

Quality of Early Years Education (EYE) in Ethiopia: A Meta-Analysis

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Abstract: *This paper was aimed at analyzing quality of Early Years Education (EYE) (KG through grade 4) in Ethiopia as measured by status of learning. Though international and local literature were reviewed to describe the policy, research and practical contexts, the method of study applied was a meta-analysis technique that focused on collecting and analyzing (qualitatively) previous research reports to draw appropriate conclusions and uncover future agendas. Findings showed that: (1) Despite the establishment of minimum standards and policy documents by the MoE, Early Childhood Education (KG) is limited in scope to urban areas and the instructional process focuses on letter identification and mastery of numbers instead of stimulation and readiness for formal schooling. Socialization and play do not characterize the KG classrooms but technical skills regarding writing, fidel (letter) identification and numeracy, sometimes way beyond the age specific learning capacity of the children; (2) The studies conducted on early grades (grades 1-4) so far also focus on reading ability, number competence and assessment of curriculum-based objectives; and (3) Generally, almost all studies on early grade learning indicated that the mean scores of students are far below the policy standard (50% and above achievement per subject). Therefore, not only relevance of KG program to prepare children for formal education is questionable but also quality of EYE is relatively low and the system of education calls for relevant intervention schemes to improve the situation.*

Key Words: *Quality of Education, Early Years Education (EYE), ECCE, Learning Achievement.*

Introduction

It has been over a century since the introduction of secular education in Ethiopia. In those years of experience, areas of concerns varied from time to time. For about six decades (from 1900' to 1960's), the idea of contextual relevance stood at the front line and instigated debates over the relevance of the curricula and classroom instruction. As the system was imported from French, the curricular at the time reflected European cultures and system of knowledge without much consideration to the cultural, social, political and economic elements of the country. Teachers, headmasters, medium of instruction, and examinations were copies of the French society and the curriculum was dominated by language subjects, probably for diplomatic purposes (Work, 1934; Tekeste, 1990; Richard Pankhurst, 1962). The scope of educational opportunity was also limited and when the Italians invade the country in 1935, there were only 4,200 students in 21 government schools (MoE, 1984).

It is difficult to assume formal education for Ethiopians during the invasion of the Italians. The type of education was rudimentary and limited to the lower ages, just as an activity rather than as a process of human development. After the expulsion of the Italians and the start of school reconstruction in 1942, history identifies two major challenges of the education sector at the time: (a) there was no coherent and uniform educational practice in the country; and (b) in the 1940s and 1950s, the influence shifted towards Britain and USA respectively, and same as that of French, teachers and curricular materials were imported and medium of instruction at all levels became English (Teshome, 1979). In general, "Ethiopia adopted the policies and practices of Britain and USA in the 1940's and 1950's respectively until it shifted to the USSR side during the Socialist regime (1974 – 1991)" (Abraha, 2015).

As a result, Ethiopian scholars at the Ministry of Education developed and piloted Ethiopianized

curriculum, called third curriculum¹, and piloted it in five schools² from 1956 – 1961 (Maaza, 1961). As per the report by Ayalew (1964), it showed better relationship to the contextual issues of the local school situation at the time.

However, it became difficult to implement this newly designed system because of the outgrowth of the Addis Ababa Conference proposal intended universalizing education in Africa by 1980³. Thus, priority shifted to increase enrolment and realize universal access as promised at the Addis Ababa conference. The Jomtien (1990) and Dakar (2000) declarations also focused on EFA issues for the same purpose - providing educational opportunity for all. Thus, from less than 30% in the early 1990s, lower primary education (grades 1-4) Net Enrolment Rate (NER) passed 90% since the academic year ending in 2007. Similar growth has been observed in secondary and tertiary levels (MoE, 1994a; 1994b; 2009).

Concern over quality of education as measured by student learning started to get public

attention in the country in the first decade of the 21st C. Especially, the findings of the four years cyclic assessment called National Learning Assessment (NLA) introduced in 2000 at grades 4 and 8, and that of the Early Grade Reading Assessment (EGRA) research (RTI, 2010) heightened the attention towards students' learning outcomes. Accordingly, government conception seemed changing from input and process orientation depicted in Education Sector Development Programs I-III (ESDPs I-III) to learning achievement based conception, as the case in ESDP IV & V. Thus, this paper focuses on the analysis of current research findings on the level of student learning (achievement) at the level of preschool (KG) through lower primary grades (1-4) in Ethiopia, for two basic reasons:

1. Quality is a timely issue in the Ethiopian Education system; and
2. As the case is in global literature (McGain & Mustard, 1999), EYE is conceived as the foundation stage of children's development and education as well as a strategic intervention area for the improvement of quality of education.

