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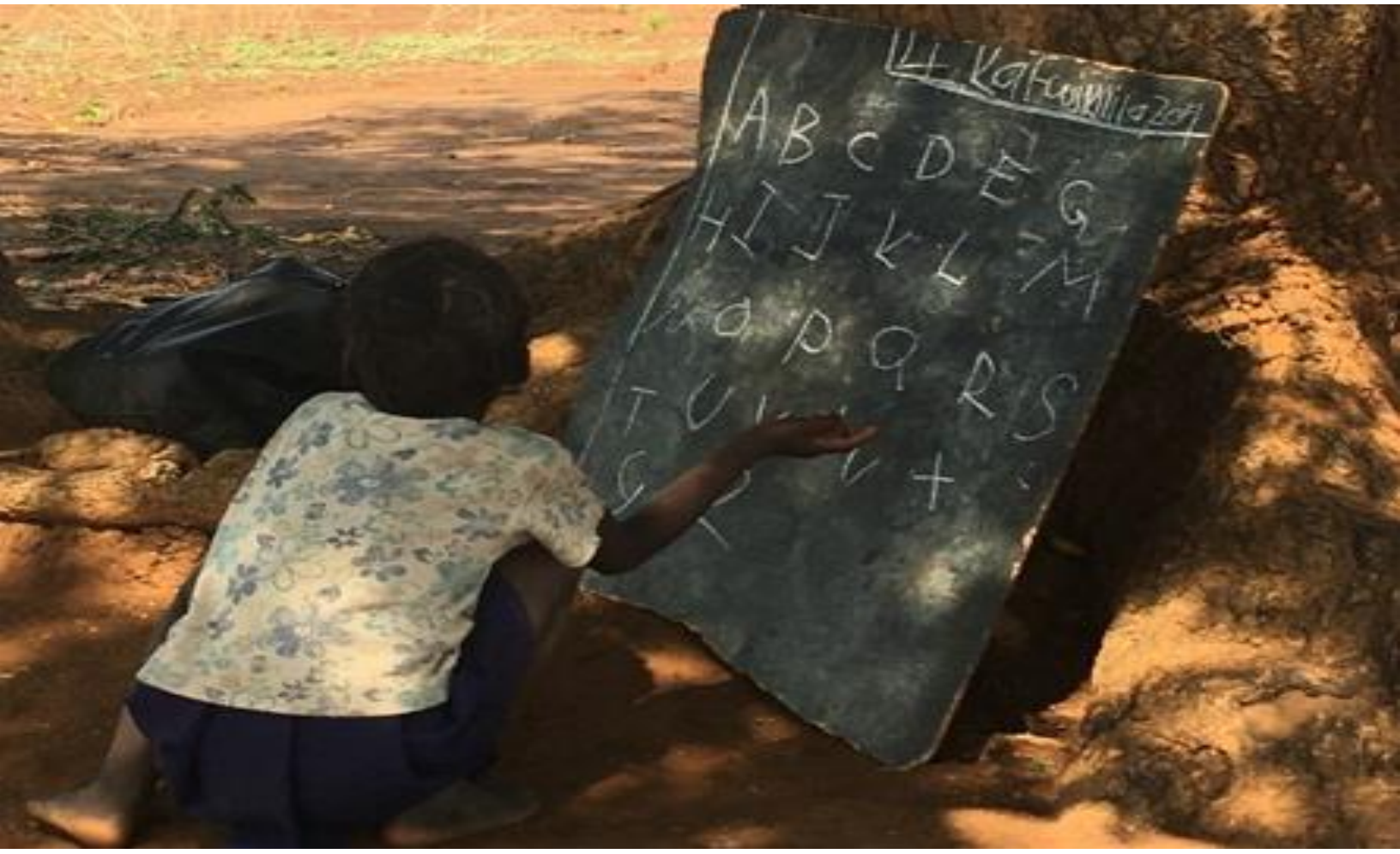

LEARNER PRACTING THE ALPHABET, EDUCATION DATA ACTIVITY, PHOTO TAKEN WITH CONSENT

USAID EDUCATION DATA ACTIVITY
EARLY CHILDHOOD EDUCATION RESEARCH STUDY

2020 Baseline Report

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents are the sole responsibility of DevTech and its partner Management Systems International and do not necessarily reflect the views of USAID or the United States Government.

USAID EDUCATION DATA ACTIVITY

EARLY CHILDHOOD EDUCATION RESEARCH STUDY

2020 Baseline Report

September 2020

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ACKNOWLEDGEMENTS

DevTech and its partner the University of Zambia Centre for Promotion of Literacy in Sub-Saharan Africa (CAPOLSA) wish to acknowledge partnership support from the United States Agency for International Development (USAID), the Government of the Republic of Zambia (GRZ) through its Ministry of General Education (MoGE), Curriculum Development Centre (CDC), Directorate for Early Childhood Education, and the Examinations Council of Zambia (ECZ).

Many departments and staff from the MoGE and the ECZ also made important contributions to the development and implementation of this study and helped ensure that the instruments and methodologies were appropriately aligned to the Zambian context. Most importantly, this work could not have succeeded without the cooperation and contributions of the ECE Directorate, Provincial Education Officers, District Education Board officers, head teachers, teachers, learners, and communities included in the study, who, for obvious reasons, must remain anonymous.

USAID funded the Early Childhood Education Research Study under a contract issued through an Advancing Basic Education: All Children Reading (ABE ACR) indefinite delivery, indefinite quantity (IDIQ) task order, Data Collection Services for the USAID/Zambia, Contract No. 72061118C00005, under IDIQ AID-OAA-I-14-00057-ABE ACR.

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ACRONYMS

CAPOLSA	Centre for Promotion of Literacy in Sub-Saharan Africa
DO	Development Objective
ECE	Early Childhood Education
ECZ	Examinations Council of Zambia
EDC	Education Development Center
EGR	Early Grade Reading
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
GRZ	Government of the Republic of Zambia
IDELA	International Development and Early Learning Assessment
IRB	Institutional Review Board
IRR	Inter-Rater Reliability
LoI	Language of Instruction
MELE	Measuring Early Learning Environment
MoGE	Ministry of General Education
MSI	Management Systems International
OLS	Ordinary Least Squares
ORF	Oral Reading Fluency
QCO	Quality Control Officer
RTS	Read to Succeed
TTL	Time to Learn
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Following a national decree, the Government of the Republic Zambia began enrolling early childhood education learners within primary schools starting in 2014. Government run primary schools were instructed to create early childhood education centers within the existing infrastructure. However, early childhood education enrollment rates remain low with only 26.1 percent of grade 1 entrants nation-wide having participated in pre-school programming in 2017 (Ministry of General Education, 2017). In addition, major challenges in learning outcomes within the primary grades persist, especially in relation to literacy rates. The USAID Education Data activity's Baseline Early Grade Reading Assessment (EGRA) in Five Target Provinces, conducted in 2018, found that only 10.2 percent of Grade 2 learners were able to read fluently and comprehend a grade level text (USAID Education Data activity, 2019). Foundational learning begins in early childhood, and high-quality ECE programming has been found to have positive effects on subsequent learning outcomes (Yoshikawa & Kabay 2015; Weatherholt et al., 2018).

This report provides results from the 2018 Baseline Early Childhood Education (ECE) Research Study, which establishes a baseline level from which changes in ECE learners' performance in domains of early learning skills and teachers' pedagogies can be tracked over time. Specifically, this 2018 Baseline ECE Research Study intends to address the following questions:

1. What are the baseline levels of cognitive, pre-mathematics and pre-literacy, social and emotional and language measures of learners who have just entered ECE?

2. What differences in cognitive, pre-mathematics, pre-literacy, social and emotional skills, if any, can be observed between Grade 1 learners who attended ECE the year before and those that did not?

3. How are ECE teachers teaching the ECE curriculum to ECE learners? What pedagogies do they employ?

4. How is the ECE classroom and school environment set up for ECE learners?

5. What materials are available and used by ECE teachers to teach the ECE curriculum?

Under the USAID Education Data Activity, DevTech Systems, Inc., conducted the Baseline ECE research Study in partnership with the University of Zambia's Center for the Advancement of Literacy in Sub-Saharan Africa (CAPOLSA). Baseline data collection occurred in 52 government-run primary schools with active ECE classrooms between February 12 and March 13, 2020.

METHODOLOGY

A purposeful sample of fifty-two (52) government-run schools from Eastern and Western provinces were selected for inclusion in the ECE research study. The list of 816 sampled schools from the Baseline EGRA in Five Target Provinces conducted in November 2018 served as the sampling frame for this research study because it provided verifiable data on which schools had active ECE classrooms as well as the proportion of Grade 2 learners who reported attending ECE and those that did not. In order to select the purposeful sample, USAID Education Data activity followed the following steps:

1. Two provinces, Eastern and Western, out of the five target provinces of Let's Read (Eastern, Muchinga, North-Western, Southern and Western) were randomly selected for inclusion.
2. Apply selection parameter – to select GRZ schools with an active ECE classroom that met a threshold distribution in ECE/no ECE participation.[1]
3. At the school level, data collection teams randomly selected with equal representation of boys and girls up to; (1) up to 10 ECE learners; (2) up to 6 Grade 1 learners who attended ECE during the previous year in 2019 and; (3) up to 6 Grade 1 learners who did not attend ECE[2]. In addition, data collection teams observed one ECE classroom and teacher in each of the selected schools.

