Education International
Internationale de l'Education
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Breadth of Learning: Process and Practice

Background

Education International (EI)'s advocacy on education beyond 2015 was based on the call for a commitment to quality education for all, expressed by teachers around the world. Quality education provides people with the critical knowledge, abilities and skills that are needed to question, conceptualise and solve problems that occur both locally and globally and actively contribute to the sustainable development of society. Inclusive quality education is also fundamental to the achievement of all other major areas of development, such as gender equality, health, nutrition and environmental sustainability[1]. This call by EI for a global commitment to quality education included a call for the 'breadth of curriculum, including gender-sensitive, non-discriminatory content, teaching resources and materials reaching beyond literacy and numeracy to include global citizenship and life skills content'.

As part of the adoption of the Sustainable Development Goals (SDGs) in September 2015, the governments of the world committed to universal quality education. It is no longer acceptable

for education systems to target themselves on narrow indicators of success around literacy and numeracy when it is clear the complexity of the world's problems will require students with a range of knowledge, skills and attributes to meet the challenges of sustainable living. This led to a natural alignment around the breadth of learning, as reflected within the OECD, for instance, through their curriculum 2030 project focused on developing a competencies framework, and with the Center for Universal Education at Brookings (CUE) through their work on the breadth of learning.

In response to the recommendation from the Learning Metrics Task Force on having better tools to measure learning across all domains, the Center for Universal Education at Brookings (CUE) has set up a working group to develop a set of tools to measure the learning opportunities students are exposed to, both in the national curriculum, and in the policies and in school practices. As part of this working group, Education International (EI) contributes to the development of a tool that can help evaluate the breadth of curricula from the teachers' perspective, stressing the importance to take a holistic approach to educational quality beyond mathematics and reading. The 'Breadth of Learning Opportunities' tools should help national

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1   EI *An Education Goal Beyond 2015: Education International's call for quality education*, 2015.

The 7 Domains of Learning from the Learning Metrics Task Force
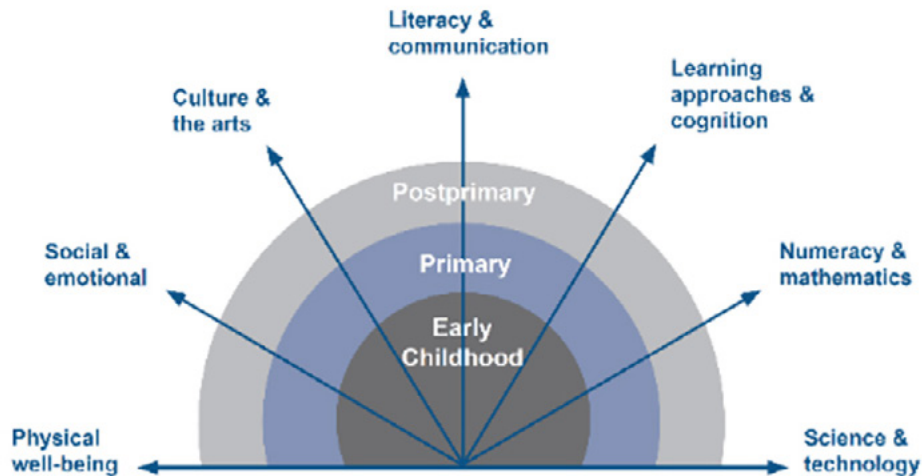
governments to examine their education systems and target interventions toward certain learning domains or levels of the system, according to the seven domains of learning as defined by the Learning Metrics Task Force. The tools will be developed to be adaptable to country context and needs.

The first tool will review **national-level** curriculum and assessment documents and examine breadth of learning opportunities for students inherent within the curriculum. It will examine how many of the LMTF 7 Domains the curriculum covers.

The second tool will be implemented at a **school level**. It will incorporate interviews with teachers and head teachers to examine the breadth of learning opportunities students are exposed to at school and the resources available to teach these skills.

Together, the tools will take into account:

- Curriculum documents
- Assessment and examination frameworks
- Teacher pre-service and in-service preparation
- Learning materials
- Classroom experiences

The results from the two tools will be combined to generate a single infographic depicting the breadth of learning opportunities in the education system at the national and classroom levels. Education ministries can use this depiction to inform curriculum reform efforts.

A third tool (i.e. survey questionnaire) will be developed by Education International with teachers in Africa to survey the training given, time spent on various activities across the learning domains, the resources available, the Continuous Professional Development (CPD) offered and the impact on students.

These tools are not accountability mechanisms. They need to be adapted to the national context and are designed to provoke reflection and action, particularly by national officials, on how the system is operating and what can be done to improve it. By reviewing the strengths and challenges in the system, from the national to local levels, this information can help to fine-tune policies that provide broad opportunities, to suggest which interventions might be most effective, and to create policies that schools can put into practice.