Defining Quality of Education

The work of Pirsig (1984) seems to give basis for the formal conception of quality in general and quality of education in particular. Pirsig argued that quality exists for comparative discourses are common and we tend to say school A is better than school B. However, according to Pirsig, quality is not the characteristic of the object (school), nor is it limited to what the viewer understands. It is rather a result of the interaction of the two - the nature of the object (standard) and the value judgment of the viewer. This could be categorized as basis for the philosophical discourses prevailing this time and determine between what is accepted and what is not.

As listed by Watty (2010), Harvey and Stensaker (2008) gave five alternative

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¹ The first curriculum was a 6-6 system (six years of primary followed by six years of secondary education) designed in 1947; the second functioned on the principle of 8-4 system and the third (the pilot one) was a 6-2-4 type.

² The pilot schools for the new curriculum were: (a) Ameha-Desta, Medhane-Alem, and Asfa-Wossen schools in Addis Ababa; (b) Model school attached to the TTI in Harara; and (c) AtseZera-Yacob in Debre-Berhan.

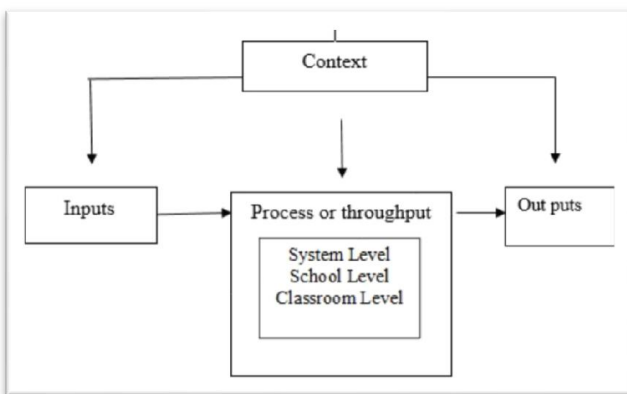
³ Towards the beginning of early 1960's many African countries were securing independence from colonialism. Thus, UNESCO organized education conference in 1964 for African Education Ministers in Addis Ababa aimed at ensuring universal education by 1980. This conference is named as the Addis Ababa Conference. Unfortunately, Emperor Haileselese rejected the locally designed curriculum at the expense of adopting the Addis Ababa Conference recommendations.

definitions in line with the conceptualization of Pirsig (1984):

- a) *Quality as exceptional* - performances comparatively beyond the set standard for common schools.
- b) *Quality as perfection* - performances with hundred percent correct and no defect observed.
- c) *Fitness for purpose* - performance levels that fit the mission identified by common understanding of stakeholders.
- d) *Quality as value for money* - a line of fitness between expense of education and its returns.
- e) *Quality as transformation* - this conception views education as an agent of social change such as income level and employment opportunity of graduates, decreasing harmful practices, etc.

In practice, however, the systems approach seemed one of the favored models in measuring quality of education in many countries. As described by Schreerens, Luytn and Ravens (2011), this systems model can be represented as follows:

Fig. 1: The systems model of education quality enhancement



(Source: Schreerens, J., Hans Luytn and Jan van Ravens, 2011: 5)

The systems model indicates that input and process issues justify outputs, including learning outcomes. However, we cannot be certain about

the outcomes simply by looking at the inputs (such as teacher qualification) and process (like instructional methods). School effectiveness is affected by various factors and there may not be a direct connection (functional in all contexts) that ensures learning results through the observations of quality of inputs and process. Thus, since the EFA declarations in 1990 (Jomtein, Thailand) and 2000 (Dakar, Senegal), there is a clear move from input-based quality conception to learning outcomes and even highly likely to continue shaping future agendas in education (Kellaghan & Greaney, 2001; Kellaghan, 2004). The Dakar declaration stated this in defining quality of education: “Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills” (UNESCO, 2000: 17). The post 2015 Education for Sustainable Development (ESD) is not different either. It rather strengthens the prevailing views because of its focus on equitable leaning among all children (United Nations - Secretary General, 2012). This conception of quality of education is coherent with the principle of globalization that gives priority to standardization, testing and competition for employment in the market oriented context (Hyslop - Margison & Sears, 2006).

Why quality at the EYE is critical then? Quality at EYE is getting attention because of the following reasons:

- a. Not only quality of education at the early ages gives foundation to learning potentials but also affects children's future success in education and even in life.
- b. Research on learning at the early years helps to identify learning potentials (strengths & difficulties) and take appropriate measures on time.
- c. Intervention schemes are found effective and cost effective at the early years than otherwise and children with learning difficulties at the early ages, unless

supported properly, are likely to stay behind those with a relatively better start (RTI, 2009).

- d. Besides, the issues of quality at EYE are issues learning and life skills. For example, abilities in reading and numeracy give basis for independent learning and life competency development outside schools. If we fail to ensure at this level, children are likely to develop dependency characteristics at later age.