Based on the sampling methodology, the ECE Research Study sample included a total of 52 Government of the Republic of Zambia (GRZ)-run schools, 27 drawn from Eastern Province and 25 drawn from Western province. All schools had an active ECE classroom at the time of baseline data collection. The team randomly selected 511 ECE learners (51.1 percent girls and 48.9 percent boys), 582 Grade 1 learners, (50 percent girls and 50 percent boys), 317 who had participated in ECE and 265 who had not participated in ECE. The sampled also included an ECE classroom observation from 50 of the 52 sampled schools.[3]

BASELINE ECE SAMPLE. A total of 1,093 ECE and Grade 1 learners (50.5 percent girls; 49.5 percent boys) from 52 government-run primary schools in Eastern and Western provinces were assessed at baseline. In addition, assessors conducted classroom observations of 50 ECE teachers and also administered a teacher questionnaire.

The Early Childhood Education Study collected data using two different tools adapted to Zambia: (1) Measurement of Early Learning Environment Module (MELE) to conduct classroom observations of ECE teachers and to assess the classroom environment; and (2) Save the Children's International Development and Early Learning Assessment (IDELA) tool adapted by Right to Care Zambia to assess ECE learners' motor development, emergent literacy, emergent math, executive function and their social and emotional skills. Learners either took the IDELA in Cinyanja if drawn from Eastern province or Silozi if they were drawn from Western province. Assessors also administered a learner and teacher questionnaire to establish teacher characteristics and learner demographics in the sampled schools.

KEY FINDINGS

The average age of learners across the sample was 6.0 years for ECE and 7.6 for first grade, which falls within the acceptable age range for ECE and first grade learners, respectively. However, 30 percent of ECE students were over-age; for first grade this percentage is reduced to 20 percent, but there is another 19 percent that is below the recommended age of 7 years. At baseline, 83 percent of learners in Eastern province speak the same language of instruction at home as they receive at school, while in Western

[1] To mitigate the influence of spurious variables, Education Data Activity sought to draw a sample of Grade 1 learners who had and had not attended ECE from within the same schools. As a result, schools where almost all Grade 1 learners attended ECE, and schools where almost Grade 1 learners did not attend ECE were excluded from the sampling frame.

[2] Some schools were very small and therefore did not have the number of learners we intended to assess. The final number was determined upon arrival at each of the sampled schools when school enrollment was verified.

[3] Classroom observations were not conducted in the remaining two schools due to teachers being on leave or absent on the day of the assessment.

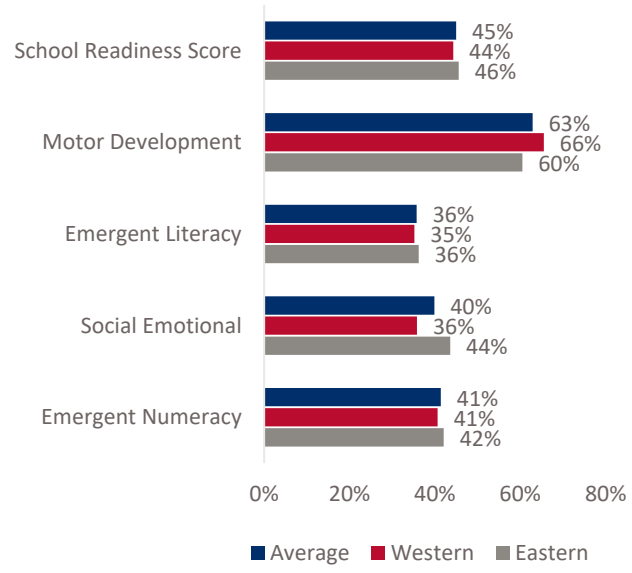
province, this drops to 66 percent, indicating a sizeable population of second language learners in the sample.

ECE programs have an average enrollment of 41 learners per school, most of which are in the same classroom. ECE classrooms tend to be overcrowded. Among sampled schools, 68 percent of classrooms had 31 or more learners enrolled, and 32 percent had more than 50 learners, which is well over the MoGE ECE Standard Guidelines recommendations of 25 - 30 ECE learners per class. Attendance, however, was low across both boys and girls and provinces, with a little more than one in three enrolled learners (36 percent) not in attendance on the day of the assessment. The average age of the teachers assessed is 32.6 years, with a minimum age of 21 and a maximum of 59. Most ECE teachers appear to be new to the profession, with 46 percent of teachers reporting that they had three years or less of experience and many have been re-assigned from other primary grades to teach ECE.

BASELINE PERFORMANCE OF ECE LEARNERS

School readiness levels are calculated as the average score on the IDELA tool, represented as a percentage and inclusive of all four domains: emergent numeracy, emergent literacy, social and emotional skills, and motor development. Overall, ECE learners scored 45 percent at baseline, with no statistically significant differences based on learner sex or province. ECE learners in the Eastern province scored slightly better than those in Western province, with an average score of 46 percent to 44 percent, respectively. However, the difference was not statistically significant. Overall, ECE learners tended to perform best in the motor development domain (63 percent), in comparison to the emergent numeracy (41 percent), social and emotional skills (40 percent), and emergent literacy domains (36 percent). In Zambia, ECE learners may walk long distances to attend school, help at home with household chores, and play within diverse terrains in the community. As such, ECE learners may arrive at school with more advanced fine and gross motor development skills, in contrast to the other domains of early childhood development. While scores in the emergent numeracy, emergent literacy, and social and emotional skills may be lower than motor development scores, the results highlight that, when ECE learners enter school at the beginning of the year, they have some prior learning in all domains.

FIGURE 1. BASELINE SCORES OF ENTRANTS TO ECE



ECE learners scored 41 percent across all emergent numeracy subtasks at baseline. However, they demonstrated stronger skills in comparing objects by size and length, with an average score of 91 percent, in comparison to number sense (20 percent), sorting and classifying (32 percent), and shape identification (38 percent). ECE learners scored the lowest in the puzzle completion task, with an average score of 8 percent, which may be a result of a lack of exposure to puzzles at home prior to ECE. ECE Learners performed better on subtraction, with an average score of 82 percent, in comparison to items assessing their addition

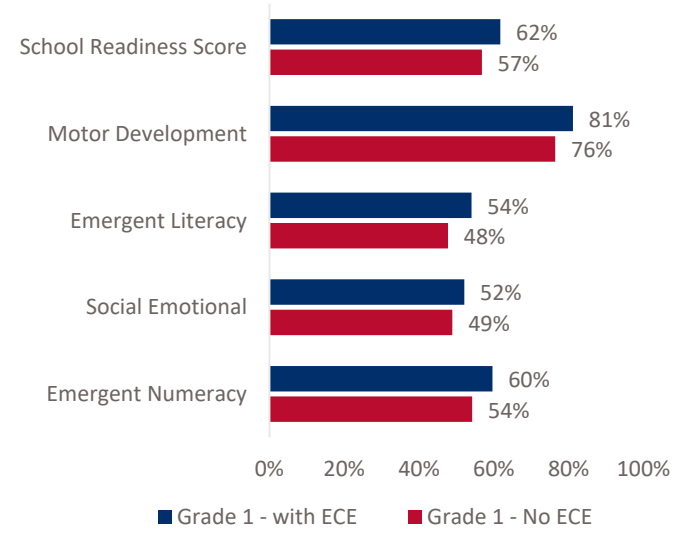
skills (average score of 32 percent) and counting skills (average score of 62 percent).

At baseline, the average score in emergent literacy skills among ECE learners was 36 percent. Phonemic awareness and letter identification were the most difficult sub-tasks, with only 19 percent and 6 percent correct, respectively. Girls on average scored one percentage point higher than boys, and learners in Eastern province also on average scored one percentage point higher than learners in Western province. There are statistically significant differences in performance in the emergent literacy tasks between sampled learners from Eastern and Western provinces, with ECE learners sampled from Eastern provinces on average performing better in most subtasks. For example, ECE learners from Eastern province scored 42 percent on the expressive vocabulary task, in comparison to an average score of 32 percent for learners sampled from Western province; results are statistically significant at the 1 percent level.

Finally, ECE learners scored 40 percent correct on the social-emotional sub-task, and 63 percent on average for the motor development skills. The learners obtained good results in the personal awareness sub-task, with an average score of 67 percent correct. However, learners obtained the lowest results in the emotional awareness and the empathy items within the perspective taking subtasks, with an average score of 26 percent on each sub-task. In motor development, learners performed better in the gross motor subtask (hopping) in comparison to the fine motor skills subtasks.

