of stakeholders , including academics, assessment developers, international development agencies, and practitioners. It will be an opportune time, coming at the point when methodologies are well developed but not yet finalised.

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### TEACHER EVALUATION AND PROFESSIONAL DEVELOPMENT FOR QUALITY EDUCATION IMPROVEMENT

### **Artemio Cortez**

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This presentation looks at the background, rationale and methodology of PhD research regarding a new national policy on Teacher Evaluation and Continuing Professional Development in Mexico. This study links to the UKFIET conference sub-theme <em>Assessing Teaching and Learning for Sustainable Development</em>, specifically regarding how the Mexican Teacher Evaluation (MTE), implemented in 2013, can inform teachers' professional development to address current and future needs, including those related to SDG4. Using mixed methods research (online survey and semi-structured interviews), the research will collect primary education teachers' perspectives on the strengths, weaknesses and unintended consequences of MTE. Current data protection restrictions in Mexico prevent sampling teachers who have been evaluated, therefore, this study utilises online social networks, such as Facebook and Twitter to build a sample frame. Findings from this research can contribute to the improvement or redesign of policy regarding teacher evaluation for quality education improvement.

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### USING LEARNING ASSESSMENT TO IMPROVE TEACHING INSIDE SYRIA

### **Rosalind Gater**

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It is widely recognised that education does not and should not stop during emergencies. There are nearly 50 million children living in conflict today. Ensuring they have access to quality, relevant learning experiences is a key part of building short term resilience, and part of long term sustainable development once there is peace.

This year the Department for International Department will support a learning assessment across 153 schools in opposition-held areas of Syria (March-June 2017), and subsequently a series of

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workshops to determine how to use the findings to improve teaching in this very challenging context (June-August 2017). This will be the first large scale learning assessment to be undertaken in Syria, and the findings will be highly relevant to other conflict contexts. The learning assessment will use the Early Grade Reading Assessment and the Early Grade Maths Assessment to measure grade 2 literacy and numeracy in grade 3 students.

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### WHAT ARE THE SPECIAL CHALLENGES OF LEARNING IN THE DOMAIN OF YOUTH, YOUNG ADULTHOOD, AND ADULTHOOD?

### **Moses Oketch**

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As learning outcomes remain low in low-income developing countries, the focus has shifted to the quality of the learning in schools, both public and non-formal. Access policies are now seen as insufficient given the relative lack of learning but little is known about how to address improvements in learning for the marginalized youth, young adults, and adults who have undergone systems of education for nearly two decades under low learning outcomes. Consequently, there is neither coherent perspective on special challenges and how to tackle the problems of raising learning outcomes in the domain of marginalized youth, young adulthood, and adulthood, nor adequate information on the special challenges to raising learning outcomes faced by those in this domain. So, if priority needs to be given to supporting greater transition of the marginalized into post-primary levels of education, what kinds of opportunities can build relevant life and labour skills and support civic participation for them? What types of measurement tools can or should be used (or not used) in order to determine effective learning and effective policies among youth, young adults and adults for enhancing educational achievement and beyond? This paper is an attempt to offer some perspectives on these questions by focusing on TVET in sub-Saharan Africa.

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### SDG #4 AND LEARNING ASSESSMENT: MEASUREMENT FOR QUALITY IMPROVEMENT, NOT FOR HEADLINES

### Joshua Muskin

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Essential to SDG4, the education goal, is assessment of learning attainment, or quality. As nations and international actors focus on measuring learning, there is the risk of inherent conflict on two fronts. One, system-wide assessments often occur with little impact on the overall quality of education delivery, true at all levels; from central policy and planning to classroom instruction. National examination and other assessment results consume much oxygen in headlines but have little strategic effect. Two, such assessment may actually engender poorer teaching and learning. Examinations preparation routinely narrows the content and skills teachers cover and steal time from continuous assessment and feedback which might actually foster heightened learning. Plus, with skills, what a system can measure reliably is much shallower than what a teacher can appraise directly. The presenter will explore and illustrate these dynamics, based on work of the past two years.

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### CAN LEARNING BE MEASURED UNIVERSALLY?

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As the world gears up for the SDG4, the education goal, the question of measurement has already come up. Much work is under say to figure out how to measure whether the world is achieving the learning aspect of the education. The proposed paper looks at the simplest target, namely learning in primary schools, and asks whether we are ready. Various existing assessments will be examined for fitness-for-purpose, including some very recent ones. It will be concluded that while much progress has been made, more still remains to be made. Furthermore, it will be argued that even with more progress, there are good reasons to think that a single universal "yardstick" may not be possible, but that one could come up with something that nonetheless gives countries and the international community a reasonable chance of assessing their progress, without using a single assessment or even a single metric. These terms will be explained carefully, so as to make sure the paper delineates carefully what is unlikely to be possible, and what is likely to be possible, and why. Assessments to be examined include TIMSS and TIMSS numeracy, PIRLS and PIRLS literacy, PISA and PISA for development, EGRA, Citizen-led assessments such as ASER, LAMP, and perhaps other recent innovations such as those being carried out under the Young Lives project. The paper will reach a cautiously optimistic conclusion regarding some form of comparability across countries, but is likely to conclude negatively on the possibility of a single way to measure.

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### MEASURING THE IMPACT OF TEACHING ON NON COGNITIVE SKILLS, FOR THE FIRST TIME IN MEXICO

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An ongoing impact evaluation in Mexico is pioneering the measurement of student non-cognitive skills and the effects of teachers and teacher mindsets on those skills. The program evaluated is run by Enseña por México (EPM), a non-profit organization that recruits and trains young leaders to become fellows and work as teachers in high-need classrooms. The sample consists of over 40,000 students in grades 4-12, and the evaluation uses a quasi-experimental technique. Among the non-cognitive skills that are measured: self-management, growth mindset, self-efficacy, and social awareness (all adapted from the CORE Districts Survey). Additionally, the evaluation will explore to what extent teachers' mindsets, values, and attitudes impact student non-cognitive skills through the measurement of socio-emotional skills in teachers. To our knowledge, this is the first large-scale impact evaluation using validated instruments to measure the impact of teaching and teachers' mindsets on student non-cognitive skills growth in Mexico.

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#### TEACHER EFFECTIVENESS AND STUDENT LEARNING METRICS IN NORTHERN NIGERIA

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By using more sophisticated program monitoring methodologies, it is possible to embed high-quality applied research and formative evaluation into programming, at very little cost, and at scale. In Northern Nigeria, FHI 360 is partnering with UNICEF/DFID to improve Hausa-language learning outcomes in Grades 1-3 in government and Integrated Qur'anic schools. The program includes a robust monitoring framework that uses program data to identify the links between teacher effectiveness, program fidelity, and student learning growth. As part of the program, reading coaches routinely conduct tablet-based classroom observations where they observe every teacher's methods of instruction and assess their teaching skills and level of program fidelity. They directly provide feedback to teachers afterwards as part of the coaching model. At the beginning and end of the school year, the reading coaches randomly select 10 students from each observed class and conduct early grade reading assessments with them, and again at the end of the school year with the same 10 students. The within-year longitudinal design enables accurate measurement of learning growth, where traditional cross-sectional designs cannot. This approach enables us to link student learning gains, over time, to individual teachers to identify teacher value-added and ultimately aggregate teacher performance metrics to the school level to highlight schools requiring further assistance. Further, we couple teacher performance metrics with our Fidelity of Implementation tool results to distinguish associations between teacher/classroom practices and teacher performance, enabling the program to provide specific guidance and support to teachers. As such, our approach is not used for teacher evaluative purposes but to more efficiently allocate program resources among the schools and teachers who need it most.