Therefore, this paper adopted the latest operational definition of quality education as measured by status of learning in Early Years education (Kg through grade 4) and is limited to the Ethiopian context. However, 'status of learning' does not necessarily imply the use of test or assessment-based procedures. Qualitative descriptions of evidence on learning (example classroom observation results) are also viewed valid for the purpose of this study.

Objectives of the study

The major objectives of this paper include the following:

1. Document studies conducted on status of quality EYE (KG through grades 1-4), as measured by learning outcomes;
2. Identify findings to develop coherent generalization (s) or contradictions regarding quality of EYE and possible implications; and
3. Identify future policy, research and practice agendas in the area in context.

Conceptual framework

As described above, the conceptualization of quality of education has changed to the measurement of learning outcomes since the EFA declarations. In terms of focus and perspective, this is completely different from the systems model that served quality of education research for years before the introduction of

EFA declarations. It is true that context, input, process, and output (learning) are inseparable. The difference between input/process and outcome perspectives is a difference of focus and priority. While the systems perspective tries to predict the status of learning from the nature of the educational environment, the outcome-based one argues back in search of critical factors contributing to the situation established. Thus, high, average, and low assessment scores of students are used to: (a) label education systems as best, medium and poor respectively and even, as we are learning from the reports of the global testing schemes such as PISA, TIMSS, and PIRLS, to predict development prospects of countries in the sample.

In using test scores as quality indicators, two approaches seem prevalent in practice:

- a. **Curriculum-based measurements-** studies use established minimum learning outcomes or competencies, identified by respective educational systems, to measure how well students are learning. This is best for system performance monitoring purposes but not for normative analysis. The four year cyclic National Learning Assessment at grades 4 and 8 in Ethiopia can be cited as one example in this case.⁴ The usual procedure includes identification of level specific competencies subject area, operationalizing indicators, item development, collection and systematic analysis of data. Thus, comparison of scores with policy or curricular standards leads to conclusions on status of quality of education where the pass mark in Ethiopia is an achievement 50% or above (MoE & USAID-AED/EQUIP II Project, 2008). This approach helps to judge the status of educational returns (compared with costs)

⁴ For competencies or objectives at policy level in Ethiopia, see MoE (2010). ***Curriculum Framework from Ethiopian Education (KG-grade 12)***. Addis Ababa; and MoE (2008). ***Minimum Learning Competencies***. Addis Ababa:

around the nation or area of implementation and effectiveness of the system to bring about desired changes. However, it has also shortcomings paramount importance to consider ahead of time including disregarding contextual variations, overlooking important outcomes because they were not part of the curriculum, and the need for whether the findings show mastery of past experiences or readiness to the next level.

- b. **Developmental appropriateness** - Such research practices are guided by human growth standards (Deno, et al, 2001) or brain research outcomes assumed universal in the theory of learning. In fact, these are linked to generic academic learning outcomes in school curricular. In this sense, The Early Grade⁵ Reading Assessment (EGRA), Early Grade Mathematics Assessment (EGMA) and the International Development and Early Learning Assessment (IDELA) model at Early Childhood Education (ECE) are three examples that clearly indicate the current trend in EYE quality measurement practices. In all the cases, there is the idea of competence (the integration of knowledge, skill, and interest to execute desired action (Tiana, et al., 2011)), measured by *accuracy* and *fluency*. Whereas accuracy refers to correctness, fluency is an ability to give a correct answer within a given time.

Fig. 2: Some of the major components of EGRA and EGMA

| EGRA | EGMA |
|--------------------------------------|--------------------------------------|
| 1. Letter name knowledge ① | 1. Oral Counting (OC) ① |
| 2. Phonemic awareness | 2. One-to-One Correspondence (OTO) ① |
| 3. Letter sound knowledge | 3. Number Identification (NI) ② |
| 4. Familiar word reading ① | 4. Cardinality (C) |
| 5. Unfamiliar word reading ① | 5. Quantity Discrimination (QD) |
| 6. Oral reading fluency ① | 6. Missing Number (MN) |
| 7. Reading comprehension | 7. Add & Subtract |
| 8. Listening comprehension | 8. Multiplication & division |
| 9. Dictation | 9. Geometric figures |
| 10. Student background questionnaire | 10. Background Questionnaire |

① The subtest is timed to one minute.

It should be noted that the main components of EGRA and EGMA matches developmental standards with sequence of knowledge and considers research findings on learning theories such as the nature of working memory theory and its effect in learning. Thus, some subtests are timed to enhance thinking development but others are not. IDELA also adopts similar assessment approach to that of EGRA and EGMA except the focus on preschool education with due attention on four internationally recognized domain areas: (a) gross and fine motor development, (b) emergent literacy and language, (c) emergent numeracy, and (d) socio-emotional development. While such assessments provide the opportunity to value both accuracy and fluency as elements of learning, the implementation is too technical and favors children of rich educational environment than those from poor families.