PERFORMANCE BY GRADE 1 LEARNER BY PARTICIPATION IN ECE PROGRAM

FIGURE 2. SCHOOL READINESS SKILLS OF GRADE ONE LEARNERS BY ECE PARTICIPATION



Grade 1 school readiness score was 59.5 percent; grade 1 learners without ECE scored 57 percent, and Grade 1 learners with ECE, scored 62 percent. Figure 2 shows the average scores for each of the IDELA domains disaggregated by ECE participation, and the results show a 6 percentage point difference based on ECE participation for the emergent literacy and emergent numeracy domains, a 5 percentage point difference for motor development, and a 3 percentage point difference for social and emotional skills. The mean differences are statistically significant at the 1 percent for the emergent literacy, emergent numeracy and motor development domains, and at the 5 percent for the social-emotional domain. These results indicate that ECE programming among sampled schools contributes to skills development across all domains as measured by the IDELA tool.

Similar to the trends observed among ECE learners, Grade 1 learners with and without ECE performed best on the motor development subtask in comparison to the other domains. After motor development, Grade 1 learners performed best on the emergent numeracy domain, scoring an average of 60 percent with ECE participation and 54 percent without it. Grade 1 learners on average scored lowest in the emergent literacy domain. While Grade 1 learners performed at least 9 percentage points higher in each

domain in comparison to ECE learners at baseline, the results suggest there is room for substantial improvement, especially in letter identification, phonemic awareness and oral comprehension subtasks to support learners' successful transition to the primary grades.

ECE TEACHER PEDAGOGIES

Educating young learners is best accomplished through children-centered, play-based activities in which teachers help learners develop school readiness skills. The MoGE ECE Syllabi advocates that a child-centered approach should be utilized at this level but provides minimal guidance on what specific pedagogies should be used to implement each aspect of the curriculum. Instead, general methods are suggested that can be applied across the entire curriculum. The team observed and analyzed nine elements of play-based pedagogies to rate classrooms on the MELE quality scale, which is as follows: (1) not taught, (2) basic with repetition only, (3) intermediate (one element of play-based pedagogy), and (4) sophisticated (two or more elements of play-based pedagogy). Table 1 presents the distribution of classrooms within each level of the MELE quality scale.

TABLE 1. LEARNING ACTIVITIES TO PROMOTE PLAY-BASED PEDAGOGY

LEARNING ACTIVITIES	NOT TAUGHT	BASIC WITH REPETITION ONLY	INTERMEDIATE[4]	SOPHISTICATED
Learning opportunities to support the development of mathematics skills	20%	44%	28%	8%
Learning opportunities to promote literacy skills	14%	50%	24%	12%
Learning opportunities to develop expressive language skills	10%	50%	30%	10%
Teacher reads age-appropriate storybook with text and pictures to support listening and speaking skills	98%	0%	0%	2%
Teacher tells children an oral story	74%	4%	12%	10%
Learning opportunities to promote fine motor skills	4%	60%	22%	14%
Learning activities that promote free play or open choice	48%	14%	24%	14%
Learning opportunities that allow children to engage in music/movement activities	8%	64%	24%	4%
Learning opportunities that allow children to engage in gross motor activities	10%	26%	22%	42%
Average	**32%**	**35%**	**21%**	**13%**

In most of the fields analyzed, the observed teachers are primarily using repetition to teach ECE learning (35 percent of cases on average), or learning pedagogies were simply not observed (32 percent of cases

[4] ECE teachers rated as intermediate were observed using one element of play-based pedagogy and those that were rated as sophisticated used two or more elements of play-based pedagogy.

on average). In other cases, teachers are using play-based approaches ineffectively. The results disaggregated by province seem to suggest that Western province teachers tend to use slightly more elements of play-based learning in the development of classes. This may be because enrollment is lower among sampled schools in Western Province, with an average class size of 35.8 learners in comparison to 41.4 learners in Eastern provinces, which may allow teachers to implement play-based pedagogies more easily. In addition, observed teachers in Western Province have more overall years of experience teaching ECE with an average of 3.95 years in comparison to 2.68 years among observed teachers in Eastern province. More experienced teachers may have stronger classroom management skills to enable them to use diverse pedagogies in the classroom. Despite these differences, the results are not reflected in the performance of ECE learners on the School Readiness Score. This may be because learners were entering the school year when the data for this study was collected, and overall teaching strategies do not consistently explain learner outcomes at this time of the school year. Rather, individual learner outcomes seemed to be more influenced by the learner's context. These results indicate that there is ample room for improvement in the way that ECE teachers include elements of play-based learning in their pedagogical approach.

ECE LEARNING ENVIRONOMENT AND ACCESS TO TEACHING AND LEARNING MATERIALS

The team observed the conditions of the classroom, such as space, classroom furniture, access and use of materials, among other factors, all of which are essential for learning. In 24 percent of the observed classrooms, there were learners who did not have their own materials to write on, in 50 percent of the cases, there were learners who did not have access to a surface on which to write, like a table or desk. In 30 percent of classrooms observed, the classroom space was inadequate for all attending children to do all indoor activities. This does not necessarily indicate that the classroom space was too small but is linked to the high concentration of learners enrolled in ECE, considering that the average attendance is around 65 percent of enrollment which equates to 25 learners out of the 39 enrolled.). In 13 percent of the classrooms observed, the lessons were developed outside, without having an adequate cover for protection, such as a roof or enclosure. These are factors that, in general, are beyond the teacher's control and depend on the provision of resources by the Government since greater investment in physical infrastructure is required for all learners to have an appropriate place to learn. Investments by the MoGE and other donors are needed to support the purchasing of the necessary play equipment at school. In 42 percent of observed ECE centers, there was not enough space and equipment for gross motor activities (such as see-saws, ladders, swings, etc.).

In 84 percent of classrooms observed, children did not have access to materials organized into learning corners, 80 percent of ECE centers did not have any storybooks in the local language, and 90 percent of school did not have any storybooks at all. A general need identified throughout the teacher and classroom observation process is that ECE centers lack the didactic and complementary materials necessary to facilitate the teaching-learning process, especially in pre-primary. To counteract the lack of materials, most teachers (88 percent) produce local materials, pictures, or additional visuals to support the teaching and learning process.

FACTORS ASSOCIATED WITH SCHOOL READINESS

In order to better understand how individual ECE learner characteristics and the ECE teacher characteristics and pedagogies relate to school readiness scores, the Education Data team analyzed plausible factors drawn from the learner questionnaires to determine whether they could predict overall

school readiness scores assessed using the IDELA tools. Using Ordinary Least Squares (OLS) regression models and including ECE learners across both languages, the analysis found nine factors that are significant in predicting school readiness scores[5]. Some of the most relevant factors are described below:

Learners that are **learning in their mother tongue**, that is, learners that receive instruction in the same language that they speak at home with their parents demonstrated an overall 6.5 percent higher IDELA score than those that speak different language at home. This finding has been contrasted in various studies in the educational field, and the early results found in ECE show that the MoGE should continue to direct resources and training to prepare teachers adequately to provide mother tongue instruction.

Children who **have someone in the home who reads story books** to them perform up to 4 percent higher than those who have no one read to them. However, only 47 percent of the learners surveyed reported that someone reads to them at home, either occasionally or very often. The rest indicated that no one reads to them. Teachers' perceptions are that there is a low level of parental involvement; thus, it is appropriate to identify strategies to sensitize parents so that they become more involved in and can help reinforce their children's skills development at home.

The **age** of the learner is also a significant predictor. At an older age, learners have developed other skills that contribute towards the IDELA sub-constructs. Holding everything else constant, an ECE learner will have an IDELA score up to 5 percent higher than one that is one year younger. The classroom characteristics may suggest that most parents are waiting until their child is at least 5 or 6 years old to send them to ECE. At that age, students will have developed more motor and social-emotional skills at home than those who are younger.

Learners whose **teacher provide learning opportunities to develop expressive language skills or activities that promote free play or open choice** perform better. A positive change equivalent to one standard deviation in the opportunities that teachers provide in these fields will improve IDELA results by about 3 percent. The fact that early in the ECE school year these factors have positive results reinforces the need to strengthen these pedagogical strategies. The fact that ECE teachers don't have the necessary training or have very little experience teaching pre-primary, emphasizes the need to provide specialized training to support them on how to implement these approaches effectively.

[5] Ordinary Least Squares (OLS) regression is a predictive statistical technique in which a straight line is used to estimate the relationship between variables. Linear regressions typically try to examine whether: (1) a set of predictor variables do a good job in predicting an outcome (for example, school readiness skills) variable? and (2) which variables in particular are significant predictors of the outcome variable, and in what way do they–indicated by the magnitude and sign of the estimates–impact the outcome variable? The resulting estimates are used to explain the relationship between one dependent variable and one or more independent variables. For this study, the OLS regression enabled us to estimate what effect a set of variables have on ECE learners' overall school readiness score ,which was the dependent variable in our model. The resulting estimates indicate, keeping everything else constant, to what extent a change in each of the variables affects learners' overall school readiness score.