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### THE CULTURAL INSTANTIATION OF TEACHING QUALITY FOR YOUNG CHILDREN IN CENTRAL MEXICO

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Several studies suggest that supportive, well-organized, and instructionally-rich teaching practices enhance children's learning and development across various classroom contexts. Yet the ways these "generic" aspects of teaching are motivated and communicated within classroom contexts also matter. In this paper, we explore hypotheses that generic aspects of teaching quality are 1) culturally instantiated and 2) contextually moderated. We use two scoring protocols to code videoed interactions in 58 kindergarten and first-grade classrooms in Central Mexico, sampled from public schools across different communities. The first protocol, the Classroom Assessment Scoring System (CLASS), is a widely-used measure of generic quality, organized in a recent factor analysis in Mexico into three domains: Emotional Support, Social Relationships for Teaching, and Instructional

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Interactions. The second protocol, the Classroom Assessment of Sociocultural Interactions (CASI), measures ten sociocultural (or "local") dimensions of teaching and is also organized into three domains: Life Applications, Interdependence, and Agency. Life Applications addresses how classrooms explore and value children's interests, beliefs, knowledge, and experiences in order to make personal connections with classroom content. Interdependence addresses how classrooms socialize children to relate to and work with one another to motivate learning and establish social identities. And Agency concerns how choice and freedom are managed, including opportunities for children to make decisions, have responsibility, and experience new social roles in the classroom. We coded four 20-minute video segments per teacher, using the CLASS and the CASI for each segment, and conducted a series of structural equation models to examine our hypotheses. We found that Life Applications instantiated Emotional Support, Interdependence instantiated Social Relationships for Teaching, and Agency instantiated Instructional Interactions. The strength of these relationships varied by socioeconomic variables at the school level. We discuss the implications of our findings in terms of enriching teaching quality for diverse children in Mexican classrooms and in other settings.

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### UNDERSTANDING THE RELATIONSHIPS BETWEEN ORAL READING FLUENCY AND COMPREHENSION IN ISIZULU, XITSONGA AND SEPEDI

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While the importance of learning to read in mother-tongue is widely acknowledged in the international development discourse, reading acquisition in African languages remains underresearched and under-theorized. These are morphologically rich agglutinating languages with transparent orthographies, so reading research findings derived from English, a partially analytic Germanic language with an opaque orthography, may not be directly relevant to early reading in African languages. a review of reading research on African languages reveals slowly emerging investigations of the inter-relationships between phonological and morphological processes, oral reading fluency (ORF) and comprehension. While ORF has been extensively studied among homelanguage English students (Hasbrouck & Derican languages. Most studies involve small numbers of participants, for instance, 54 Sepedi readers (Makalela & Derican languages) and 52 Xhosa readers (Diemer; 2015) in South Africa. The only large scale study to date involves 1541 students in Kiswahili in Kenya (Piper & Derican Languages).

This paucity presents a problem since the way we teach early grade reading (and the differential emphases on sub-components of reading) may differ based on language typology and structure. While the links between ORF and comprehension in English are well documented and well understood (Pinnel et al., 1995; Spear-Swerling, 2006; Fuchs et al. (2001), this is not the case in African languages. It is reasonable to ask whether this relationship may be different in agglutinating Nguni languages that have a conjunctive transparent orthography (such as isiZulu) and agglutinating Sotho languages that have a disjunctive transparent orthography (such as Sepedi). The agglutinating Xitsonga language has a partially disjunctive transparent orthography.

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In this study we assessed the oral reading fluency and comprehension of 785 Grade 3 learners from 61 primary schools in South Africa. At least 10 students were assessed per school with each student being assessed in both their home-language (L1) and in English (L2). In total, there were 514 isiZulu students (42 schools), 143 Sepedi students (9 schools) and 128 Xitsonga students (10 schools) in the sample. These schools were all situated in township and rural areas in three South African provinces (KwaZulu-Natal, Gauteng and Limpopo) with purposive sampling aiming to select 30 higher-performing schools and 30 lower performing schools. The paper will present a quantitative analysis of the relationships between ORF and comprehension in the different languages and the links between L1 (African language) ORF and L2 (English) ORF. The implications for research on African languages and early reading instruction are also discussed.

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### ASSESSING LEARNING MOTIVATIONS FOR SUSTAINABLE DEVELOPMENT

### **Angela Little**

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In recent years economists have shown increasing interest in the role of 'non cognitive skills' and 'soft skills' in the determination of academic achievement, workplace behaviour and economic preferences. This has led them into psychology where questions of motivation, aspirations and perseverance have long been researched. This presentation maps the terrain of 'assessing non-cognitive skills' through the experience of developing country-validated assessments of motivation in recent *Young Lives* research in Ethiopia, India and Vietnam.

The presentation will suggest that Sustainable Development depends on the motivation of human beings to sustain their learning throughout life. A motivation to sustain one's learning provides fulfilment in life, supports productive and meaningful livelihoods, contributes to the socialisation of future generations and, when engaged collaboratively, can help to overcome myriad challenges that face our 21<sup>st</sup> century world.

The presentation suggests that motivational patterns laid down during the school years may have a strong effect on motivation in the future. It advances a model of gains in learning outcomes in school that embraces motivation and academic beliefs, effort and interest and learning practices and emphasises the importance of linking concepts to theory as well as to measures.

Preliminary results from pilot work indicate the reliability of measures of learning motives oriented to personal development, significant others, the future and assessment and of academic self confidence, effort and interest in the subjects being learned. The pilot work raises procedural and logistical concerns and underlines the importance of scale development grounded in context and the pitfalls of 'off the shelf' borrowing of scales developed in one context and used in another. The pilot and the planned follow-up main study promise to contribute to conceptual and policy understandings of the correlates of learning achievement and gains in achievement.

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### ASSESSING LEARNING FOR SUSTAINABLE DEVELOPMENT: CURRICULUM REFORM, HIGH STAKES ASSESSMENT, GLOBAL INDICATORS AND REAL FACTS.

#### **Keith Lewin**

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This paper addresses a central dilemma for education and sustainable development. The question is how should curricula change to support sustainable development and what would new learning outcomes look like? *Education for Sustainable Development (ESD)* aspires to transform the content and cognitive outcomes of learning to promote the knowledge, skills, and attitudes that make it more likely that humanity prospers rather than perishes. Fundamental shifts are needed in understanding and behaviour to balance development gains in the present against their costs for the future. This is the simplest way of defining a new agenda for education and development.

Assessment is core since it defines valid knowledge and generally does not reward outcomes that promote the knowledge, skills and attitudes associated with sustainable development. Most high stakes selection examinations are based on curricula and cognitive outcomes linked to traditional school subjects that have not been shaped by concerns for sustainability. Assessment systems in the minds of many parents and students are a competition for selection that values educational achievement as a personal positional good, rather than a social public good. Few attempts are made to assess the kind of problem solving skills that promotes bio-diversity, encourages carbon neutral economic growth, and reduces social conflict. Nor is it common to promote attitudes that protect future consumption of valued goods and services - e.g. national parks, clean air, fish stocks, wellbeing - by discounting the present against the future rather than discounting the future against the present.

This paper opens a debate to address the silences about what should now go into the 15,000 hours of school that the SDGs anticipate? What would constitute an education fit for purpose in the 21st century that is different to that of the (unsustainable) 20th century? If *learning* is now to be prioritised under the SDGs this must mean far more than the assessment of familiar learning outcomes linked to 20st century curricula designed to maximise discrimination between candidates for high stakes selection. How can the reform of systems of assessment support curriculum led changes that promote new and different aims and objectives related to sustainable development? How can assessment highlight the dangerous fallacies that lie behind the fashion for alternative facts that threaten sustainable development?