However, this paper is not intended to compare how well each of the approaches works in the Ethiopian context. The guiding principle here is rather to include all research findings that judge quality of EYE (KG through grades 4) through the measurement of student learning (achievements). Besides, literature shows that studies like this one can be organized in the ways: (a) following the chronology of the reports called historical, (b) conceptual (integrating the report around common ideas), or (c) methodological (organizing findings following research approaches applied). However, the report is organized around conceptual meanings for the purpose of developing coherent generalizations for better understanding of the status of quality of EYE in Ethiopia.

Method

This study adopted a meta-analysis technique in which previous research reports on Ethiopian Early Years Education (EYE) are reviewed to understand consistencies or contradictions in findings and thereby identify policy, research and practical lessons and implications. Thus,

⁵ Early grade in Ethiopia refers to grades 1 through 4.

this section covers discussions on the search procedure for literature, list of studies included in this study and strategy of analysis adopted.

Relevant Literature Search Procedure

My PhD dissertation was focused on quality of education in Ethiopia as measured by early grade mathematics competency. Hence, revisiting my own literature files was the starting point to identify what is available. I also visited websites of different organizations such as that of the Ethiopian Ministry of Education, Save the Children and different Journal databases using Google search to look for additional studies conducted in EYE in the Ethiopian context. The technique of search for electronic copies in websites followed two techniques: (1) search by author when there is information regarding name (s) of the researcher (s); and (2) using key words in the title or draft content outline of this study. Besides, efforts were made to contact individual experts in the area and colleagues working for different organizations to make sure that the main studies in the area are included for review. In contacting experts, discussions started with explanations of the rationale and list of studies identified so far.

Initially, this paper was prepared to be presented at the 7th *National Educational Conference* of the College of Education and Behavioral Studies, Addis Ababa University, held from May 11-13, 2017 at Hawassa. Thus, the search for literature (to be included in this study) lasted for about three months (January to end of March 2017).

Selection criteria and studies included in the meta-analysis

In the literature, it is noted that the definition of quality of education shifted from system perspective to the measures of learning outcomes since the Dakar EFA declaration in 2000. As a result, judging status of quality of education using learning assessment schemes

has become a global tradition (Kellaghan & Greaney, 2004). Ethiopia also introduced a four-year cyclic national learning assessment approach at grades 4 and 8 since 2000. Thus, the selection process included the following criteria:

- The study focuses on measuring status of early years learning (KG through grade 4) in Ethiopia.
- The study distributed in the form of report to stakeholders or institutions of higher education and not necessarily published in journal.
- The study was conducted in the time between January 2000 and March 2017.
- No report should be excluded because the nature of study design (qualitative, quantitative or mixed) adopted.

After collection of research reports conducted from 2000 to March 2017 on EYE in Ethiopia, the studies were classified into two categories based on their focus – studies conducted on preschool (KG) education on and those focused on early grade learning (grades 1-4). Studies on early grade (grades 1-4) were also collected to make appropriate analysis to understand the trend and thereby draw conclusions. Table 2 shows the list of studies included in this research work of previous researches as reported. Findings of different studies were analyzed qualitatively by theme to define, understand differences or similarities, and identify relative gaps for future actions. No comparative or statistical technique was applied to substantiate findings.

However, Issues of access and factors influencing learning outcomes were also touched in the analysis to provide complete picture regarding the interconnection with status of students' learning and how the system is functioning. Hence, issues of validity, reliability or other characteristics of quality that can be attributed to the studies included in this meta-analysis report could be considered as limitations of this report too.

Table 1: List of studies on ECCE (KG education) accessed and analyzed

| Author (s) | Year | Focus | Study design | Remark |
|---|------------------------|---|--|--|
| Ethiopian Ministry of Education (MoE) | 2000; 2004; 2008; 2013 | Assessment of curriculum based learning (reading, English, math and environmental science) | National level survey studies with representative random sampling of schools and students from all regions | Unpublished reports (2000; 2004; 2008; 2013) |
| Joseph DeStefano & Nawsheen Elaheebocus | 2009 | School effectiveness study on early grade reading in Afaan Omrom | A survey study of reading ability of grade 3 students in Afaan Oromo in 24 schools (15 Community and 9 Government) selected from Woliso area. | Educational Quality Improvement Program 2 (EQUIP 2) report submitted to USIAD |
| RTI | 2010 | Reading fluency of grades 2 and 3 children in mother tongue languages | National survey of reading ability that included 13,079 grades 2 and 3 children selected from eight regions and 338 public primary schools and tested in six mother tongue languages | National report on reading presented to Ministry of Education and funded by USAID |
| Abraha Asfaw | 2015 | Status of quality of education in Ethiopia as measured by early grade math competence of children in Tigray | Survey study of early grade math competence in Tigray with a sample of 834 grades 1 and 2 children selected from randomly 21 primary schools. | Unpublished PhD dissertation submitted to the department of Curriculum & Instruction, AAU. |