CONCLUSIONS

At Baseline, learners enter into ECE with some pre-existing school readiness skills, however, there is significant room for improvement in the areas of emergent numeracy and emergent literacy. ECE learners on average scored 41 percent on emergent numeracy, but learners scored 8 percent on the puzzle completion task and 20 percent on the number identification subtask highlighting their existing strengths and areas of focus for ECE programming. In emergent literacy, ECE learners on average scored 36 percent across subtasks, but the average score was 7 percent on letter identification, which equates to being able to correctly identify less than 2 letters out of the 20 presented to them. In addition, ECE learners on average were able to answer slightly more than 2 out of 5 oral comprehension questions presented to them, and slightly less than 4 words per scenario on the vocabulary subtask.

ECE programming in the sampled schools positively contribute to learners' skills development. There are statistically significant differences in performance among ECE learners at baseline (average score of 45 percent), Grade 1 without ECE participation (average score of 57 percent) and Grade 1 learners with ECE participation (average score of 62 percent). These results indicate that ECE programming in the sampled schools positively contributes to the development of learners' overall school readiness skills and their skills in each of the four domains assessed by the IDELA.

Grade 1 learners who have participated in ECE still exhibit low skills in letter identification, phonemic awareness and oral comprehension. On letter identification the average score was 26 percent equating to slightly more than 5 out of the 20 letters presented to them, despite the fact that all the letters are expected to be taught in accordance with the ECE syllabi. On phonemic awareness, on average learners were able to correctly identify 38 percent of initial sounds, which is slightly more than one out of the three test items. Finally, grade 1 learners with ECE on average scored 61 percent or approximately could answer 3 out of the 5 comprehension questions asked of them on the oral comprehension subtask. Grade 1 learners without ECE on average scored 60 percent, suggesting that ECE programming may not sufficiently dedicate enough time to developing these key listening comprehension skills with learners.

Second language learners perform worse than those that learn in a language they speak at home. At baseline, ECE learners who spoke the language of instruction (LoI) at home, on average scored 8.6 percent points higher than learners who did not speak the LoI at home. Within the sample, 17 percent of learners in Eastern province and 34 percent of learners from Western province are learning in a second language. The results corroborates the global evidence of the importance of mother tongue instruction as it contributes to early learning outcomes. In addition, it highlights the need for differentiated support for second language learners to enable them to acquire the vocabulary and oral language skills necessary to benefit equally from ECE instruction.

At Baseline, a third of ECE classrooms are significantly overcrowded and learner attendance is low. The MoGE ECE Standard Guidelines outline that there should be between 25 - 30 learners at the reception age within the classroom. However, in 68 percent of ECE classrooms observed, there were more than 31 learners enrolled and in 32 percent of classrooms, more than 50 learners were enrolled. With large class sizes, ECE teachers may struggle to implement play-based pedagogies, flexible grouping for activities and may not be able to provide the individualized attention that support learning outcomes. At the same time, on the day the classroom was observed there was an average attendance of 64 percent

of learners compared to the number enrolled. With low and inconsistent attendance, ECE learners will not fully benefit from ECE instruction and learning outcomes will be negatively affected.

More than half of all ECE teachers primarily use repetition to provide instruction to ECE learners. Across all domains, in over 60 percent of classrooms, ECE teachers either did not provide opportunities within that subject area or used repetition methods only. In pre-mathematics, 20 percent of ECE teachers did not provide any instruction in this subject, and 44 percent provided instruction using primarily repetition only. Similarly, 14 percent of teachers did not provide literacy instruction on the day the classroom was observed, and an additional 50 percent only utilized repetition based-methodologies.

Very few ECE teachers provide opportunities for learners to develop their expressive language and listening skills. Assessors observed that in 10 percent of ECE classrooms no opportunities for expressive language occurred and in an additional 50 percent only repetition-based methodologies were used. In 98 percent of ECE classrooms observed no opportunities for listening skills development occurred and in 74 percent of observed classrooms no opportunities for oral storytelling occurred. However, an increase in 1 standard deviation in the provision of instructional opportunities to develop these skills contributed a 2.8 percent increase in the school readiness score, according to the OLS model demonstrating the importance of these opportunities for learners' skills development.

At Baseline, there are insufficient reading and other play materials to support the implementation of play-based pedagogies. While 88 percent of teachers use their own materials and visuals to support learning, demonstrating their resourcefulness and awareness of the importance of these materials for learning, the majority of the ECE classrooms observed lack basic materials to support play-based instruction. For example, in 90 percent of the ECE classrooms observed, no storybooks were available, in 60 percent of classrooms there were no education toys or math materials, and in 72 percent of classrooms, there was no fantasy or pretend corner. Lastly, 42 percent of school premises don't have adequate space for play or adequate equipment Opportunities for free play and choice are predictive of learners' school readiness skills, therefore it is important that ECE classrooms are equipped with the materials to facilitate these opportunities.

RECOMMENDATIONS FOR THE MOGE

Gradually expand access to ECE programming to reduce any adverse effects on instructional quality. Evidence suggests that ECE programming positively contributes to learners' skills development, however participation in Zambia remains low at 26.1 percent. Therefore, it is important that access is expanded to ensure all learners have the opportunity to develop these skills to support their successful transition to the primary grades. However, most ECE classrooms within the sample are already overcrowded with an average of 41 learners. Thus, it is recommended that efforts to increase access such as raising parental awareness of the positive contributions of ECE are coupled with increased investment to build additional classrooms and hire sufficient ECE teachers to ensure classrooms do not continue to increase in size. In the long-term this can be achieved through advocacy efforts with the Ministry of Finance, private sector partners and international donors to make the case for increased investment in ECE programming and infrastructure. Without which, individual societal gains from investments in primary and secondary education may not be fully realized. At the same time, in the short-term, the MoGE should engage parents and local communities through Parent Teacher Associations and private sector partners to support the building of additional classroom space and to encourage parents to serve as volunteers to

help implement play-based pedagogies in large classrooms. A gradual and scaffolded approach is important to help ensure that both increases in access and improvements in quality are achieved.

Develop quantifiable localized benchmarks and formative assessments to measure ECE learners' skills progression throughout the year. Currently, there are no established benchmarks for ECE skills, and no formative assessments embedded in the ECE Syllabi. Formative assessments and benchmarks are essential at multiple levels within education systems, including to: (1) enable teachers to monitor individual learners' progress, identify areas for remediation and in general support the use of data to inform instruction; (2) support headteachers and in-service school coordinators to identify teachers who may need additional coaching and mentoring support and; (3) support the MoGE to develop data-driven plans to scale up ECE programming and target resources where they are needed most. The MoGE ECE Standard Guidelines, developed by the Early Childhood Education Unit in 2015, do set some qualitative standards for the ECE environment; however, there is little guidance on instructional practices nor established expectations for learners' skill progression (MoGE, 2015). Therefore, it is recommended that the MoGE develop quantifiable benchmarks with aligned formative assessments to enable stakeholders to track learners' skill development throughout ECE programming.

Collaborate with the Let's Read project to institutionalize its play-based ECE teacher training program into pre-service teacher training systems. Currently, more than two-thirds of ECE teachers included in the sample have less than three years of experience in ECE and most were transferred from another primary grade level. The MELE results indicated that most ECE teachers implement repetition rather than play-based methodologies to provide instruction across the subject areas, which are not age appropriate for ECE learners. The Let's Read project has developed ECE specific training and materials to support implementation of play-based pedagogies. Therefore, it is recommended that the MoGE work in collaboration with the Let's Read project to integrate these training modules into existing pre-service teacher training systems to establish a robust pipeline of trained ECE teachers to match with current and future vacant positions.

Align the Language and Literacy component of the ECE Syllabi with the National Literacy Framework. Currently, the MoGE ECE Syllabi has the same scope and sequence across all seven languages of instruction. However, the frequency and difficulty of individual letter sounds differs by language, warranting a language-specific scope and sequence to scaffold instruction appropriately. The National Literacy Framework, developed by the MoGE - Curriculum Development Center in 2013, establishes guidelines for teaching literacy in Zambia for grades 1 – 7. It includes a language-specific scope and sequence the teaching of letter sounds that takes into account the linguistic differences among Zambia languages. Therefore, it is recommended that the MoGE align the Language and Literacy component within the ECE Syllabi with the scope and sequence and methodologies outlined within the National Literacy Framework to provide language-specific instruction at the ECE level and to support the continuity in instructional practices with the primary grades.

Encourage age-appropriate enrollment of all learners in ECE and the primary grades. The ECE curriculum has been developed specifically to teach the emergent numeracy, literacy and social and emotional skills learners' ages three to six are expected to develop. However, at baseline, 19 percent of ECE learners were slightly overage and 11 percent were very overage. At the same time, 19 percent of grade 1 learners were underage. Underage grade 1 learners may benefit from being enrolled in ECE instead given the curriculum is designed to build from their existing skill levels. While, overage learners, especially those that are 8 years and older, may benefit from being enrolled alongside their same age peers coupled with remedial support to promote social and emotional well-being and to reduce drop-out.