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### SKILLS AND KNOWLEDGE IN THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOALS

### **Shoko Yamada**

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Based on a large scale quantitative text analysis, the paper demonstrates a major shift of emphasis, in the discourse of developing SDG4, from the provision of educational services to the learners and the knowledge they acquire. The textual data used were reports, minutes, and statements posted on

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the Internet, which totaled 1,720 files, with the aim to find patterns in the relationships among frequently used words, such as clusters of ideas and changing trends of discussion.

Many observers argue that the fundamental nature of Sustainable Development Goal 4 (SDG4), which addresses education, has not changed from the goals of EFA. However, a fundamental change happened with three SDG4 targets. A common characteristic of Targets 4, 6, and 7 is that they shift attention from the provider of educational services to the learner through a commitment to improving the knowledge and skills that learners acquire.

This shift in attention is significant in two ways. First, the perspective of so-called outcome-based or competency-based education not only focuses on learners but also redefines the meaning of knowledge, requiring that it be relevant and adaptable to different contexts. A practical but significant implication of this shift in priorities, which was already a matter of heated discussion in the consultation process toward developing SDG4, is the difficulty of developing measurable and globally comparable indicators of such learning outcomes. Second, and closely related to the first point, the domains of learning outcomes under SDG4 are not restricted by the framework of curricular subjects, but are cross-cutting and broad in nature.

In addition to the significant changes of perspectives in education sector, the presentation will also situate education in the broader framework of SDGs. It is going to demonstrate how education is discussed in relation to other Goals than SDG4, based on the large-sample quantitative text analysis.

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### ASSESSING QUALITY OF LEARNING IN VIET NAM: HIGH ACHIEVEMENT, INEQUALITY AND POLITICAL ACCOUNTABILITY FOR WHOM?

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**Discussant:** Ian Attfield (DFID)

Assessing learning through international, high-stake, and progressive testing serves many different purposes. Tests, such as PISA, are used to indicate to the international community and national policymakers the quality of teaching and learning in the education system. Progressive tests given each academic year are used by teachers and students to understand change in grade-level learning outcomes and competencies. Assessments, then, are used not only for academic and learning purposes, but they serve political purposes for different actors in the education systems. This symposium brings together two papers from different disciplinary perspectives and analyses to examine what assessments of learning reveal about student learning and quality of schooling in Viet Nam. Based on research conducted through the RISE – Research for Improving Educational Systems, and Young Lives in Vietnam, the two papers examine and problematize the quality of student learning and the use of learning assessments for political accountability in Viet Nam.

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The first paper uses Young Lives school surveys that have followed approximately 1,000 pupils in a cohort born in 2001 from primary Grade 5 through to Grade 10 in upper secondary, collecting assessment data in mathematics, Vietnamese reading and functional English. This unique longitudinal data is employed to examine the learning trajectories of pupils across a diverse range of backgrounds, including ethnic minority pupils and those living in isolated areas. While the Vietnamese education system is successful in delivering basic skills and does so relatively equitably, significant inequalities nonetheless emerge by upper secondary level. Using school, class and teacher characteristics from Grade 5 and estimates of school effectiveness from Grades 5 and 10, we identify the extent to which home background disadvantage is compounded by measured school quality with respect to shaping children's learning trajectories and future life chances.

The second paper examines how Vietnamese policymakers use assessments to be accountable to different actors' demands for improving quality of learning. The international development community gives considerable attention to high performing countries in efforts to determine factors in the system that produce these results. These tests are also used politically to illustrate to national actors, particularly parents and teachers, the achievements of government policies and support. But in Viet Nam, these tests and the quality of learning are highly disputed: parents, teachers and even policymakers are critical of the tests and less satisfied with the results as they do not illustrate some skills and competencies valued for future life and work. Drawing on extensive interview data with 30 national policymakers, this paper argues that most Vietnamese policymakers do not value PISA as an assessment of quality learning, but they value it to be "accountable" to the international community and to placate the national constituencies that are heavily contested over the quality of learning in schools.

Ian Attfield will serve as a discussant for the papers and in regard to educational learning outcomes in Viet Nam more broadly.

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### A REVOLUTION IN REAL-TIME, DATA-DRIVEN ASSESSMENT OF PUPIL AND SCHOOL PERFORMANCE? EVIDENCE FROM THE SCHOOL INFORMATION SYSTEM IN TANZANIA

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A major shortcoming of pupil assessment processes in Tanzania is the lack of regular and timely data available to education professionals at all levels. The School Information System (pilot launched in late 2016) aims to overcome this through the collection and daily transmission of systematic and comparable data, including assessment data. The software on the tablet-based system has been designed to enable sustainable and cost-effective use, even for hard-to-reach schools.

Regular collection and transmission of assessment, attendance and behaviour data will enable head teachers, teachers (and parents) to use evidence when discussing pupil progress and deciding what teaching and learning improvements are needed. Aggregated reports automatically generated by the system will enable local government to quickly identify schools making progress, those struggling and take action. Can this catalyse a data-driven revolution?

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### CLASSROOM-BASED ASSESSMENT PRACTICES IN THE JORDANIAN CONTEXT

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Evidence-based research shows that assessment practices of primary-level teachers in Jordan appear to focus on collecting grades for students, rather than gathering evidence to inform their teaching practices (Brombacher, et al., 2012). Furthermore, the most widely-used assessment practice by Jordanian teachers tends to be written tests, where there is an over-reliance on multiple-choice, selection-type questions and an overemphasis on the recall of information (SABER, 2014). These findings highlight the shortcomings in teacher preparedness to use assessment data to improve their teaching practices, and to support student learning. The Queen Rania Foundation for Education and Development is currently working on developing several innovative projects that target numeracy, literacy and socio-emotional learning at the primary-level in public schools in Jordan. A core component of these projects includes utilizing best practices in formative assessment to support teaching and learning. An overview of these upcoming projects and takeaways for program development and implementation will be presented.

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### ASSESSING EARLY GRADE READING AND MATHS: SUSTAINABLE MODELS THAT IMPROVE ON EGRA/EGMA

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The EGRA and EGMA assessment models, developed by RTI for USAID post-2006, were designed to provide simple, low-cost measures of literacy and numeracy. Both assessments are oral and examine the basic skills underpinning development of reading and numeracy eg: (1) letter recognition, phonemic awareness, reading simple words, listening comprehension; and (2) number recognition, comparisons, ordering sets of objects. EGRA has been administered in at least 11 countries and 19 languages under the EdData II programme and has been used in more than 30 countries and 60 languages by other organisations. EGMA has also been widely applied.

EGRA and EGMA were intended as formative tools of measurement, to be used within schools and by practitioners to measure progress within a class, in order to improve progress. However they have been mainly used as random anonymised samples (baseline, midline and endline). This use is often donor-mandated: donor agencies demand post-hoc evidence of each intervention's impact, and use EGRA/EGMA success as proxies. When well conducted these tests do give a fairly accurate picture of performance of the sample. But they have drawbacks including high cost, dependence on external training, moderation, calibration, data collection and cleansing, and unsustainable investment in equipment (pre-programmed tablets etc) and travel. This expensive new industry has diverted money away from a more urgent need, namely providing teachers in resource-poor settings with a means of assessing all their own children's progress, for formative purposes.

However a substantial pilot in Government schools in northern Ghana (2014-17) has shown that randomised tests calibrated to EGRA (and shortly to EGMA) can be held on a mobile phone, output

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to a mini-printer and used with every child, termly, for under \$0.01 per assessment (thus assessing a class of 40 children thrice yearly costs \$1 a year). The Ghana work indicates that such teacher-led assessment, if supported by good local and national follow-up, tends to increase very sharply the proportion of early-grade children achieving each EGRA and EGMA threshold. It also provides a live database of results with very low data collection and input costs. This work is now expanding across Ghana, and will shortly travel to four other African countries and Asia.

