Young Lives

The Design of the 2016-17 Young Lives School Survey in Ethiopia

Jack Rossiter

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Contents

1. Introduction to the survey

Young Lives is an international study of childhood poverty in Ethiopia, India, Peru and Vietnam. Its aim is to improve understanding of the drivers and impacts of child poverty and development. Young Lives has, to date, conducted two school surveys in Ethiopia. These surveys gather detailed information about children, their households, their teachers and their schools. School surveys seek to develop understanding of the contribution of educational experience in relation to the causes and consequences of childhood poverty.

The first Ethiopia school survey, conducted in 2009/10, tracked Young Lives' 'Younger Cohort' children into schools and classrooms to understand their educational experiences, attainment and achievement levels (Young Lives 2012). A second school survey, in 2012/13, was structured to collect data relating to all Young Lives children and their peers studying in Grades 4 and 5 in every school within Young Lives' 20 sites (in Amhara, Oromia, SNNP, Tigray and Addis Ababa) and in an additional 10 sites in Afar and Somali. This research design extended the survey's reach, in order to generate rich evidence about school and classroom effectiveness and the drivers of learning (Young Lives 2014).

The third Ethiopia school survey, to be delivered in 2016/17 and the focus of this design note, will follow the research design adopted in 2012/13. We will visit the same sites and, within these, the same schools. In 2016/17, we maintain our interest in school effectiveness, the levels, changes and drivers of learning. We will survey students in Grades 7 and 8: the final grades of primary schooling and a crucial juncture before students proceed to general secondary education.

Priority areas for upper primary and lower secondary education policy have been identified through consultation with the Government of Ethiopia's Ministry of Education and with national and international education stakeholders. These guide our main research questions:

1. At what level are students performing in core curricular and transferable domains (Mathematics and Functional English) and are levels indicative of preparedness for further education and training?

2. How much progress are children making in one academic year and what are the drivers of learning trajectories over time, including how these relate to equity (e.g. are gaps growing or shrinking)?

3. What is the role of key dimensions of education quality in shaping educational outcomes over time and, in particular, which teacher practices are associated with improved learning outcomes?

4. What are the relationships between language of instruction (intended and applied), participation, learning levels and preparedness for further education and training in secondary grades?

This design note outlines the context and policy background, the research design, and the policy implications of the third Ethiopia school survey.

2. Context and policy background

In the years since 1990, access to schooling has increased rapidly in Ethiopia. School supply and community demand have risen in tandem such that the number of children enrolled in primary grades grew from 2.5 million in 1990 to 18.7 million in 2015, representing a Gross Enrolment Rate (GER) of 103 per cent (Ministry of Education 2016). In spite of impressive enrolment growth, the 2015 primary completion rate stood at 51 per cent and only 16 per cent of Grade 8 students achieved the general level of proficiency expected in the 2012 National Learning Assessment (Ministry of Education 2015). These statistics hint at the prevailing policy issues in Ethiopia's upper primary grades:

- How to improve system efficiency by reducing repetition and dropout and increasing the rate of progress to higher levels of learning;

- How to improve system equity by increasing participation of population groups disadvantaged by poverty, location, language and disability; and

- How to improve system effectiveness and pivot from schooling to relevant learning for all children.

Ongoing government and donor programmes acknowledge these policy issues, with a focus on increasing attainment and achievement. The *massive* General Education Quality Improvement Program (GEQIP-II) (World Bank 2013) and the current Education Sector Development Programme (ESDP V) (Ministry of Education 2015) include a variety of strategies to improve the quality of service delivery in schools. The Young Lives school survey will generate evidence that supports implementation of these programmes and can inform future sector-wide plans.

3. Survey sample

Following the site-level-census approach taken in 2012/13, the third school survey will sample all schools, irrespective of ownership, in all 30 of the identified Young Lives school survey sites. Included in data collection at these schools will be: all Grade 7 and Grade 8 students who are attending on the first day of student tests; all teachers of Mathematics and English to these Grade 7 and Grade 8 students; and all school directors.