RECOMMENDATIONS FOR THE LET'S READ PROJECT

Provide training and coaching support to ECE teachers to implement play-based methods. Evidence at baseline found that learners who had more opportunities for free play and choice scored 3.5 percent higher than those that did not. However, most ECE teachers sampled at baseline reported that they are relatively new to teaching and specifically to ECE, and 68 percent reported that they had not participated in any in-service teacher training within the previous 12 months. At the same time, most ECE teachers at baseline primarily used repetition based methodologies underscoring the need for additional training to implement play-based methods. Training should also be coupled with coaching to support teachers to put these new methods into practice.

Focus on improving learners' expressive language, oral comprehension and vocabulary skills to support second language learners. At baseline, ECE learners who spoke the LoI at home scored 6.5 percent higher than second language learners who spoke another language at home. Approximately 18 percent of sampled learners from Eastern province, and 34 percent of sampled learners from Western province are learning in a second or third language. Plenty of scaffolded opportunities to model and practice expressive language and vocabulary skills are essential among second language to ensure that they are able to understand and participate in ECE instruction. These skills are also pre-requisites for subsequent initial reading skills such as decoding, and therefore it is recommended that they are prioritized, especially in schools with a higher percentage of second language learners. Further, ECE teachers may benefit from targeted training and/or coaching support on evidence-based approaches that support second language acquisition.

Improve access to adequate and appropriate reading and play materials and their use in ECE classrooms and at home. At baseline, learners who attended a school with adequate space for play, whose teacher used local materials, pictures and visual to support instruction, and had a higher number of storybooks performed better by approximately one standard deviation or 3 percent in comparison to learners who did not. This demonstrates the importance of access to instructional materials to support learning opportunities. However, 90 percent of the ECE classrooms that were observed do not have access to storybooks and 60 percent do not have access to educational toys or math materials. Additional investment to increase access to age-appropriate storybooks and math manipulatives is highly recommended to further enable teachers to implement high-quality instruction to improve learners' skills development. In addition, learners who were read to at home scored 4 percent higher than those that did not. As a result, it is important that schools support families' access to books at home and encourage parents to read to their children often.

Collaborate with the MoGE to strengthen the ECE Syllabi and curriculum especially in the teaching of emergent literacy skills. At baseline, ECE and grade 1 learners performed poorly on the letter identification, phonemic awareness and oral comprehension subtasks. Evidence from other developing countries (Weatherholt et al., 2018; Cambridge Education, 2017) shows that strengthening the ECE curriculum and ensuring that it is implemented well can help learners develop critical emergent literacy skills that help them transition better to Grade 1 and attain reading fluency by Grade 2. As such, it is recommended that ECE syllabi and curriculum be strengthened to provide specific and detailed guidance to ECE teachers on how to explicitly teach these skills effectively. At the same time, ECE teacher training should include ample practice on how to implement the ECE Syllabi and associated curriculum documents to ensure they are implemented with fidelity.

Plan strategically for ECE teacher turnover to ensure improvements in the quality of instruction and learning outcomes are sustained. Approximately 88 percent of ECE teachers report that they are satisfied with their job. However, only 30 percent reported that they plan to continue in ECE. Given the high degree of turnover, it is critical that Let's Read plans strategically with the MoGE

on how in-service teacher training and on-going coaching and mentoring support can be sustained once the project ends to ensure that as new teachers enter the workforce or are re-assigned to teach ECE, they receive adequate support to deliver high-quality play-based instruction. Otherwise, improvements in learning outcomes will not be sustained in the long-term.

INTRODUCTION

Following a national decree, the Government of the Republic of Zambia (GRZ) began enrolling early childhood education (ECE) learners in primary schools starting in 2012. Although government-run primary schools received instruction to create ECE centers within the existing infrastructure, ECE enrollment rates remain low with only 26.1 percent of Grade 1 entrants nationwide having participated in pre-school programming in 2017 (Ministry of General Education, 2017). In addition, major challenges in learning outcomes within the primary grades persist, especially in relation to literacy rates. The 2018 Baseline Early Grade Reading Assessment (EGRA) in Five Target Provinces of Zambia, found that only 10.2 percent of Grade 2 learners could read fluently and comprehend a grade-level text (USAID Education Data Activity, 2019). Foundational learning begins in early childhood, and research has found that high-quality ECE programming has positive effects on subsequent learning outcomes (Pisani, Borisova and Dowd, 2015).

Working in collaboration with GRZ efforts, the United States Agency for International Development in Zambia (USAID/Zambia) funded the Let's Read project in 2019, aiming to improve primary learning outcomes among learners from ECE through Grade 3 in Eastern, Muchinga, North-Western, Western, and Southern provinces. Beginning in 2018, the USAID/Zambia-funded Education Data Activity provides distinct assessment, data management, research, and evaluation services to monitor and track the progress of USAID's Let's Read project.

EARLY CHILDHOOD EDUCATION IN ZAMBIA

ECE is still relatively new in Zambia and provides education to children aged 0 – 6 years old. After the passing of the Education Act of 2011, ECE became integrated into the national education system under the Ministry of General Education (MoGE). However, learners only began to enroll in annexed ECE centers of primary schools in 2012. In 2015, the MoGE established the Directorate of Early Childhood Education to oversee and expand ECE within Zambia. To improve access and encourage participation in ECE programming, the MoGE has:

- Expanded ECE by annexing classrooms to primary schools and the establishing low-cost community centers,
- Employing alternative ECE approaches like Interactive Radio Instruction, which is being piloted in Eastern Province, and
- Implementing the free education policy at the ECE level.

Between 2014 and 2018, ECE enrollments in public, community, and private schools doubled from approximately 71,000 to 168,000 learners. Despite progress, access to ECE has remained low, especially among vulnerable groups and in rural areas. According to 2018 MoGE statistics, only 29.4 percent of Zambian children enrolled in Grade 1 participated in ECE. However, some provinces have expanded ECE enrollment more rapidly than others. For example, the Baseline EGRA in Five Target Provinces, conducted in 2018, found that 70.16 percent of sampled learners within Southern province attended ECE, in comparison to just 29.09 percent of sampled learners in Muchinga. In Eastern and Western provinces, slightly more than one-third of Grade 2 learners reported attending ECE before Grade 1 (USAID Education Data Activity, 2019).

In addition to access challenges, the ECE Directorate reports that ECE programs often have inappropriate infrastructure, unqualified and inadequate teachers, and a lack of teaching and learning materials, reducing

the quality of ECE programming (Ministry of General Education, 2019). In 2013, the MoGE and UNICEF conducted qualitative interviews with key government stakeholders and service providers in order to map existing ECE activities and services throughout Zambia. The results shed light on many important challenges ECE teachers and centers face, including a lack of availability of teaching of learning materials, poor infrastructure and limited training for teachers (Matafwali, et. al., 2013). However, no direct classroom observations of ECE teachers were conducted to examine ECE teachers' pedagogical practices. Furthermore, to date, there have been no nation-wide learner assessments conducted at the ECE level to examine ECE learning outcomes or skills development.

According to the ECE Syllabi, the primary objective of ECE in Zambia is to offer opportunities for all children to succeed in an environment of care and feeling valued (MoGE, 2013). The ECE Syllabi outlines two ECE levels, the first for 3 – 4-year-old learners and the second for 5 – 6-year-old learners. The curriculum emphasizes a holistic approach to programming, including diverse topics covering science, social studies, pre-mathematics, pre-literacy, language, expressive arts, and motor development (Ministry of General Education, 2013). Specifically, its aims are to:

1. Acquire social knowledge and develop skills, values, and positive attitudes;
2. Develop children's intellectual and cognitive skills;
3. Develop children's language and communicative skills;
4. Develop children's emotional intelligence and self-regulation;
5. Develop children's physical, expressive arts, and creative skills; and
6. Provide early intervention to children with special education needs.

Several international donors support the MoGE's ECE programming in Zambia, including the USAID Let's Read project, UNICEF, American Institutes for Research, Save the Children, and World Vision, among others[6]..

BASELINE ECE RESEARCH STUDY PURPOSE AND QUESTIONS

The 2020 Baseline Early Childhood Education (ECE) Research Study establishes a baseline level from which changes in ECE learners' performance in domains of early learning skills and teachers' pedagogies can be tracked over time. In addition, the Study examines differences in skills among Grade 1 learners who attended ECE and Grade 1 learners who did not. Specifically, this 2020 Baseline ECE Research Study intends to address the following questions:

1. What are the baseline levels of cognitive, pre-mathematics and pre-literacy, social and emotional, and language measures of learners who have just entered ECE?