This paper aims to open a dialogue with particants on some related topics:

- What should teacher-led tests of early literacy and numeracy skills) ideally look like? How far should they differ from EGRA/EGMA in substance as well as delivery?
- How far must such tests be available for mother tongues as well as English and other world languages, even where the latter are the main language of instruction from (say) Year 4?
- What types of teacher training would need to accompany a shift towards teacher-led assessment rather than just "teaching from the front"?
- What techniques of data collection, data analysis, and data feedback are appropriate?
- Can unique learner and teacher numbers be used to facilitate longer term tracking? If so can this be to a national model, even before the assessment programme includes all learners?
- What does sustainability mean, in different contexts? (Note: unit cost per child assessed by USAID-funded 2014 EGRA/EGMA in Ghana was over \$250!)
- How easily can mobile phones and mini-printers, which require no mains electricity or internet within the classroom, be used by teachers in resource-poor schools?

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### TOWARDS SUSTAINABLE IMPACT: TOOLS TO STRENGTHEN TEACHING IN THE PACIFIC

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While education enrolment continues to increase, concerns about quality of education remain. The Systems Approach for Better Education Results (SABER) uses diagnostic tools and detailed policy information to produce comparative data and knowledge about education system policies and institutions. It evaluates the quality of those education policies against evidence-based global standards, with the aim of helping countries systematically strengthen their education systems. This paper will focus on the education systems assessed under two initiatives – the Pacific Benchmarking for Education Results (PaBER) and the Russia Education Aid for Development (READ). Case studies of five countries will be examined. SABER was used in both initiatives to assess the system's strengths and weakness and provide policy recommendations. Specifically, we will look at teacher development and student assessment and will attempt to determine to what degree the countries have accepted the findings and begun a process of implementing the recommendations through new policy reform and / or implementation of major activities.

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### SUSTAINABLE TEACHER EDUCATION – ACCURATE DATA FOR ACTUAL IMPROVEMENT IN THE CLASSROOM

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In this symposium we argue that accurate data on teachers' actual skills and knowledge are a key factor in designing and implementing teacher education and development programmes that really impact on classroom practice and learners' outcomes. We demonstrate this with four case studies from Rwanda, Nigeria, Burma and India.

As the Global Education Monitoring Report 2016 suggests, existing data about education quality and achievement is often based on crude measures such as enrolment and completion. Far more refined measures of education inputs, quality and achievement are required across the board. As improving the quality of teaching is regarded as a major influence on the quality of education, then more accurate data is required in this area, both to gain insight into the current situation and to identify approaches that will actually make improvements. Given that the recruitment and retention of qualified teachers, access to effective continuing professional development and support of untrained teachers in the classroom are a global challenge, new, more cost-effective and scalable approaches to teacher education and development are urgently needed.

Teaching for Success is our approach to CPD systems and practice developed in response to these global challenges, including the tendency in many countries to conceptualise teacher education and development only as face to face training, often front-loaded. The approach prioritises the use of accurate data to define outcomes and activity to meet local teacher development needs and achieve maximum impact. In particular we have developed a comprehensive CPD framework describing teachers' and teacher educators' knowledge and skills and a suite of diagnostic tools linked to these, including a teachers' self-assessment tool, a teacher educators' reflection questionnaire, classroom and training room observation tools, and APTIS for teachers, a language assessment tool, which provide quantitative and qualitative data that can be triangulated. Through these we give education systems, educators and teachers access to data that helps them set their own improvements.

The case study from Rwanda relates to the transition to English as the national teaching language, initiated by the government there in 2008. It reports on the teacher development pilot innovations in Rwanda under DFID's Innovation for Education Programme (2012-15), and will discuss how data collected using our APTIS for teachers tool provides valuable information touching on SDG themes for education, such as inclusion, showing variations in levels between male/female, urban/rural teachers. Such data has not been available before but is essential in meeting language proficiency targets set by agencies providing assistance in the country. The case study from Nigeria, the Strengthening Teachers' English Language Proficiency in Northern Nigeria (STEPIN) project (2013-

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2019), funded by UKAID and managed by Mott MacDonald, will provide evidence of how similar data on teachers' language proficiency and professional needs provides insights into a different context.

In Burma the National Education Sector Plan (NESP) educational reform has set challenging targets for the modernisation of education in the country. This case study focuses on the English for Education College Trainers (EfECT) project (2014-2016) and how both quantitative and qualitative data was gathered and used mid-project in order to measure impact and identify further action towards improving the English language and trainer competence of college trainers preparing new teachers.

The case study from India will focus on two different approaches to classroom observation and three different approaches to collecting qualitative data for the development of teachers and teacher educators – including 'most significant change'. It will discuss how these methods have been used to provide real insight into the learning of teachers, demonstrate deep and personal impact and play a role in advocating similar innovations in other parts of the country.

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### EARLY-YEARS EDUCATION IN RURAL INDIA: HOW DO PARENTS ASSESS TEACHING AND LEARNING?

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Policymakers increasingly recognise the importance of the early years of education (both pre-school and primary) to development over the lifespan. Primary rationales include the greater plasticity of the brain at this stage (from psychology) and the greater returns stemming from earlier investment in education (from economics). This has led to advances in what constitute ideal pedagogical practices. But for the benefits of such practices to be realised, policy research must focus not only on supply but also demand.

Thus, this paper takes an alternative view of assessing teaching and learning, arguing that, for effective, sustainable transformations in early learning in developing contexts, we must understand how parents themselves assess good quality provision, especially those in the most disadvantaged households. We articulate these goals with the following questions:

- In rural India, what criteria do parents use to assess quality of ECE provider?
- Do criteria differ between more and less advantaged households?
- To what extent do these assessments reflect criteria among policy

To answer these questions, we will analyse data from a longitudinal survey of childhood in rural India. The survey followed 11,000 children in three states – Assam, Rajasthan, and Telangana – over a five-year period. The survey consists of 11 waves, including both questionnaire and interview data. The paper's analysis will make use of this through complementary methods, using the 11 waves to

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provide dynamic quantitative analyses of how children move into and out of different providers, and interview data to understand the rationales that parents use in moving their children. By understanding both *where* parents send their children and *why*, this paper will inform both policy and practice on what is currently an underappreciated element of the push for greater early learning worldwide.

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### FROM SYSTEMS CHANGE TO BETTER EARLY LEARNING OUTCOMES: EMERGING LESSONS FROM A FOUR-COUNTRY RESEARCH PROGRAM

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How can developing countries build systems that deliver quality early learning for preschool-aged children, equitably and at scale? This symposium will discuss emerging findings from the World Bank's Early Learning Partnership (ELP) Systems Research Program in Liberia, Ethiopia, Tanzania, and Pakistan. With support from the UK Department for International Development (DfID), the program seeks to investigate the key levers for change at the systems level, as opposed to assessing the impact of changes in the proximate determinants of learning such as books and new pedagogies. The research teams will discuss the challenges and opportunities of bridging system-level frameworks to specific research hypothesis to measurement of learning outcomes in the field, with an emphasis on the tools developed by the Measuring Early Learning Quality and Outcomes (MELQO) initiative. The symposium will also discuss common systems-level challenges for early learning across these diverse country contexts, including the challenge of building an early childhood education workforce in the context of rapid scale-up of ECE provision.

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### RETHINKING LEARNING ASSESSMENTS: INSIGHTS FROM A STUDY ON THE STATUS OF EDUCATION IN TRIBAL DISTRICTS IN MAHARASHTRA (INDIA)

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Assessments are tools used within education systems to determine how well students perform primarily to gauge their progress but also for a variety of other actors - parents, teachers, schools, policy makers and donors. Assessments can take several forms. However, in order to be meaningful there has to be a match between the philosophies and goals that underlie learning and the curricula, and assessment practices. Traditional (behaviourist) models of education have understood the curriculum to be a distinct body of information to be transmitted and learning as 'received' and 'memorised' knowledge. Progressive models of education, drawing on constructivist, situated, embodied and enactivist perspectives, view learning as a process of individual meaning making. Accordingly, it is necessary for assessments to reflect this understanding.