This sampling approach will provide site-level representative data from (i) those areas dominated by or with only urban populations; (ii) those 'emerging' regions largely dominated by agro-pastoral populations; and (iii) those relatively developed and rural dominated regions where more than 90 percent of the Ethiopian population lives.

Students who participated in the 2012/13 school survey will be captured in the 2016/17 school survey, along with any Young Lives' Younger Cohort children that have reached Grade 7 or Grade 8. The linking of students between school survey rounds can offer a longitudinal perspective – with up to four data points per student – on the school system in Ethiopia.

A tracking exercise conducted in February 2016 indicates that the school survey sample will include 63 schools, their directors, Mathematics and English teachers to Grades 7 and 8, and approximately 12,000 students in 280 sections. When compared with the 2012/13 school survey sample, the total number of students and sections is broadly equivalent, but these individuals are attending fewer, larger schools (Young Lives 2014).

4. Research design

The third school survey will allow Young Lives to *understand*, *describe* and *explain* using observational data, with a particular interest in the factors that relate to better learning outcomes. These findings can then inform policy and implementation decisions.

Data collected within the school survey will allow the production of descriptive and correlational statistics. The former might include how a language policy is being applied in different sites and schools, or the variation in teacher qualifications and teaching practices. The latter might lead to links being made between factors at the school-, classroom- or student-level and learning rates. To estimate the effects on learning of policy-relevant factors at these levels, a value-added approach will be used.

Often, students, teachers and schools are ranked according to achievement levels (for example in the Ethiopian National Learning Assessment, which provides a check of levels against expected learning criteria) (Ministry of Education 2013). The problem with this approach, however, is that achievement is tightly linked to a student's socioeconomic status and his or her learning to date. In an observational data set, with non-random sorting of students into schools and classrooms, there is a substantial risk that measures of learning are systematically correlated with measures of school- and classroom- inputs and processes. As a result, when attempting to associate student performance with these inputs and processes, to draw policy-relevant conclusions, estimates are likely to be biased.

The goal of the value-added approach is to allow apples-to-apples comparisons of how much teachers and schools contribute to student progress each year. This means focusing not on how students test at a single point in time but rather on how much improvement they make from one testing period to the next – thereby reducing the effects of individual heterogeneity on estimates of classroom and/or school effectiveness.

Because the value-added approach adjusts for students' prior performance and observable background characteristics, one school or teacher value-added estimate can be compared with another without fear that the estimate is heavily biased by selection processes or other variables. The value-added approach therefore returns a less-biased estimate of how much teachers and schools add to the students who learn in their schools – with strong research and policy implications (Kane & Staiger 2008).

In the 2016/17 Ethiopia school survey, Grade 7 and Grade 8 students' learning levels will be measured at the beginning and the end of one academic year, using two cognitive tests: Maths and Functional English. Background instruments will collect data on school directors, teachers (including a measure of teacher professional knowledge for Mathematics), students and school infrastructure and facilities. Table 1 provides an overview of survey instruments, and Table 2 outlines the timeline for instrument development and data collection. For a more in-depth discussion of instruments used in the survey, see Young Lives technical notes on the Maths, functional English and psychosocial skills measurement.

Table 1: *Survey instruments used in 2016/17 Ethiopia school survey*

Student outcome measures	Background instruments
Maths test	**Director questionnaire**
Repeated measures, administered at the beginning and end of Grades 7 and 8. Assessing students' curriculum knowledge, and ability to apply curriculum knowledge in less familiar contexts.	Collects background data on the principal and the school (including school management practices).
	Teacher questionnaire
	Collects background data on Grade 7 and Grade 8 Mathematics and English teachers (including teacher motivation and class-level information).
Functional English test	**Student questionnaire**
Repeated measures, administered at the beginning and end of Grades 7 and 8. Assessing students' English reading and comprehension skills relevant to the contexts in which they use (or will use) the language.	Collects background data on Grade 7 and Grade 8 students (including academic support within and beyond school, psychosocial measures and perceptions of the classroom instructional environment).
	School facilities observation
	Collects data on school infrastructure and facilities
	Teacher professional knowledge questionnaire
	Collects Mathematics teacher performance on an assessment of specialised content knowledge for teaching.