What is the desired impact of the toolkit?

The tools are intended to contribute toward improving the quality of the education in a wide array of domains by giving national education officials the means to diagnose their education system. Ultimately, CUE and EI hope that the tools adapted to the national context will support government interventions that increase the breadth and depth of learning around the world.

Scoping Phase

EI went into the field to Kenya and Zambia for initial scoping meetings. The tool for secondary education was developed in Kenya and the tool for primary education in Zambia. At these first

meetings the research leads from each country went through the seven breadth of learning domains which appear above and sketched out possible questions to be included in the survey. This laid the ground work for a meeting of 10 teachers in each country to produce the final tool. The teachers to represent their union at the meeting were selected according to criteria set by ZNUT (EI's Zambian affiliate) and KNUT (EI's Kenyan affiliate). ZNUT used a local pool of teachers split between urban Lusaka and rural Lusaka. KNUT selected teachers from all parts of the country and from each type of school in their secondary sector.

Tool Production Phase

At the teacher meeting country specific questions were considered, but the focus was placed clearly by EI and the national research lead on the transferability to other education systems across Africa and around the world. In some cases local allowances were made, the tool was designed to be global in application, but adaptable to local contexts. The primary education survey was designed to be completed by all the teachers in the selected schools, although random sampling should also be considered. In the case of the secondary education tool the survey was designed to be completed by a team of 10 teachers from the following positions within the school:[2]

The survey was developed using SurveyMonkey, but there are open source alternatives available. Online tools such as this make data gathering and analysis much easier. Both surveys were designed to mirror the seven learning areas laid out in the Learning Metrics Taskforce work described above, but were adapted to the school level and the language of education in each country.

Administering the Survey

Each country has a unique approach to design and implementation of the tool and the method for delivery needs to be co-constructed with teachers who will be doing the research. National setting has a big influence on implementation as all countries have different structures delivering public education. Furthermore, a representative sample that goes beyond the binary rural, urban split is critical to getting high quality information for diagnosis.

Kenya- The Secondary Schools Study

The secondary study in Kenya chose a school wide method which is easier to implement. Here teachers were selected to provide a broad cross section of school personnel, from the principal to a beginning teacher. The sampling was heavy on

Table 1.Breadth of learning Domains with respective Subjects and Heads of Departments.

Breadth of learning Domains	HoDs and Subjects Teachers
Physical Well being	P.E Teachers or HoDs of Sports
Social and Emotional Well being	HoDs of Life skills, Religious studies and Guidance and Counseling
Culture and Arts	HoDs of Art, Music, Drama, Dance or the Coordinators of Cultural Activities
Language and Literacy	HoDs of Languages: English, Kiswahili or other languages.
Learning Approaches and Cognition	Heads of Academics or Deputy Principals
Numeracy and Mathematics	HoDs Mathematics
Science and Technology	HoDs of Science: (Chemistry, Physics, Biology) or
	HoDs of Technical subjects (Home Science, Woodwork, Metal Work, Business Studies, Agriculture, Drawing and Design, Computer Studies).

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2   KNUT *Assessment of the Breadth of Learning Opportunities in Public secondary School in Kenya*. KNUT, 2017.

Heads of Department which was organisationally seen as the best way to obtain accurate information.

In hierarchical systems the tendency will be to sample subject managers, but there is a good argument for sampling teachers from early career (first two years) and those on lower professional levels as it will give a fuller picture of actual practice across the range of teachers' experience. This was achieved in the Kenyan example by giving the Heads of department one week to collaborate with the teachers in their department. While this is less anonymous than a randomised sample it is easier to implement as Heads of Department are used to gathering data for various administrative and learning purposes. In secondary schools departments are by far the easiest way to access teachers due to the way secondary schools are organised. Thought will have to be put in to accessing the thinking of non-mainstream specialist teachers, where they exist, such as drama teachers.

The return rate in Kenya was excellent with 100% across six of the eight domains and over 90% for the following two domains. This was achieved by having trained and hand-picked field researchers who helped build the tool, write the questions and who had been trained in administering the tool. This is unlikely to be replicated without a similar level of effort and requires an implementation strategy that achieves a similarly high level of commitment to collecting the information.

This was supplemented by interview guides which dealt with perception issues around particular questions. This was country specific but would be a useful part of any implementation strategy.

The demographic spread of schools was carefully weighted across the different school types in Kenya. Four schools came from each of the ten regions that divide up the country. The criteria considered in selecting the schools included: school category (National, Extra County, County and Sub-County); gender (boys only, girls only and mixed); local setting of the school (urban or rural); and type of school (boarding, day or both).