In the Indian context, while the latest revision in the National Curricular Framework (NCF 2005) reflects these progressive conceptions of education, assessment practices largely continue to remain behavioural and based on information recall. Even large scale surveys such as Annual Status of Education Report (ASER) continue to reflect these older conceptions of assessment.

In contrast with these practices and surveys, we discuss the results of a learning assessment study conducted by us, to understand the status of education of tribal students in the state of Maharashtra, India. Reflecting on the specific principles we adopted in designing the assessments, as well as a cross-comparison of results for three grades (2, 5 and 9), we aim to show how certain unexpected outcomes were observed in language, math and science learning. We discuss how these results present an opportunity to understand hurdles to children's learning in more depth, and thus also allow for a more nuanced policy advocacy.

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### A COLLABORATIVE APPROACH TO ASSESSING TEACHING AND LEARNING IN THE PACIFIC ISLANDS REGION

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The Pacific Island countries comprise a vast geographical region with diverse cultures and histories, offering lessons of resilience and innovation in education. Improving achievement in literacy and numeracy, identified as a key component of sustainable development, is a shared goal of stakeholders at all levels across the region.

How does a rigorous, comparable assessment work for students and teachers across the learning contexts of the Pacific Islands? This paper uses evidence from the Pacific Islands Literacy and Numeracy Assessment (PILNA) and the Pacific Benchmarking for Educational Results project (PaBER) to explore the systematic and contextual challenges of assessment that is rigorous and comparable. It argues that an assessment must have all stakeholders working in partnership toward agreed goals. Both the PILNA and PaBER initiatives are based in highly consultative and collaborative methodologies.

PILNA measures the literacy and numeracy outcomes of students after four and six years of formal education. The PILNA program promotes the importance of literacy and numeracy skills as building blocks for students' future learning and for empowering citizens to communicate about educational futures. The PaBER pilot project supported education ministries' research of their systems. It used evidence from PILNA, benchmarking of national education systems in five policy domains, and research on policy in practice to explore how systems support student learning. These initiatives support regional cooperation and rethinking of approaches to assessing teaching and learning for all across the Pacific.

This paper suggests that the measurement of literacy and numeracy as competencies is necessary for sustainable development. Critically, it explores how consultation leads to shared knowledge and how a regional assessment has resulted in a partnership for learning in the Pacific. From a broader perspective, this paper grapples with issues relating to the challenges of developing rigorous assessments that recognize diversity in learners.

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### THE EFFECT OF LANGUAGE OF INSTRUCTION ON LEARNING AND TESTING: EXPERIENCE FROM THE GIRLS' EDUCATION CHALLENGE

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Despite a growing consensus among researchers and policy makers in favour of mother-tongue education, up to 40% of the world's children do not have access to education in their own language. Projects supported under the Girls' Education Challenge (GEC) have repeatedly identified language as a major challenge for teaching, learning and assessment. Across 37 projects in 18 countries, thousands of girls are deprived of the opportunity to learn in a language they understand, leaving them ill-prepared to face national exams and to improve their life chances.

Through statistical analysis of roughly 55,000 individuals across two time periods between 2013-2015, together with qualitative interviews and case studies, this paper aims to shed light on the role of language as a barrier to or enabler of education. It does so through:

- Exploring the linguistic status quo across the GEC portfolio, and examining the effects this
  has had on learning scores (with implications for how researchers and evaluators can
  evidence learning through assessment);
- Identifying common themes regarding language in education, with the goal of understanding the ways in which language presents a barrier to learning at the policy, school, individual and community levels; and
- Considering the approaches these 37 projects have adopted in attempting to bridge the language gap.

The paper then presents key recommendations as to how language can be accounted for in future programming, within the GEC and more widely.

The ongoing analysis of results (concluding in May 2017) shows that for these 37 projects, language of instruction has had an important impact on learning, with children learning in their own language generally learning more than their peers. This research is limited by the secondary nature of data collected, however, and more research could strengthen conclusions around the intersection of language with other educational barriers.

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### MAKING LEARNING FOR ALL A REALITY: WHAT IS NEEDED?

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Education 2030 calls for quality education for all. Enrollment in primary education has improved in manydeveloping countries, leaving acquisition of minimum learning a majorchallenge. The aid community is responding to this challenge by relying onresults-based financing as an aid modality in which aid money is released to accountry after achieving pre-agreed outcomes measured by indicators. It has beenfound that most of these outcome indicators are in fact intermediate

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outcomes (aproportion of trained teachers, for example) that are believed to work for producingfinal outcomes (improved learning). But the pathways from intermediate to finaloutcomes are not presented to the countries, nor does the aid community isprepared to provide effective answers. This talk will spur discussions on whatis missing for making learning for all a reality by providing research findingson some promising practical cases in Asian and African countries.

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## THE IMPORTANCE AND CHALLENGE OF MEASURING NON-COGNITIVE SKILLS: USING RUBRIC-MARKING AND PAIR-WISE COMPARISON TO EVALUATE INNOVATIVE TEACHING METHODS.

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Research has shown that non-cognitive skills such as social skills, perseverance and initiative are just as important as cognitive skills for the academic achievement and subsequent labour market outcomes of pupils. However, particularly in developing countries pupils rarely learn these skills in class and learning assessments rarely focus on measuring them. MUVA Aprender works with students from the main pedagogical university in Maputo, Mozambique helping them to develop teaching tools that target non-cognitive skills as well as higher order thinking skills, both of which tend to be neglected in the Mozambican class room. They apply those tools in free after-school remedial tutoring sessions. To measure the effectiveness of this intervention in teaching non-cognitive and higher order thinking skills, we developed an innovative approach using a combination of written tasks and observational tools. Both of these will be assessed using pairwise comparison. We present our methodology for measuring non-cognitive and higher order thinking skills as well as first experiences from the field. Furthermore, this talk will facilitate a discussion on how to solve the challenge of measuring such skills and highlight the importance of making this part of future education interventions.

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### THE ROLE OF CITIZEN-LED ASSESSMENTS IN PROMOTING LEARNING FOR ALL

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Over the last decade, citizen-led assessments have been conducted in 13 countries in South Asia, Africa and Latin America. These assessments of learning begun in India in 2005, and are currently conducted also in Pakistan, Bangladesh, Tanzania, Kenya, Uganda, Mali, Senegal, Nigeria, Ghana,

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Mozambique and Mexico. Jointly, they cover more than 1 million children annually. The assessments are conducted at the household using simple tools, assess at scale, focus first on the basics of literacy and numeracy (extending now to other competences) and involve thousands of citizen volunteers.

This symposium targets deep discussion on the potential that the citizen-led assessments (CLAs) present to the monitoring and driving public debate on the learning for sustainable development, especially in the ambition to benefit ALL children of the world. The key question posed is – how can we assess learning innovatively to focus on the needs of all learners, both in and out of the classroom?

The focus on the household presents opportunity for reaching all children, and generating household indicators for deepened understanding on equity in education. Assessing children at school falls short of the SDG 4 expectation of equity in developing countries, in that many children are not enrolled in school, and daily attendance is low; in that more than a third of children attend other types of schools other than government; and in that many rural villages remain uncovered by formal schooling. Beyond this, the symposium will subject CLAs to scrutiny, exploring dimensions for sharpening measurement to improve SDG monitoring data.

Three papers will be presented drawing from assessment in 11 countries, and allow time for rich discussion along three themes, the potential of CLAs in: mobilizing citizens to focus on and support learning for all children; monitoring learning beyond literacy and numeracy; and holding teachers to account for learning in developing countries.