2. What differences in cognitive, pre-mathematics, pre-literacy, and social and emotional skills, if any, can be observed between Grade 1 learners who attended ECE the year before and those that did not?

[6] For more information on the ECE landscape within Zambia, please refer to: Matafwali, B., Munsaka, E., Mweemba, L., and Muleya, G. (2013). Mapping of Early Childhood Care Development and Education (ECCDE) Services in Zambia. Lusaka, Zambia: Ministry of General Education.

3. How are ECE teachers teaching the ECE curriculum to ECE learners? What pedagogies do they employ?

4. How are the ECE classroom and school environment set up for ECE learners?

5. What materials are available and used by ECE teachers to teach the ECE curriculum?

Under the Education Data Activity, DevTech Systems, Inc. conducted the Baseline ECE Research Study in partnership with the University of Zambia's Center for the Advancement of Literacy in Sub-Saharan Africa (CAPOLSA). Baseline data collection occurred in 52 government-run primary schools with active ECE classrooms in Eastern and Western provinces between February 12 and March 13, 2020. The baseline included a random sample of 1,093 learners, including 511 ECE learners (51.1 percent girls and 48.9 percent boys) and 582 Grade 1 learners (50 percent girls and 50 percent boys), 317 of which had participated in ECE and 265 of which had not participated in ECE.

This report presents the methodology and results of the 2020 Baseline ECE Research Study so that changes in ECE learners' performance in core school readiness skills can be examined over the course of the year. The baseline results may also help USAID, Let's Read, and GRZ design programs and formulate policies that support ECE programs and improve primary learning outcomes in Zambia in the future. In addition, the results, when compared against future results, may also help education stakeholders to better understand the resulting learning loss from the Coronavirus Pandemic due to the extended closure of schools.

MOTIVATION FOR THIS STUDY

Research indicates that the first 2,000 days, or approximately until the fifth birthday, are essential for a child's brain development. Proper nutrition, care, and positive stimuli during this critical period are a few of the factors that support children's cognitive, social and emotional, language, and physical development. High-quality ECE programming has been shown to contribute to economic health and well-being for both the learner and the community (Black et al., 2017). Children who begin primary school without the relevant emergent literacy skills often have difficulty learning to read (Snow, Burns & Griffen, 1998). Despite evidence of the positive contributions of ECE programming, fewer than 50 percent of children around the globe have access to ECE programming, and even fewer have access to programs that meet global standards for quality. Increasing both access to and the quality of ECE programs are paramount for ensuring that learners enter the primary school grades with the prerequisite skills to support long-term success in school (Engle et. al, 2011).

For those children that do attend ECE programs, differences in their learning outcomes can often result from a combination of factors, including the quality of instruction, access to instructional materials, parental and community support, and adequate nutrition. It is important that governmental and non-governmental stakeholders better understand how the pedagogical and environmental factors in ECE programming may support early learning outcomes to support decision-making. Classroom observation data provide stakeholders with an objective snapshot of the quality of the environment and experiences of children within the ECE classroom on a particular day (MELQO Global Team, 2018). Coupled with learner assessment data, classroom observation data enables researchers to explore the linkages between contextual factors and learning outcomes.

By collecting IDELA data on children's skills as well as MELE data on the ECE classroom environment, the Baseline ECE Research Study examines relevant indicators of the quality of ECE programming in Zambia and their contribution to children's development and learning to illuminate strengths and areas for improvement to inform programmatic and policy decisions.

SAMPLING METHODOLOGY, TOOLS, AND LIMITATIONS

Between September 2019 and March 2020, the Education Data Activity collaborated with the Examinations Council of Zambia (ECZ) and the Directorate of ECE from MoGE to plan and prepare for the Baseline ECE Research Study. In addition, CAPOLSA provided logistics and administrative support between January and March 2020 to prepare for and carry out the quality control officer (QCO) and assessor training and baseline data collection. This section discusses the baseline research study preparation; adaptation, translation, and validation of the IDELA and MELE tools; data analysis methods; and study limitations. Annex 6 includes a complete set of the IDELA tools in both Cinyanja and Silozi, as well as the MELE tool.

SAMPLING METHODOLOGY

The Education Data Activity used a multi-step process to select the baseline ECE sample: (i) construct the sampling frame; (ii) randomly select two of the five target provinces of Let's Read for inclusion; (iii) apply a selection parameter to the sampled schools from the Baseline EGRA in Five Target Provinces to select schools with an active ECE classroom and that would have both learners who participated in ECE and learners who did not; and (iv) randomly select the sample of ECE and Grade 1 learners during the baseline, February–March 2020.

STAGE 1. CONSTRUCT THE SAMPLING FRAME: In 2018, the Education Data Activity conducted a language mapping exercise in the five target provinces of Let's Read to construct a valid sampling frame for the baseline EGRA in Five Target Provinces. Through this exercise, the Education Data Activity compiled a list of 4,626 GRZ-run public or community primary schools in the 58 districts of the five target provinces. From these 4,626 schools, the Education Data Activity selected a representative sample of 816 schools in October 2018 to assess during its baseline EGRA in Five Target Provinces. As part of this EGRA, the headteacher questionnaire was administered in each school in order to capture key demographic data, including whether the school had an active ECE classroom and a MoGE-assigned ECE teacher, among other variables of interest. The resulting dataset provided verifiable data that served as the basis for the sampling frame for the baseline ECE research study. In total, the sampling frame included 283 government-run schools with active ECE classrooms across the five target provinces of Eastern, Muchinga, North-Western, Southern, and Western. See Table 2 for more information on the sampling frame.

STAGE 2. SELECT SAMPLE PROVINCES: After constructing the sampling frame, the Education Data Activity randomly selected two of the five target provinces for inclusion in the study. This was due to both budget constraints and the added complexity of assessing learners in all seven languages of instruction (LoI) if all provinces were to be included. The Education Data Activity randomly selected Eastern and Western provinces to be included in the baseline ECE research study.

STAGE 3. APPLY SAMPLE PARAMETER: After randomly selecting Eastern and Western provinces, the Education Data Activity applied a selection parameter within each province to ensure that the sampled schools would have a proportion of Grade 1 learners who had attended ECE and a proportion who did

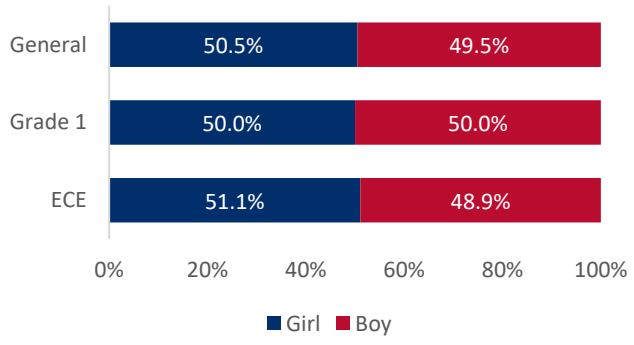
not.[7] By drawing the sample of learners who attended ECE and those who did not from the same schools, the Education Data Activity could control for some community and school-level factors in the results. Schools where almost all learners had attended ECE and schools where almost all learners had not attended ECE were excluded. All GRZ schools that met this selection parameter were sampled for the Baseline ECE Research Study, resulting in a baseline sample of 52 schools, 27 drawn from Eastern province and 25 drawn from Western province.

TABLE 2. NUMBER OF GRZ SCHOOLS WITH ECE PROGRAMS BY SCHOOL LOCATION

PROVINCE	LANGUAGE	ECE CENTERS POPULATION	SAMPLING FRAME			BASELINE ECE SAMPLE		
			TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
Southern	Chitonga	594	77	26	51			
Eastern	Cinyanja	535	74	5	66	27	5	22
Muchinga	Icibemba	85	17	1	19			
North-West	Kiikaonde	200	26	21	5			
North-West	Lunda	39	18	0	18			
North-West	Luvale	44	22	0	22			
Western	Silozi	282	49	5	44	25	4	21
Total		**1,679**	**283**	**58**	**225**	**52**	**9**	**43**

STAGE 4. SELECT SAMPLE LEARNERS AND ECE CLASSROOMS: Data collection teams randomly selected up to five boys and five girls from the ECE class roster and 6 boys and 6 girls from the Grade 1 roster within each of the sampled schools during baseline data collection. Within the 12 Grade 1 learners selected, approximately half had participated in ECE programs in the year prior and half had not. If the selected learner from the roster was not present or declined to participate, an alternate learner was chosen. The sample included a total of 1,093 learners, of which 50.5 percent were girls, and 49.5 percent were

FIGURE 3. BASELINE ECE SAMPLE DISAGREGATED BY GRADE



[7] The Education Data Activity determined this parameter through an analysis of the 2018 Baseline EGRA in Five Target Provinces learner questionnaire data.

boys. Figure 3 displays the gender distribution within the baseline sample for each of the grades assessed.[8] There were slightly more girls than boys assessed. This, however, is consistent with the general trends in ECE enrollment in the population, where girls outnumber boys (Namonje and Deka, 2017). Assessors tested both ECE and Grade 1 learners for their school readiness skills in either Cinyanja or Silozi and also administered a short survey. The sampled schools include representation from GRZ schools within all districts within the two selected provinces that have GRZ schools with ECE programs. Both urban and rural schools are represented in the sample.