Statistical data

While the tools were well managed, there is clearly a need to skim some of the questions. There are questions which will fit equally well into the school level tool which is currently being developed. In terms of the demographic data much of this can be gathered from a school level tool, but there were important statistical findings that only teachers can reveal. The data around class size and teacher qualification can be obfuscated at the system level, but in the Kenyan teacher survey it is impossible to do this as information is collected at the classroom level via the department.

To highlight some of the demographic data, about half of the schools have between 251 and 500 students which means the opportunity to run specialised classes in a wide array of subject areas may already be curtailed. The majority of schools had an average class size of 51-60 leaners, which is certainly not the highest in Africa, but would be considered very high in the OECD. There are gender differences in qualification with male teachers slightly higher than female teachers in terms of higher qualifications. There is also a rural and urban split in terms of teachers qualification. With urban settings attracting more qualified teachers (ironically they also have a greater number of unqualified teachers because city schools are larger).

The gendered picture of principals is consistent with other transnational statistics: 62.5% are male and 37.5% female. This is disproportionate to the number of female teachers to male teachers which is slightly higher. The gender of heads of department was similarly intriguing. Language and literacy was 61.5% female, while PE 79.5% male. Perhaps the most revealing was that 71.1% of those who answered the learning approaches questions, and these were designated for the Deputy Principal or Senior Teacher in charge of academic achievement, were male.

The picture of teacher training was reasonably encouraging. By far the majority attended a teacher training programme of four years or more, except in PE. This gives governments a clear understanding of the areas they need to do some work in.

It is interesting to note that the average class size for social and emotional skills, usually in Kenya delivered through the life skills programme, was slightly below the average at 41-50, which makes complete sense due to the complexity of the issues involved.

Curriculum areas to highlight included 30% of schools not teaching social and emotional studies which is a concern. Most schools had access to a playing field for volleyball or football with less common access to more specialist facilities, but again there was variety across school types. Over 30% of the schools have none of the internet based materials and digital materials are inadequate, but a slim majority had adequate books. This exposes the fact that digital materials need to be targeted to schools without letting printed materials slide as schools clearly need both. There's a similar picture in mathematics with traditional printed material generally adequate, but electronic equipment such as calculators and internet based materials are inadequate. The whole issue of ICT integration deserves further investigation and could be probed further through focus groups.

The list of social and emotional topics dealt with across a range of subjects was fascinating. As in many OECD countries drugs and alcohol came out on top of the negative issues, with violence and bullying not far behind. Sex education, at 50% of schools teaching this, needs to be covered more consistently across all schools. The clearest outcome of social and emotional topics was that values are taught. It would be worthwhile to follow up with a focus group around what values are covered, and how.

Poetry is the most covered topic in culture and the arts with media studies and modern dance showing the widest variety of access, i.e. these subjects are available in some school types but not in others. The pedagogies question showed problem solving , self-direction and creativity made up the top three.

Inclusion clearly needs work with a slim majority providing differentiated work, but still a large number who don't. This issue needs further investigation through focus groups and an analysis of the support offered.

CPD is happening, but nowhere near regularly enough. This is the biggest area to target for system improvement as PE and social and emotional in particular show a majority get no CPD at all. This needs further investigation as we know CPD is the biggest system lever for improving student learning.[3]

Zambia- The Primary Schools Study

The primary study in Zambia selected an inclusive process that was targeted at every teacher in the lower and middle primary school in the schools to be covered. While this led to a large data set it necessitated extensive administration with the union representative needing to be released from teaching for the number of days necessary in order to gather all the completed surveys. The teachers were trained to administer the survey and were prepared for potential questions by the participants and instructed how to overcome misunderstandings. This is an expensive method that could be streamlined through either randomised or purposive sampling that would reduce administration costs. This means selecting a specific number of teachers per school rather than surveying all of them. The study was conducted over a range of city schools in Lusaka and a range of rural schools in the wider province.

Statistical Data

The sample covered 1019 teachers which is a statistically representative sample. This study hugged Lusaka as it was considered too difficult to get teachers in from every part of the country. The majority of respondents were aged 31-40 and the largest number of respondents had between 6 and 10 years of working experience (34.5%). 50.5% had certificates in teaching and 49.5% had diplomas so this showed an even split between these qualification types. Only 9.24% had degree qualifications. It is the government's aim that all teachers have a degree as a minimum qualification so there is certainly work to do here.

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3   Timperley, H. (2007). *Teacher professional learning and development : best evidence synthesis iteration* (BES). Wellington, N.Z. : Ministry of Education, c2007.

Each teacher administering the tool was trained to work with 120 teachers. The target group of teachers stood at 1200, the final tally was 1023 which is an incredibly high response rate and shows the commitment of the teachers and the union in securing a sizeable sample.