Paper 1: In school and Out of School: The role of Citizen-Led Assessments in promoting learning for all in West Africa (Mo Adefeso-Olateju)

This paper will present analysis of data from the citizen-led assessments (CLAs) in Senegal, Mali, Ghana and Nigeria. Key focus will be the extent to which these assessments have included out-of-school children, and extended public and policy debate to focus on improving learning for all.

Paper 2: Can citizen-led assessments test beyond literacy and numeracy? Experience from Pakistan, India, Nepal and Bangladesh (Sahar Saeed)

This paper will present evidence from South East Asia. The paper will present results from the extension of measurement beyond literacy and numeracy, and the extent to which citizen-led methodologies can succeed in assessing in other domains of learning including digital literacy, financial literacy, general knowledge and problem solving, as well as including more household indicators to generate more data for SDG 4.

Paper 3: Citizens holding teachers to account for learning in East Africa (Mary Goretti Nakabugo) This paper will draw from the Uwezo Beyond Basics assessment conducted in Kenya, Tanzania and Uganda in 600 schools in 2016. The unique aspect of this study is that it involved teachers in measuring learning, and held conversations to explore the way out of low learning outcomes. The paper will present qualitative data to demonstrate the potential of CLAs in giving instant feedback to teachers, as way of holding them to account for learning.

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#### ASSESSMENT FOR LEARNING AT SCALE: A CASE STUDY FROM PAKISTAN

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Assessment of learning, the process of gathering and evaluating information on student knowledge, skills and attitudes, is vital to inform parents, children and policymakers about the state of learning within the system. There is evidence to suggest that significant improvements in teaching and learning will follow if the results of the assessments are appropriately fed back into the system.

Until this year, the provincial government of Khyber Pakhtunkhwa (KP), Pakistan had no universal assessments based on Student Learning Outcomes at primary level, and no effective processes to incorporate assessments into teaching and learning practices.

This paper will explore how student assessment data is being used both as an accountability tool and as an important component of a reformed continuous professional development programme. It explains how the KP government, with support from DFID, has embarked upon an initiative to introduce better assessment practices. For the first time, a province wide assessment has been introduced at Grade 5 level across all 22,000 government primary schools and private schools. A Teacher Management Information System has also been developed that for the first time can link student assessments to individual schools. Crucially, the reforms also focus on disseminating the assessment results to teachers, government, and teacher education agencies. This paper will examine the effectiveness of dissemination modalities including reports, seminars and more innovative approaches such as using mobile messaging directly to teachers on student learning deficits and tips for improved pedagogy.

Drawing upon the qualitative data gathered by the practitioners and M&E teams of the DFID funded KP Education Sector Programme, this paper offers insights on the implementation of assessment reforms. In doing so it unpacks the challenges to these reforms, including of working through government institutions of limited capacity, and ways of addressing them.

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### LET'S PUT A PUZZLE TOGETHER: EVALUATING LEARNING OUTCOMES IN FRAGILE CONTEXTS

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When assessing education programming, understanding 'pockets of resistance' and hidden issues is the first step in making informed investments to address inequities. More often than not, however, evaluation processes tend to use narrow approaches, restricting analysis of results to learning scores and single-method research and analysis methodologies, instead of investing in complex, multi-layered triangulation to explore and interpret data, understanding how multiple barriers intersect to affect learning. This paper will reflect on CARE's experience in analyzing complex datasets emerging

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from adolescent-focused education programming in eight countries, including fragile and conflictaffected contexts. The use of extensive triangulation processes in girls' education programming led to the identification of 'pockets of resistance', or sub-groups of students who lag behind in performance, but also face a conjunction of other factors that affect their capacity to fully engage in learning processes. Multi-layered analysis of different data sources allows for the identification of 'hidden issues' - issues that affect performance and retention, but are generally 'hidden', such as gender-based violence, patterns of irregular attendance and migration, practices that limit engagement in class, and gendered behaviour. Multi-dimensional triangulated analysis is also applied to learning assessments, with tests tailored to (a) identify specific areas of weak performance that may indicate the need for reinforcement of teaching skills, as well as (b) identify skill levels in multiple languages, particularly when the language of instruction is not the mother tongue and (c) track the acquisition of life skills. As we research the contextual barriers and opportunities for education programming in marginalized contexts, identifying and unpacking these nuanced 'pockets' allows ministries and international organizations to design more responsive curricula and programming activities. This approach allows programs to engage in iterative processes of tailoring and refining implementation strategies to address specific areas of inequity, increasing the impact of education programming among marginalised sub-groups.

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### CHALLENGES OF THE GEC PROJECT'S EVALUATION APPROACH TO ASSESS LEARNING OUTCOMES ON MARGINALISED ETHIOPIAN GIRLS

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ChildHopeUK's Girls Education Challenge Project is supporting 17,500 Ethiopian girls marginalised by early marriage, risky migration, street-involvement, and domestic work to remain in school and learn numeracy, literacy and self-efficacy skills.

To evaluate the impact of the project we conducted Midline and Endline quasi-experimental Evaluations for comparing the results between treatment and control groups of a sample of 1,950 girls. Different quantitative analysis were used for this purpose. First, we assessed how outcomes changed for the treatment and control groups over time and tested whether changes are statistically significant (using paired t-tests). Finally, DiD analysis was then conducted to assess the causal effect of the program.

We found impact on numeracy scores, attendance rates, and Self-efficacy and self-esteem scores for the girls on the treatment group. When we explored all the results by groups of marginalised girls, we found that girls from poorer backgrounds are benefiting with higher positive impacts for maths and self-esteem outcomes. Girls who are exposed to labour exploitation and risky migration show lower and negative effects on literacy, however, they show much larger positive impacts on self-esteem. When we analysed the effects of the main interventions on the main outcomes, we found that after-class tutorials are positive drivers of attendance rates and numeracy scores. The number of teachers trained in pedagogy is a positive driver of literacy scores, and provision of reading corners is a positive driver of attendance. The Letter-Link intervention for children to report abuse is and positively associated with attendance and literacy scores.

We will explore the limitations of the evaluation approach especially for measuring outcomes within marginalised girls. We will discuss alternatives to overcome those challenges for the second phase of

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the GEC project (2017 – 2021) where the girls will transition to secondary education and the labour market.

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### HOW DO SCHOOL USERS ASSESS TEACHING AND LEARNING IN SECONDARY SCHOOLS IN UGANDA? CAN THEIR ACTIONS LEAD TO QUALITY IMPROVEMENTS?

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School users - parents, students, communities - can assess the quality of teaching and learning in schools through formal mechanisms (i.e. publication of examination results, league tables, inspection scores, citizen-led assessments), or informal mechanisms (i.e. word of mouth, personal perceptions).

Furthermore, users can respond to information on teaching and learning in several ways: they can demand better services and outcomes from school leaders through social accountability; or they can exercise school choice, exiting or entering a school based on its performance. Theory suggests that these responses can incentivise school leaders and teachers to perform well - although there is limited and mixed evidence to suggest this is happening in practice. It is also possible that users access information on school quality but do not act on the information at all.

This paper presents the findings from a large survey of school users (parents, school management committees and students), teachers and leaders from a random sample of 60 secondary schools in rural and urban parts of Uganda. We investigate how secondary school users access information on school quality, what data points they deem as important, and how they respond to this information. By looking at the responses from users across a range of high and low performing schools, we investigate the relationship between access to data, action by users, and school quality.

Overall, the study aims to offer policy recommendations on how best to engage school users in the monitoring of teaching and learning in secondary schools, as a way of improving the quality of education across Uganda.