Table 2: List of studies on early grade learning (grades 1-4) accessed and analyzed

| Author (s) | Year | Focus | Study design | Remark |
|---|------|---|---|---|
| Mulugeta Tsegai | 2015 | ECCE status and challenges in Ethiopia | Document review | Published in African Educational Research Journal |
| Foziya Tesfa | 2016 | ECCE functions (physical, intellectual, social and emotional) in Addis Ababa | Mixed methods to compare major functions of government and private KGs in Addis Ababa; Data was collected from teachers, principals and parents selected from three government and three private preschools and enriched by observations. | Unpublished PhD dissertation submitted to the Center for Comparative Education and Policy Studies, AAU |
| G/Egziabher Assefa | 2014 | Practice and challenges of KGs in Arada sub-city, Addis Ababa | Descriptive survey method with data from 11 principals, 77 teachers, 44 parents and 2 KG experts | Unpublished MA thesis in Special Needs Education, AAU |
| RTI | 2010 | Reading fluency of grades 2 and 3 children in mother tongue languages (KG experience analyzed as a predictors variable) | National survey of reading ability that included 13,079 grades 2 and 3 children selected from eight regions and 338 public primary schools and tested in six mother tongue languages | National report on reading presented to Ministry of Education and funded by USAID |
| Amy Jo Dowd, Ivelina Borisova, Ali Amente & Alene YENEW | 2016 | Impact evaluation of early childhood intervention quality child development outcomes | Comparative study of ECCD centers (government and community based) using randomized assignment to standard or enhanced quality programs on emergent literacy and math. | An article published on Journal of Human Development and Capabilities , 2016 Vol. 17, No. 4, 477-493 |

Data Analysis Techniques

This report made use of presentation of findings

Major Findings

Research findings on quality of preschool education in Ethiopia:

Historically, Early Childhood Education (ECD) in Ethiopia is still predominantly an urban phenomenon, operated by NGOs, the private sector, local communities, and faith-based organizations. Up until the academic year ending in 2011, education statistics annual abstracts published by MoE showed that the government's task was limited to developing curriculum, training of teachers and supervisory support. In other words, the scope of the services was so limited and Gross Enrolment Rate (GER) even by 2011 covered only 5.2% of the 4-6 years age children in the country (MoE, 2009; 2010a; 2010b; 2011).

In 2010, Ethiopia established a policy framework, and strategic operational plan and guideline that identified four main program components (parental education, health & early stimulation, preschool / kindergarten, & non-formal school readiness) to enhance appropriate development in the sub-sector. Since then the Child-to-Child programs and the 'O' class are being integrated into the formal system and contributing their share in increasing educational opportunity even in remote rural areas. As a result, GER jumped from 5.2% in 2010/11 to 21.6% in 2011/12 and to 39% in 2014/15 (MoE, 2012; 2016).⁶ Notwithstanding the developments in expansion in the past few years, this sub-sector still calls for more endeavors to contribute its share to the realization of quality enhancement intentions in

the nation. Therefore, though the current focus seems on expansion of ECCE in the country, this study tried to analyze studies on status of learning available so far.

The literature in quality of Early Childhood Education (ECE), as measured by the status of learning, is thin. However, the available ones indicate important implications to the nature and problems of ECD in Ethiopia. In many cases, reports show that pre-school education is not getting appropriate attention from the government. Mulugeta (2015) analyzed the situation and indicated that not only preschool is limited in scope and is characterized by:

- Inequalities - gender, socio-economic and urban-rural differences are obvious;
- Most preschools do not have appropriate location and space for academic activities;
- Access to potable water and age appropriate materials is limited;
- It is operated by untrained teachers; and
- Curriculum lacks similarity and coherence with government suggestions. An MA thesis study conducted by G/Egziabher (2014) on practices and challenges at Arada sub-city, Addis Ababa, with a sample size of 11 governmental preschools, 11 principals, 77 teachers, and 44 parents, showed similar findings.

The above studies focused not on measuring performance as quality indicators but on overall operation the ECD institutions. The following two studies, on the other hand, included interpretations on levels of student learning as a function of selected variables. Fozya (2016) studied the effectiveness of ECCE in terms of contributions to enhance preparedness in physical, intellectual, social and emotional aspects of children. It was a comparative study between government and private institutors that included 223 children (103 males & 120 females). Findings (especially the performance data) showed that the association of KG programs with physical and intellectual is stronger than with the social and emotional

⁶ Report on Net Enrolment Rate (NER) is available for the academic year 2015/16 and is about 37% (somehow similar to the GER).

aspects. Besides, the contribution was found to be better in private preschools, though sex based difference was not consistent.