TABLE 3. NUMBER OF LEARNERS SAMPLED BY DISTRICT, GRADE, AND SEX

LOCATION	ECE			GRADE 1			FREQUENCY	PERCENTAGE
	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS		
Eastern	**267**	**132**	**135**	**295**	**153**	**142**	**562**	**51.4%**
Chadiza	18	8	10	26	14	12	44	4.0%
Chipata	49	26	23	60	31	29	109	10.0%
Katete	30	14	16	36	18	18	66	6.0%
Lumezi	11	6	5	11	5	6	22	2.0%
Lusangazi	24	10	14	18	10	8	42	3.8%
Mambwe	17	10	7	15	9	6	32	3.0%
Nyimba	40	18	22	37	18	19	77	7.0%
Sinda	37	17	20	46	25	21	83	7.6%
Vubwi	41	23	18	46	23	23	87	8.0%
Western	**244**	**118**	**126**	**287**	**138**	**149**	**531**	**48.6%**
Kalabo	20	11	9	24	12	12	44	4.0%
Kaoma	10	5	5	12	6	6	22	2.0%
Limulunga	29	14	15	34	16	18	63	5.8%
Lukulu	20	10	10	24	12	12	44	4.0%
Mongu	21	10	11	22	11	11	43	3.9%
Mulobezi	20	9	11	24	12	12	44	4.0%
Mwandi	9	4	5	15	6	9	24	2.2%

[8] While assessors made all attempts to assess as close to 22 learners as possible, equally divided between boys and girls, in each sampled school at baseline, in some schools there were not enough learners present or enrolled to meet this target.

Nkeyema	39	20	19	48	23	25	87	8.0%
Senanga	19	8	11	20	11	9	39	3.6%
Sesheke	17	8	9	21	10	11	38	3.5%
Shangombo	20	10	10	21	9	12	41	3.8%
Sioma	20	9	11	22	10	12	42	3.8%
Total	**511**			**582**			**1,093**	**100.0%**

ECE TEACHERS: In addition to assessing learners, assessors interviewed the ECE teacher and conducted a full-day observation of the ECE classroom to collect information about factors associated with school readiness skills, instructional materials and methods, and the teacher workforce, among others. In 50 of the 52 sampled schools (96 percent of the sample), the ECE teacher was observed in the classroom, and the teacher questionnaire was administered afterward. However, in two schools, the ECE teachers were on leave the day of data collection, and due to a lack of connectivity, they were not reachable by phone. Of the 50 teachers observed across Eastern and Western provinces, 22 percent were male, and 78 percent were female. The observation that there are more female ECE teachers than male ECE teachers is consistent with general trends across Zambia. According to the national-level MoGE statistics gathered from the ECE Directorate, in Eastern province, 79 percent of ECE teachers are female, while only 21 percent are male. Similarly, in Western province, over 57 percent of ECE teachers are female (ECE Directorate, 2020).

DATA COLLECTION INSTRUMENTS

During data collection, assessors and QCOs administered the IDELA and a short learner survey along with the MELE classroom observation tool and a survey to ECE teachers. The teacher and learner questionnaires helped to establish school characteristics and learner demographics. The assessment and survey tools are described below.

INTERNATIONAL DEVELOPMENT EARLY LEARNING ASSESSMENT (IDELA)

The International Development Early Learning Assessment (IDELA) is an easy-to-use, rigorous, internationally recognized tool that measures children's early learning and developmental skills. IDELA is a free, open-source tool developed and pilot-tested by Save the Children beginning in 2011. Since then, it has been implemented in more than 70 countries worldwide, including multiple times in Zambia by Save the Children Zambia, World Vision, and USAID Zambia Right to Care, among others.

The IDELA tool is easily translated and administered in low-resource settings and has strong reliability and validity. It takes roughly 35 minutes per child to administer the full assessment. USAID Right to Care Zambia in adapted the IDELA tool for the Zambian context in August 2019, and the USAID Education Data Activity further adapted the tool in December 2019 to assess key priorities of the ECE Directorate, MoGE, and USAID/Zambia. The ECE Research Study used the IDELA in two Zambian languages of instruction, Silozi and Cinyanja.

The IDELA tool contains 24 question groups designed to assess five early learning domains: emergent literacy, emergent numeracy, social and emotional skills, executive function, and motor development skills. Table 4 outlines the structure of the assessment tool.

TABLE 4. SUBTASKS AND EARLY LEARNING DOMAINS ASSESSED IN THE IDELA

SOCIAL AND EMOTIONAL LEARNING	EMERGENT NUMERACY	EMERGENT LITERACY AND LANGUAGE	FINE AND GROSS MOTOR SKILLS	EXECUTIVE FUNCTION
Personal Awareness	Comparison by Size and Length	Expressive Vocabulary	Drawing a shape (copying)	Short-Term Memory
Friends	Sorting and Classification	Print Awareness	Folding a shape (copying)	Inhibitory Control
Emotional Awareness/Regulation	Shape Identification	Letter Identification	Drawing a person	
Empathy/Perspective-taking	Number Identification	Phonemic Awareness (initial letter sounds)	Hopping on one foot	
Solving Conflict	Puzzle Completion	Emergent Writing		
	Addition and Subtraction	Oral Comprehension		
	One-to-One Correspondence			

Source: Save the Children, IDELA Toolkit, 2019

The test item content in the Cinyanja and Silozi IDELA instruments were uniform with the exception of letter identification and phonemic awareness subtasks. Due to the linguistic differences in Cinyanja and Silozi, the research team adapted and aligned subtasks to the MoGE's ECE syllabi and the Primary Literacy Framework for each language to ensure the items were grade appropriate and phonetically specific. For example, the letters "g" and "r" in Silozi is not taught in ECE, and as such, was not included in the letter identification and phonemic awareness subtasks for the IDELA in Silozi.

LEARNER QUESTIONNAIRE: Each learner who participated in the IDELA also completed a short learner questionnaire. The instrument included questions covering learners' primary language spoken at home, whether they ate breakfast before school, whether they read books in school, and whether they are read to at home and how frequently, among others. Grade 1 learners who did not attend ECE were also asked additional questions to better understand why they did not attend and to examine issues of accessibility.

MEASURING EARLY LEARNING ENVIRONMENT (MELE)

Developed by ECD Measure in 2014, the purpose of MELE is to provide an objective snapshot of the quality of the ECE classroom environment and experiences of ECE learners on the day the classroom is observed. Based on global evidence from studies of quality pre-primary programs, ECD Measure developed six comprehensive MELE domains (UNESCO, 2017). This evidence shows that young children learn best when teachers (1) encourage them to engage directly with materials, (2) give children some

choice in their activities and use of materials, and (3) involve children early in discussions that extend expand their understanding of the concepts being taught. These characteristics underpin play-based pedagogy or child-centered learning, in contrast to teacher-led pedagogy or rote learning methods that mainly consist of teachers speaking and children passively listening. Table 5 below summarizes the constructs that MELE intends to measure, along with sample items from the adapted tool for the Baseline ECE Research Study.

TABLE 5. MELE CONSTRUCTS AND SAMPLE ITEMS

CONSTRUCT	DEFINITION	SAMPLE ITEM
Play	Emphasis of the program on creating opportunities for all children to explore and engage in free play and group play; the presence of adequate toys and spaces to play.	• Do all children have time for free choice or open play during the school day? • Do children have access to materials organized into learning centers (book area, fantasy play, discovery area, educational toys, blocks, art area, etc.) during play?
Pedagogy	Approaches that teachers take in teaching children, including individualized and group lessons and opportunities for dialogue, and in supporting a successful transition to primary school independent work.	• Do children use objects to learn mathematics; for example, do teachers encourage children to use objects for numerical exploration like sorting, counting, and operations? • Do teachers introduce new vocabulary by reading storybooks to children?
Interactions	Type and quality of interactions between teachers and children and between children and their peers.	• Do teachers discipline and maintain order without being excessively negative? • How often do teachers smile or verbally praise children? • Do teachers encourage children to ask questions?
Environment	Physical space and safety of the classroom, including access to clean water and toilets and adequate space for each child.	• Is there clean drinking water available for the children? • Are toilets available for both boys and girls? • Are there safety hazards? • Is there enough space for all children to sit and room for play?
Personnel	Experiences of teachers and directors in training, years of service, compensation, supervision, and mentoring.	• How many years have you been a teacher overall? • During the last 12 months, have you attended any in-service training? • Do you have adequate support from your headteacher?
Inclusiveness	Extent to which the classroom is able to support participation for all children, which may include gender, learning needs, and cultural, ethnic, and linguistic accommodations.	• Does the ECE teacher promote respect for diverse people through activities or discussion? • Are children with disabilities included in the program? • Does the program focus on mother-tongue instruction?