The majority of teachers (679) had above 51 learners in their classes. This is significantly above the recommended class size of 40 learners per class for public primary schools. It was heartening that first year teachers had smaller classes with only 8.39% stating they had over 50 learners. However, this is clearly an area where the government has to invest more staffing and apply stricter formula if they are to make headway with meeting their goals.

In Zambia they appear to teach PE, Health and Nutrition in equal measure but this needs further investigation as they may be teaching all at the same time. A set of focus groups would help clarify meaning in this area of the survey.

The appearance of social and emotional learning across all areas of the curriculum was encouraging, but it appears particularly in social studies. This is clearly an area of learning the Zambian curriculum and schools take seriously, but the majority do it for 0-1 hours despite 3 hours being allocated in the curriculum. This is worth further investigation to explore ways this topic can be handled in greater depth in Primary classrooms. It was noted and encouraging that 65% of teachers specifically teach students to empathise with each other. Sex education is also well covered, with some waiting till upper primary, but most schools teaching it throughout. It would be helpful to find out in more detail what was being taught at which levels.

The opportunities for extracurricular activities are limited with only 39% getting regular access to this. In the learning and cognition area there were some revealing statistics. Subject clubs are variable with some schools offering these but 32% saying they are never offered. Homework is popular, as the teachers involved in the trial had suggested, with 60% of students getting it daily and 92% of teachers believing it had a positive impact on learning.

There was a strong feeling of professional autonomy with 87% of teachers feeling that they had power to make professional decisions in the classroom. However, over 50% felt the resources available to support their decision making were inadequate. Interestingly, 88% of teachers said they used formative assessment more often than summative assessment, with 90.5% also reporting that their students worked effectively in groups. These are encouraging statistics that show that a variety of approaches are being employed in the classroom.

The science and technology responses showed that only 25% of schools have science laboratories which makes specialised science work difficult. More have computer laboratories at 65% , but access is limited, and only 48% have libraries. 94% indicated that the most available resource is the blackboard which shows that the modernisation programme has only just begun. This is underlined by the fact that for 34% of learners very few have access to computers.

Most felt there were rules in place to regulate learning, but it would be worthwhile to more clearly define what 'sometimes' meant to teachers in terms of the adequacy of the rules and the support provided to implement them. This could be a survey all of its own, but would again benefit from focus group follow up. Most schools have guidelines around the various relationships teachers have within the school.

The professional learning picture was a little gloomier. Most teachers are experiencing in school Continuous Professional Development (CPD), but few are getting external support which means there is a risk that schools get stuck with obsessions like learning styles that are not evidence based. It is clear from the Best Evidence Synthesis[4] that there should be a combination of internal CPD and external expertise to make sure teacher learning is heading in the right direction.

In the hours of study feedback it was surprising to see media studies figuring so highly as few are studying this in Kenya, perhaps because of the cost of equipment.

4   Timperley, H. (2007). *Teacher professional learning and development : best evidence synthesis iteration* (BES). Wellington, N.Z. : Ministry of Education, c2007.

Culture is clearly important in Zambian schools with 90% of teachers discussing cultural diversity with their learners and schools dealing with culture both at a specific level and throughout the primary school life of students.

Culturally reflexive pedagogy is happening, but is only used regularly in 30% of classrooms, this area would benefit from both further investigation and further support.

Next Steps

While a number of things have been highlighted for further investigation in the statistical discussion and there are clearly more areas of interest, perhaps the most glaring fact is that teachers and schools need an implementation plan around curriculum development if they are to make the improvements in learning that teachers really want to see. This requires CPD to ensure that pedagogies are directed into the right topics and in the right ways, as well as resourcing to support teaching and learning, especially digital, but again attached to pedagogical support. This requires a plan devised by the government, school leadership and the teacher unions. Through partnership a big difference could be made quite quickly.

There needs to be follow up on the survey design to reduce the number of questions so it can be easily completed in a shorter time frame. This can be done be removing statistical data and some content questions to the school level survey, although it is crucial to retain teacher questions on CPD, resourcing and professional autonomy. It is also important to continue to have questions that can be triangulated from system level, school level and teacher level.

This should be done in partnership with teachers unions so that they have ownership of the outcome. The process thus far has developed trust and commitment because it has been a real partnership with people working at every level of the education system to ensure that any data gathered is valid at all levels.

It was clear during the development of these tools that teachers in African and across the world are not satisfied with seeing wealthy nations accessing

OECD data, building on teacher professionalism and working around student learning in an informed way, while teachers elsewhere are working hard with minimal information. Teachers everywhere have a strong desire to make a difference. They have an unwavering commitment to students and improving growth and learning. With the right tools, the right information and the right process it is possible to make this happen.

Research

Breadth of Learning:

Assessment of the Breadth of Learning Opportunities In Public Secondary Schools In Kenya

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Breadth of Learning:

Measuring the Breadth of Learning in Zambian Primary Schools

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