Under the assumption that Early Childhood Care and Development (ECCD) enhances the realization of learning potentials, Dowd, et al (2016) designed an impact evaluation of early childhood intervention quality in emergent literacy and math in government and community supported ECCDs (O classes). The design included treatment and control groups using the IDELA model and tests administered twice to the two randomly selected groups in seven months' time. Those in ECCD programs (government and community supported) were also compared with out of ECCD children in the same environment for longitudinal study purposes. The study covered a total of 360 children and their caregivers in 36 Save the Children supported ECCD centers in Oromia region. Results showed statistically significant contributions of the intervention (impact of the IDELA implementation) in emergent literacy, numeracy, socio-economic (equity) domains. Especially, the improvements of children from lower socio-economic status were significant as compared to those from better backgrounds. This implies that there is a need for appropriate interventions to bring desired changes in the quality of education (at preschool) as measured by the status of learning in the domains of the program. In general, the impacts of the input and process problems indicated in the above studies show a correlation with the status of learning in the ECCEs in Ethiopia. Though studies that directly measure learning outcomes at this level are rare, the lessons from the available ones are consistent in their implication towards quality of EYE.

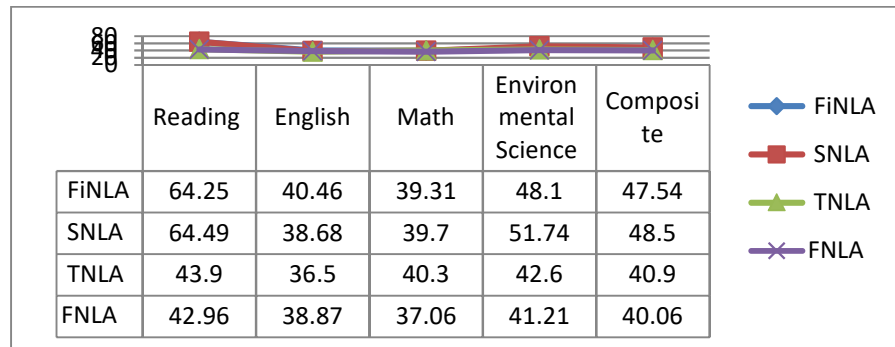
Apart from the direct measures of learning outcomes, there are studies (though not very systematic and common) that indicate predictive values of KG program to lower primary education - an indirect measure of quality. Ethiopia EGRA 2010, for example, analyzed the

relationship between attendance in KG/preschool and ERGA results at grades 2 and 3 (RTI, 2010). This student level factor supported the policy assumption that KG experience enhances student learning readiness and stimulation at the early grades of primary.

Research findings on quality of early grade education in Ethiopia

Studies on students' achievements in Ethiopia in general can be treated in three categories. First, in the studies of scholars like Tilaye and Bedru (2006), Tamirie (2006; 2009), Muluemebeat (2007), Tatek (2007; 2008), Poluha (2004) and Camfield (2011) the focus appeared to be on the determinants of learning such as domicile, gender, and socio-economic status at different levels of the education system. Thus, they were mainly guided by the principle of comparison than status description (Abraha, 2015).

Around 2000, Ethiopia started the four year cyclic learning assessment scheme at grades 4 and 8 and reports were produced by the Federal Ministry of Education (Ethiopia) in 2000, 2004, 2008, and 2013. In all the cases, over 10,000 randomly selected grade four students were included in the national sample sizes. Results, by subject, were as indicated in Figure 3 below.

Fig. 3: Mean scores (%) of grade four students in the 1st, 2nd, 3rd and 4th National Learning Assessments

Note: 1. FiNLA/SNLA/TNLA/FNLA stand for First/Second/Third/Four National Learning Assessment
 2. Sample sizes: - FiNLA = 10,495; SNLA =13,346; TNLA =12,220; FNLA =10,787

Figure 3 shows that the areas of assessment for quality checking at grade four were reading comprehension (in mother tongue language), English, Math, and Environmental Science. Thus, the findings indicated can be summarized as follows:

- Except for reading comprehension in mother tongue language in 2000 and 2004, and environmental science in 2008, mean scores of students in each subject area over time fell below 50% and were below the expected parameter set at policy level.
- The mean scores show a trend of decline over the years in each area of assessment and the composite mean declined from 47.54% in 2000 (FiNLA) to 40.60% in 2013 (FNLA). This seems considerable declines and requires an explanation to address the problem.
- Though we are not sure whether the assessment focused on summative evaluation of effects (from grade1 through 4) or on readiness to grade 5, results show problems in the development of learning skills (literacy and numeracy), the bases for further learning.
- The findings seem informative and realistic as the trend finally showed convergence to the same point (about 40% average score)

and it is sending the message it is time to act for impact.