Table 2: *Timeline for 2016/17 Ethiopia school survey*

2016		2017	
Mar – May	Wave 1 Pre-pilot and pilot	**Jan – Feb**	Wave 2 Pre-pilot and pilot
Jun – Jul	Wave 1 Pilot data analysis and item selection	**Feb – Mar**	Wave 2 Pilot data analysis and item selection
Sep – Oct	Wave 1 Fieldworker training	**Apr – May**	Wave 2 Fieldworker training
Oct – Nov	Wave 1 Data collection	**May – Jun**	Wave 2 Data collection

5. Policy and practice implications

With the chosen sample structure and use of a value-added methodology, the 2016/17 Ethiopia school survey is well placed to generate policy-relevant evidence on efficiency, equity and effectiveness factors in Ethiopia's education system. The longitudinal nature of the Young Lives study offers unique insights for policy and practice, with a wide range of options for analysis and investigation. For example, school and student data collected in Grade 7 and Grade 8 can be contextualised within five rounds of Young Lives household survey data and linked to school effectiveness data – for the same sites, schools and students – collected in Grade 4 and Grade 5.

The survey's main research questions are linked to ongoing policy discussions in Ethiopia and to planned reform processes. School survey findings can inform, in particular, the implementation of ESDP V and planning for 'GEQIP-III' and relate to specific issues raised in the World Bank's forthcoming Education Public Expenditure Review (EPER) (World Bank, forthcoming). School survey findings can:

• **Inform** which pre- and in-service teacher training investments might be prioritised to improve teacher skills (ESDP V and GEQIP).

• **Inform** curriculum reform, including reflecting on current implementation approaches and priorities for a general education overhaul planned within the 2016-20 period (ESDP V).

- **Inform** a review of the language policy, including indications of how language of instruction relates to learning levels and student progress (ESDP V).

- **Improve** understanding of the educational trajectories of different population groups and the characteristics of students that dropout in the upper grades of primary education, for targeted retention support and system improvements (EPER).

- **Improve** understanding of primary-to-secondary transition barriers and dynamics, as an input to planning for rapid expansion of lower secondary education (ESDP V).

- **Improve** the evidence based for school improvement planning, with a focus on the teaching and learning inputs that associate with better learning outcomes (ESDP V and GEQIP).

- **Provide** evidence on student learning levels, how these vary between population groups and how they relate to school, teacher and student characteristics; as a supplement to upcoming outputs from the Grade 8 National Learning Assessments and measurement of Service Delivery Indicators.

6. References

Kane, T., & Staiger, D. (2008). Estimating teacher impacts on student achievement: An experimental evaluation. NBER Working Paper 14607. Cambridge, MA: National Bureau of Economic Research.

Ministry of Education (2013) Ethiopian 4th National Learning Assessment of Grades 4 and 8 Pupils, Data Analytic Report. Addis Ababa: Government of Ethiopia.

Ministry of Education (2015) Fifth Education Sector Development Programme. Addis Ababa: Government of Ethiopia.

Ministry of Education (2016) Education Statistics Annual Abstract 2007 E.C. (2014/15). Addis Ababa: Government of Ethiopia.

Young Lives (2012) *Improving Education Quality, Equity and Access in Ethiopia: Findings from the Young Lives School Component*, Ethiopia Policy Brief 1. Oxford: Young Lives.

Young Lives (2014) *Ethiopia School Survey 2012-13*, *Data Overview Report*, Young Lives Working Paper 134. Oxford: Young Lives.

Young Lives (2014) *Ethiopia School Survey 2012-13, Data Summary Report*. Oxford: Young Lives.

World Bank (2013) *GEQIP-II Project Appraisal Document*. Washington DC: World Bank.

World Bank (forthcoming). *Ethiopia Education Sector Financing Study*. Washington DC: World Bank.

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