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### **GENDER REVIEW CONSULTATION**

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The aim of the quick fire talk is to explore whether and how different accountability mechanisms in educationhave promoted the case for gender equality. For example:

- At the government and international community level, are there sufficiently strong accountability mechanisms to ensure that gender mainstreaming commitments in education budgets and policies are upheld?
- At the school level, doincreased parental choice over schooling and pressures to invest in theirchildren's education bolster sex-specific choice and investment preferences? Does formal

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community engagement end up perpetuating existing societalhierarchies, and diminish the voice of less privileged women?

• At the teacher level, giventhe feminization of the teaching profession but the continuing underrepresentation of women in leadership positions, are gender discriminatory practices beingchallenged in terms of how teacher contributions are valued and rewarded?

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### **CHALLENGES AND PROGRESS IN MONITORING SDG TARGET 4.7**

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SDG Target 4.7 introduces education for global citizenship and sustainable development, explicitly linking education to other goals and capturing the transformative aspirations of the new global agenda. More than any other education target, it touches on the social, humanistic and moral purposes of education.

Identifying indicators to monitor knowledge and skills that are needed to promote sustainable development – and that have meaning across a wide spectrum of socioeconomic levels, political systems and cultural contexts – remains arduous. The Inter-agency and Expert Group on SDG Indicators proposed a broad global indicator to capture the wide scope of target 4.7, in other words how countries mainstream global citizenship and sustainable development in their education. This measure embraces inputs and processes but sidesteps the target's aspirational intent of ensuring that all learners, young and old, acquire knowledge and skills aligned with the transformative 2030 Agenda for Sustainable Development. Some of these aspects are captured in the supplementary thematic indicators proposed by the Technical Cooperation Group. In summary, the following indicators need to be monitored:

- Global) Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment
- Percentage of students by age group (or education level) showing adequate understanding of issues relating to global citizenship and sustainability
- Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience
- Percentage of schools that provide life skills-based HIV and sexuality education
- Extent to which the framework on the World Programme on Human Rights Education is implemented nationally (as per UNGA Resolution 59/113)

This symposium focuses on the global and thematic indicators and examines the available tools at our disposal for operationalizing these indicators as well as initiatives to collect data more closely aligned with the concepts in target 4.7. It will consist of five presentations:

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The first presentation (Bryony Hoskins and Lanor Callahan, Roehampton) will discuss efforts to capture the global indicator through responses to the monitoring survey of the 1974 UNESCO International Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms.

The second presentation (Yoko Mochizuki (TBC), UNESCO Bangkok) will recognize the limitations of efforts based on administrative self-reporting and will reflect on recent efforts in Asia to refine our understanding of curricular content related to sustainable development.

The third presentation (Ralph Carstens, IEA) will address the efforts of the IEA to iteratively develop its International Civic and Citizenship Study (ICCS) and ensure that it captures young peoples' preparedness to undertake their roles as citizens who are faced and concerned with changing contexts of democracy, issues of global relevance as well as sustainable futures.

**The fourth presentation** (Mario Piacentini, OECD) will present the attempts of its Programme for the International Student Assessment to address scientific literacy and potential expansions in knowledge related to global citizenship and sustainable development.

The fifth presentation (Joanna Herat (TBC), UNESCO) will review the different tools that aim to capture the spread of comprehensive sexuality education across schools and the efforts made to improve the validity and relevance of related surveys.

Keith Lewin (Sussex) and Silvia Montoya (UIS) will be discussants

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### SUSTAINING WOMEN'S LITERACY IN BANGLADESH: THE IMPACT OF SCHOOLING AND EMPLOYMENT STATUS

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Investment in women's schooling is widely seen as an important channel to improve the life chances of the next generation. However, majority of the women in developing countries face the risk of literacy loss not at least two reasons. First, the overall school quality is poor. Second, the environment in which women can acquire and retain literacy skills in non-institutional settings is shaped by various forms of social restrictions and norms. For instance, women are confined to nonmarket (house) work which neither provides sufficient opportunities for acquisition of new cognitive skills, not help sustain literacy skills in post schooling years. In this paper, we examine the empirical relationship between schooling and literacy skills among working and non-working women in Bangladesh using data from the 2014 Women's Life Choices and Attitudes Survey (WiLCAS) which interviewed over 6000 women across 64 districts and asked women to self-report their literacy status (whether they can read and write) alongside taking a simple test of literacy, numeracy, and cognitive ability. While two-third women reported themselves as literate, the majority could could not read two simple sentences in vernacular language. Overall, we report a weak relationship between years of schooling completed and literacy skills which remains unexplained by differences in school type, innate ability, religious membership, parental education and wealth. Instead we present evidence that less schooled working women benefit from gains in verbal numeracy skills over secondary schooled housewives. We also explore how employment participation in the

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readymade garments factories help sustain literacy skills. The findings suggest that alongside policies that emphasize improvement in school quality, interventions that give women better access to the market economy can help them acquire important numeracy skills and/or avoid loss of literacy skills. Increased access to learning opportunities is not enough if opportunities to use and retain literacy skills are low. Therefore we conclude that achieving the Sustainable Development Goal (SDG) target 4.6, including the targets of universal literacy and numeracy will require addressing social customs and norms that not only hold girls back from school, but also those that keep women away from market work in developing countries. In doing so, we also add to the growing international evidence (e.g. Pritchett and Sandefur 2017) that achieving schooling targets alone won't reach learning and literacy goals among women in developing countries.

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### ASSESSMENT FOR LEARNING IN AFRICA (AFLA): IMPROVING PEDAGOGY AND ASSESSMENT FOR NUMERACY IN FOUNDATION YEARS

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The goal of the ESRC research (ES/NO10515/1): Assessment for Learning in Africa, is on developing teacher assessment strategies that will raise learning outcomes in numeracy to ensure that all children, irrespective of gender or context, are given the opportunity to learn more effectively. Effective classroom assessment requires trust and dialogue between teachers and children and an environment that nurtures children's agency in developing knowledge and skills. However, the promise of assessment strategies to bring about better learning is brought into question by early evidence that suggests tensions between the philosophical underpinnings of assessment and classroom practices on the ground: the prevalence of harsh discipline in the research schools, together with huge class sizes. The consequences of such findings on SDG goals to ensure inclusive, equitable and quality basic education will be discussed in the context of supporting effective teacher pedagogies in urban slum primary schools in Tanzania and South Africa.

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### COMPETING SUSTAINABILITIES IN THE SDGS: LANGUAGE AND CULTURE VERSUS WORK AND ECONOMIC GROWTH

### **Brendan DeCoster**

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Language in the SDGs is very much like the photographer in the room: it is omnipresent and captures all we do, yet it remains invisible itself. In all the goals and targets, there is no mention of how language plays a role in facilitating other outcomes, such as transparency of government (16.6) or implementation of curriculum to stabilize and sustain the environment (13.3). No target asks the question "is the information provided in language(s) that citizens can understand?"

In particular, this lack of mention of language while promoting other goals creates a paradox of sorts between goal 4 and targets 4.4, 8.5, and 8.9. Goal 4 is clear in requiring inclusive and equitable education, while targets 4.4, 8.5, and 8.9 all suggest a more vocational outlook on education which demands access to decent work and sustainable tourism as a form of employment.

Thus, the situation is this: we must be equitable and work towards inclusion, valuing diversity and indigenous cultures, but we also must focus on those skills which lead to employment and decent work, specifically focusing on tourism in certain cases. What, then, are we to do when our native language is not considered economically valuable?

This paper analyzes this question with specific focus on current policies regarding language of instruction, mother tongue proficiency and support, and language assessment. It examines how the contradiction mentioned above has played a large role in creating conflict and uneven outcomes in education and employment in the United States and the Republic of Korea, two countries which have been notable in their attempts to pursue a wide variety of language and culture policies aimed both at inclusion and at employment.