While the National Learning Assessments tend to measure curriculum-based outcomes, the findings of studies guided by the principle of developmental appropriateness do not seem different. In fact, such research seems to favor assessment of reading skills and the information from other developmental areas is still thin. The first Early Grade Reading Assessment (EGRA) was conducted at Woliso area in 2009 as a measure of school effectiveness. Data were collected from 24 government and nine community schools to understand how grade 3 students were able to read in their mother tongue language (Afaan Oromo). Finding obtained from a sample size of 456 indicated that only 15% read at 40 words per minute (viewed by the researchers acceptable). On the contrary, 36% of the students could not read a single word correctly and this situation sent a signal to both MoE and USAID (DeStefano & Elaheebocus, 2009).

In 2010, a nationwide EGRA was conducted with a sample size of over 13,000 grades 2 and 3 in five languages (Tigrigna, Amharic, Afaan Oromo, Af Somali, and Siama Afu) in seven regions (Tigray, Amhara, Oromia, SNNP / Sidama zone, Harari, Benshangulgumuz,

Ethiopia Somali, and Addis Ababa). Findings were extremely frustrating for everybody-MoE/government, community / parents, academicians, practitioners, NGOs, etc. For example, there were considerable number of children who could not read a single word properly and the percentages of zero scorers in reading comprehension were alarmingly high as

indicate in Figures 4 & 5 below (RTI, 2010). Note that it is not possible to compare across language areas because of variations in script, language structure, language development, etc...

Fig. 4: Children who were unable to read a single word in their mother tongue language

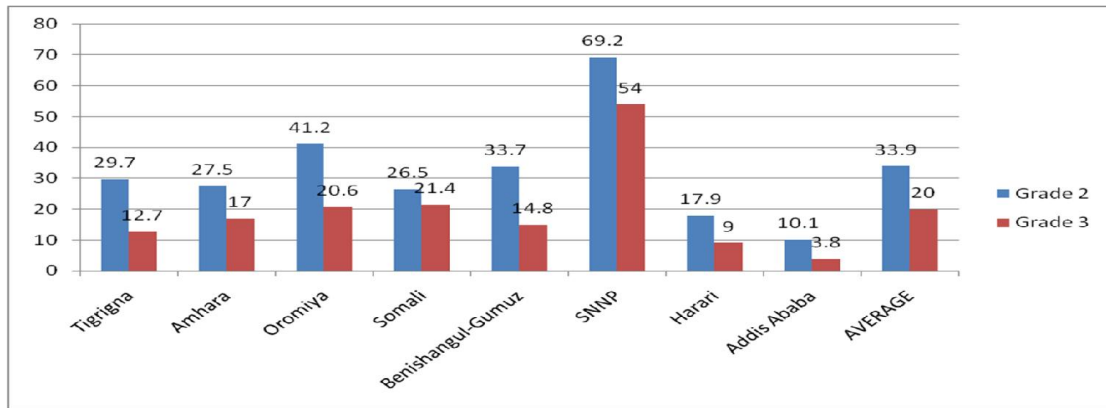
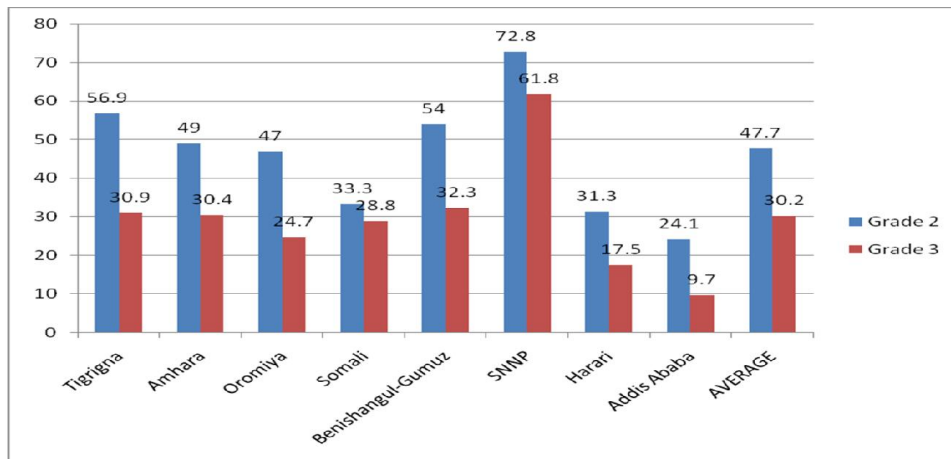


Figure 4 shows proportion of children who, after two and three years of schooling, could not read even a word correctly in their own mother tongue language. This ranges from 3.8% for grade 3 in Addis Ababa to 69.2% of grade 2 in Sidama zone. Such a limitation is critical and highly

likely to affect negatively, at least, the motivation of parents to send their children to school, the independent learning possibilities of children and reading comprehension competencies in schools.

Fig. 5: Percentage of children who scored zero in reading comprehension



The data on Figure 5 indicated higher proportions of low scorers in reading comprehension in each of the languages and regions. This is expected as word reading is the prerequisite of comprehension. If we fail to read passages, it is obvious that we cannot provide appropriate answers to questions from the passage. Both speed and accuracy elements affect the achievement scores not only because students will not finish the test in the given time but also conceptualization of passage reading depends on time span and accurate reading of the words to understand their meaning. If such a problem continues, students' ability to study other subjects such as environmental science will also be affected. Thus, reading problem is a learning problem and hence a determinant of quality.

Abraha (2015) also conducted a regional study in Early Grade Mathematics Competence (EGMC) as a measure of quality. The data collection instrument included subtests including oral counting, number identification, one-to-one correspondence, cardinality, quantity discrimination, missing numbers, and addition and subtraction. The study cover randomly selected 840 ~~graces~~ grades 1 and 2 students from 21 primary schools. Findings showed that the overall average achievement fell at about 38%. Zero scorers in the subtests ranged from 8% to 33% though improvements were observed as a result of increase in grade level.

Since the distribution of such evidence, interventions have been taking place, most commonly in reading but limited in numeracy, by MoE and NGOs to redress the problem. The notable one from the Federal Ministry of Education side, with funding from USAID, is the improvement of the national mother tongue curriculum, development of improved textbooks in seven languages,⁷ and upgrading of teachers

for effective implementation. However, it is too early to discuss on the intervention outcomes.

NGO led intervention schemes are also designed and taking place in many corners nations of the nation. Though some evaluation reports indicate marginal improvements (IQPEP, 2013; Save the Children, 2015; 2015b), there is no breakthrough solution is not yet achieved in early years of education in general and in the focus areas (reading and numeracy). This might be partly because we seemed focusing on problems rather than on root causes and solutions.

Concluding Remarks

From the findings in this study, the following major concluding remarks are identified:

1. ECCE in Ethiopia is at its infancy stage from the point of view of policy implementation, infrastructure development and academic organization. It has been dominated by the private sector and many of the centers (KGs) were likely run in a business model. This situation has limited its scope to urban areas and the system wide experience in this regard is limited. Hence, the quality related investment seemed challenged to get enough attention because of the expansion investments.
2. There are many forms of the ECE - KG/ preschool, O class, Child-to-Child, and so on. Each of these programs has different operational duration and setting. 'O' class is for one year and is in the compound the primary schools to increase readiness; KGs/preschools operate mainly in rural areas and the duration is, on average, three years; Child-to-Child is a kind of non-formal program. Thus, it seems difficult to make conclusions about quality of education of the sub-program.

⁷ The seven languages are Tigrigna, Amharic, Afaan Oromo, Af Somal, Sidamu Afoo, Hadiyyisa, Wolayttatto,

3. Despite variations in models, available literature indicates that interventions improve quality of preschool education.
4. Assessment results (with from the curriculum-based perspective or developmental appropriateness) found to be consistent in indicating that students' performances at grades 1-4 are below expectations. In this regard, it is possible to conclude that quality of education at the early grades is limited to the extent failing to identify letters, words, and numbers. In other words, both mastery of grade level learning competencies and level of readiness for upper grades are challenged.

Implications and Way Forward

From the analysis of the data from documents and findings identified, the following implications and action points are forwarded:

1. Research in EYE in Ethiopia suggests that quality is low. So far we are well informed about the problem but not about the causes and workable solutions. Why student performances in reading, science or any area of learning are low? What is/are the appropriate solution (s)? Such questions remain unanswered. It seems time to design experimental studies on the causes and solutions to come up with workable solutions. Even current intervention schemes implemented are not tested but guided by logical consequences of the problems observed. Hence, it seems time for professionals, NGOs, MoE and other stakeholders to collaborate and redirect efforts to bring solutions.
2. There are different models for ECE in Ethiopia in which KG, 'O' class and Child to Child are the typical ones. Each could serve its own purpose for the time being. However, there should be context related comparative studies on their effectiveness to shape policy and practice in the future for there are subtle issues that require appropriate decision. The system of assigning students to coach others in the Child to Child model, for example, may raise a question of inequality in the system.
3. The developmentally appropriate research models are guided by lessons from developed world. For example, there are variations in achievements as quality indicators in EGRA results across the languages. We need to question the low, medium and high benchmarks that may depend on language structure and cultural issues rather than only on brain functions (working memory theory).
4. The practice of learning assessment is good and is bringing relevant system information on student learning. However, there is no clarity in the reports how indicators of mastery of past experiences (curriculum objectives) and readiness for next curricular expectations are integrated for purpose.
5. Researches in Ethiopia are one time activities and do not have continuity on the basis of developing lasting solutions. Thus, it seems time to shift from project approach to strategic system perspective to see the bigger picture and ensure long lasting solutions to educational priority issues. This requires strategic thinking from policy makers and collaborative approach from other stakeholders of the education system.

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