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### **MEASURING LEARNING AND EQUITY ACROSS AND WITHIN COUNTRIES**

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**Discussant:** Nicholas Spaull, University Stellenbosch

The Sustainable Development Goals require better assessment of learning outcomes in ways that are comparable across countries and allow for examination of inequalities. At the same time, policy-makers in many countries lack the information they need to make inclusive education policy, and there is a growing gap between international initiatives and the administrative data that policy-makers often rely on. What can national and international initiatives do to improve the provision of relevant learning data, especially for equity analysis? The three papers in this symposium highlight the possibilities and limitations of current data sources and initiatives. We consider the contribution of large-scale assessments; review current international initiatives on education equity; and describe how a citizen-led assessment programme, LEARNigeria, worked with the national statistics office to improve access to learning data in Nigeria.

**1. Patrick Montjourides:** The Contribution of Large Scale Assessments to the Monitoring of Sustainable Development Goals

In this paper, we discuss how International and Regional Assessments are being mobilized to respond to the challenge of monitoring the SDG 4 – Education 2030 agenda. We review approaches to using existing datasets (PISA, TIMSS, PIRLS, SACMEQ, PASEC, ELCE) and, notably, recent work such as attempts to use countries which took part in several assessments as anchoring points. These exercises will gain a lot of attention as they will be used to generate data and indicators on countries' progress towards SDG 4 targets. The focus has been on using large scale assessments to measure reading and mathematics proficiency, but they can also be used to measure early childhood care and education, equity, skills for sustainable development, and teachers. We highlight potential issues and implications related to the use of these assessments and improvements needed to develop the capacity of the global education community to track progress towards SDG 4 targets.

**2. Rachita Daga, Matthew Powell and Stuart Cameron**: International initiatives to measure education equity

This paper looks at the current state of the international monitoring architecture for equity in education. We review 22 initiatives that are explicitly or implicitly concerned with monitoring

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education equity, using the Data Quality Assessment Framework (DQAF) to highlight some of their strengths and shortcomings. These initiatives predominantly use ratios, parity indices, or disaggregated statistics, to show how school attendance, attainment, or learning outcomes vary with gender, wealth, and rural/urban residence. They rely on disaggregation of household survey data, and aspects such as disability and language are often neglected. Quality control for secondary databases varies, with some describing their processes in detail while others say nothing. We argue that greater attempts are needed to process micro data in a more open way, and to link household and school data in order to provide a better picture of (for example) how school and household resources can both feed into educational inequalities. However, a concerted effort is needed to improve the capacity of national administrative systems to support this kind of analysis, in ways that also respond to each government's own policy debates around educational equity.

### 3. Mo Adefeso-Olateju: Citizen-led assessments and national statistics: the case of LEARNigeria.

Since 2005, citizen-led assessments have reached over 1 million children in 11 countries, highlighting the power of engaged citizens to generate evidence on learning outcomes, and in many cases to leverage this evidence to initiate effective learning initiatives. This presentation focuses on Nigeria's unique partnership approach to implementing its citizen-led assessment, LEARNigeria. Using empirical data from its two-year pilot, it focuses on how citizens and their governments collaborate to establish assessment priorities, and to design and implement the assessment programme to reach both in-school and out-of-school children.

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### EXPLORING STUDENT LEARNING TRAJECTORIES IN VIET NAM AND SIERRA LEONE: HIGH AND LOW ACHIEVERS AND THE POLITICAL PURPOSES OF ASSESSMENTS

### **David Johnson**

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This longitudinal study follows a cohort of 1,000 students enrolled in public and private schools in Sierra Leone over a period of three years. It looks at what is learned (diagnostic) and how much progress is made, both in respect of gains in average percentage scores, but more importantly, through subjecting data to latent transitional analysis, the transitions (progressive, regressive, or static) made by the weakest performing groups across performance bands.

The study employs the use of a computer adaptive test (CAT) to assess students three times a year. The tests are administered on IPADS and individual results are generated and uploaded to a server immediately after the students have taken the assessment. We will look in this paper at data from 5 test occasions.

Learning, for the purposes of this study is described as making gains in: reading – that is, in vocabulary and understanding the meaning of words, comprehension (lexical and grammatical knowledge combined with attaching meaning to the written word, sentence or passage), responding (bringing individual experience and knowledge of the world to the text), and analysing (stepping

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back from the meaning of the text and considering it in relation to other theories and literary traditions and intentions of the author).

Making gains in mathematics – that is, in operations and algebraic thinking (whole numbers addition, subtraction, multiplication and division, and evaluation of numerical expressions), number and operations (fractions and decimals), and measurement and data (time, money, geometry), amongst others.

Personal growth and independence – that is, how learners engage with the learning process and become more independent, critical and self-aware. How they reflect on the teaching they receive, their own attitudes and dispositions towards learning, and their own learning progress.

The paper looks at the intersections of students' growth in cognition and their personal growth and development.

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### HOW DO WE COMMUNICATE THE LEARNING PROGRESSION OF CHILDREN FROM MANY CONTEXTS? AN ILLUSTRATION USING THE EARLY GRADE READING ASSESSMENT (EGRA).

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There is growing interest in producing learning metrics that yield data that is comparable across many contexts. The SDGs intensify this by setting goals for countries to report the proportion of children reaching minimum proficiency benchmarks. This should not, however, restrict countries to using a limited set of international assessments in order to make valid comparisons or report against the SDGs.

This quick fire talk describes the methods used to develop and illustrate a continuum reading achievement that is valid across multiple contexts, including many language contexts. An illustration is given of how a country could use this continuum to locate its progress towards achieving SDG 4.1. In this case, EGRA is used as an illustration of how a national, or sub-national assessment program could be used to report against SDG 4.1.1 whilst still meeting the local contextual goals of a country implementing the assessment.

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# IMPROVING THE MEASUREMENT OF FAMILY BACKGROUND TO IMPROVE THE UNDERSTANDING OF EQUITY OF LEARNING OUTCOMES IN MANY CONTEXTS: HOW BETTER MEASUREMENT WITHIN-COUNTRY CAN IMPROVE OUR UNDERSTANDING OF PROGRESS BETWEEN-COUNTRIES.

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Socio-economic status (SES) is an important construct when examining differences in outcomes, be they in education, health, psychology, the labour market or society more generally. SES can be considered both an input-control construct to monitor equity in outcomes, and a substantive construct that relates to outcomes through other constructs. These relationships have been found to apply in high- as well as low- and middle-income countries (LMICs) and reducing SES-related access and achievement gaps is an important step in ensuring inclusive and quality education for all and promoting lifelong learning.

This paper illustrates that there is some conflicting evidence regarding the magnitude of the relationship between SES and outcomes. This, however, may be partly due to the inappropriateness of widely-used measures of SES in assessment programs in LMICs. This paper reports the results of a critical review of international assessments and new empirical analysis. International perspectives are drawn from Australian, Afghanistan, India, Pacific Islands (e.g., Solomon Islands), East and South Africa (e.g., Kenya, Zimbabwe, Uganda), as well as international and national assessments including included IEA PIRLS and TIMSS, IEA ICCS, OECD PISA and PIAAC, SACMEQ, CONFEMEN PASEC, UNESCO LLECE, Citizen-led assessments (ASER India, ASER Pakistan, Uwezo Kenya, Tanzania and Uganda, Beekunko Mali, Jàngandoo Senegal), ACER MTEG Afghanistan, and Indonesia QEM.

The empirical analysis shows that measures of wealth in international assessments may not behave appropriately across all contexts and proposes a new method of deriving a scale of household wealth and also uses the results of the critical review to propose future approaches to selecting background questionnaire items appropriate for countries from different income and inequality contexts. The key implication is that careful analysis can be used to support countries to better measure social and demographic phenomena in order to better understand equity in learning outcomes.