Source: MELQO Global Team, 2018.

The MELE tool is not an evaluation of individual teachers or staff but provides insights into the quality of ECE programming, including strengths and areas for improvement. Some demographic information is gathered by asking the teacher; however, most items are scored based on assessors' observations of the classrooms. Most items are scored on a one-to-four scale, with higher scores reflecting higher observed levels of quality in the early learning environment and instruction.

TEACHER QUESTIONNAIRE: Assessors asked the ECE teacher in each of the sampled schools a range of questions on teacher qualifications, classroom practices, availability of instructional materials, and motivation for and satisfaction with the profession, among others. These questions help to illuminate significant teacher, classroom, and school factors that may be correlated with learning outcomes. At baseline, the survey assists in establishing current levels from which changes over time may be examined in relation to the Endline ECE Study.

Both the IDELA and MELE tools used at baseline are presented in Annex 6. All baseline tools were approved by the Ethical Review Committee for an Institutional Review Board (IRB) at the University of Zambia (UNZA) in January 2020 and pre-tested and validated by ECZ, MoGE, and USAID. The final versions of the IDELA and MELE tools were then programmed into the KoboCollect application (see sections below) and uploaded onto electronic tablets.

INSTITUTIONAL REVIEW BOARD APPROVAL

The Education Data Activity received IRB approval to conduct the Baseline ECE Research Study from the UNZA Directorate of Research and Graduate Studies under reference number HSSREC-2019-DEC-016. The IRB approval granted the Education Data Activity permission to conduct the research for one year, subject to renewal.

KOBOTOOLBOX

Given the non-linear nature of the MELE tool, USAID Education Data Activity opted to use KoBoToolbox, a free, open source, user-friendly tool that is customizable, has multilingual capabilities, and can be used offline in low technology settings. Harvard Humanitarian Initiative, Brigham and Women's Hospital, and Kweyo developed the software to enable reliable data collection in humanitarian emergencies and other challenging environments. KoBoToolbox includes an easy to use form builder with built-in skip logics and validations to minimize input error to increase the data collection accuracy of the data that is collected for the IDELA in Cinyanja and Silozi and MELE in English. By using KoboToolbox's online interface that includes real-time tabulated summaries, graphs and tables, USAID Education Data activity remotely monitored assessors during training and data collection.

TRAINING OF QCOS AND ASSESSORS

Once the instruments were finalized and programmed into KoBoToolbox, CAPOLSA, in collaboration with the Education Data Activity, recruited 6 QCOs and 28 assessors to support baseline data collection. Of these, more than 20 percent of the recruits had prior experience with USAID Education Data activity conducting the baseline EGRA in Five Target Provinces, 88 percent had general research experience, 71 percent had prior experience conducting learner assessments with children and eight percent had prior experience conducting the MELE with CAPOLSA as part of their 2018 pilot research study.

During the training, the participants learned: (1) child protection guidelines, (2) data collection protocols, as outlined in the IDELA and MELE Test Administration Manuals , (3) how to collect data using tablets, (4) how to conduct inter-rater reliability (IRR) assessments, (5) learner sampling protocols, and (6) how to administer the quality assurance checklist during data collection. CAPOLSA and USAID Education Data activity master trainers used role-play and several videos to add value to the training. The Directorate of ECE facilitated training on the MoGE curriculum and ECE guidelines, in addition to the ECE school

environment. All training participants practiced administering the tools in Silozi and Cinyanja with ECE and Grade 1 learners in Mumbwa, Central province. The research team chose Mumbwa because of its unique linguistic characteristics of having both Cinyanja and Silozi learners, allowing QCOs and assessors to practice administering the assessments in both languages of instruction.

Throughout training, Education Data Activity and CAPOLSA master trainers monitored all participants to ensure they administered the IDELA and MELE tools with fidelity, according to their respective test manuals. In addition, USAID Education Data activity administered formal IRR assessments to measure the degree of agreement between trainees' ratings on IDELA and MELE in comparison to the gold standard. Through observing trainees and analyzing IRR scores, master trainers could identify challenging areas to provide gap training prior to the dry runs in each of the provinces. By the end of training, all 34 QCOs and assessors scored above the gold standard, permitting them to participate in data collection. Based on IRR formal test scores, training participation, and comprehension of the training material, Education Data Activity and CAPOLSA selected a total of 24 assessors and six QCOs out of the 34 trainees to conduct data collection in Eastern and Western provinces.

Before data collection, each data collection team conducted dry runs in Chipata, Katete, and Nyimba districts in Eastern province and Limulunga, Mongu, and Mwandi districts in Western province. The dry runs enabled participants to practice using the instruments and protocols with learners and teachers in Cinyanja and Silozi. During the dry runs, USAID Education Data Activity, CAPOLSA, and MoGE staff monitored assessors and QCOs, provided feedback and answered questions on data collection and school procedures as they arose.

For additional information on the methodology used for instrument adaptation, pre-testing, and recruiting QCOs and assessors, see Annex 5.

DATA COLLECTION

Data collection took place at the beginning of the 2020 school year from February 12 to March 13, 202 for approximately one month. Collecting data at the beginning of the school year allows for accurate baseline levels for ECE learners and minimizes the amount of instruction that Grade 1 learners with and without ECE have received. Endline data collection will be scheduled to coincide with the same approximate timeline to ensure learners assessed at Endline will have had a similar amount of instruction as those assessed at baseline. Each of the six data collection teams, consisting of three assessors and a QCO, gathered data from government-run primary schools with active ECE programs. Each team spent two days at each school to be able to collect data from both ECE and Grade 1 learners and to conduct an observation of the ECE classroom. Each team was assigned to several districts in either Eastern or Western provinces. On average, each team assessed approximately nine schools, with a range between seven and 11 schools. Education Data Activity and CAPOLSA staff conducted both in-person and remote monitoring of teams throughout data collection.

DATA QUALITY ASSURANCE

Approximately 20 percent of QCOs and assessors had experience conducting the baseline EGRA in Five Target Provinces with the USAID Education Data Activity in 2018, 88 percent had prior general research experience, and 71 percent had specific experience conducting learner assessments. In addition, all QCOs and assessors scored above the gold standard during training. However, in order to ensure reliability and

consistency in scoring among all the assessors throughout data collection, the USAID Education Data Activity conducted IRR tests at each sampled school and with both the IDELA and MELE tools.

At each school, two assessors assessed approximately two learners independently at the same time. In addition, two assessors observed each ECE teacher simultaneously to measure the agreement in marking on the MELE tool. USAID Education Data activity analyzed results using the Cohen's kappa (κ) coefficient to measure the IRR, or the degree of similarity in their ratings. A κ of 0 indicates that there is no agreement between raters outside random chance, while 1 indicates perfect agreement between raters. Interpreting the meaning of κ follows the guidelines of $0.0 < \kappa \leq 0.2$ as slight agreement, $0.2 < \kappa \leq 0.4$ as fair agreement, $0.4 < \kappa \leq 0.6$ as moderate agreement, $0.6 < \kappa \leq 0.8$ as substantial agreement, and $0.8 < \kappa \leq 1$ as almost perfect agreement (Landis and Koch 1977; RTI International 2016).

TABLE 6. INTER-RATER RELIABILITY RESULTS (KAPPA COEFFICIENT & PERCENT AGREEMENT)

LANGUAGE	KAPPA COEFFICIENT	PERCENT AGREEEMENT
IDELA	0.92	97.3%
IDELA: Cinyanja	0.93	97.8%
IDELA: Silozi	0.91	96.7%
MELE	0.86	91.7%

USAID Education Data activity conducted a total of 102 tests for IRR for IDELA (9.33 percent of total assessments) and 50 for MELE (100 percent of total assessments) at baseline. Results shown Table 6 demonstrate that the kappa (κ) coefficient was greater than 0.91 for both languages of instruction for IDELA and was 0.86 for MELE. The results indicate that there was a very high degree of agreement between the assessors on the IDELA, demonstrating high data reliability. In fact, more than 80% of all IRR assessments were above 95 percent, and only one fell below 90 percent agreement during the entire data collection period. For MELE, there was also a very high degree of agreement between assessors, indicating that assessors consistently measured what they observed in the same way.

All teams used electronic tablets preloaded with the IDELA and MELE tools. Internal quality checks programmed into the tablets for each tool ensured that many questions could only be answered with reasonable responses. For example, restrictions for entering a learner's birthday ensured that assessors could not record unreasonable birth years before 2009 for ECE and Grade 1 learners. Skip logic also increased the reliability and accuracy of the recorded responses by ensuring that questions were only asked to respondents when relevant based on their prior responses. For example, only Grade 1 learners with no ECE participation were asked questions about why they did not attend. The tablets were linked to the KoBoToolbox server, enabling data collection teams to upload results every evening. The Education Data Activity team periodically downloaded this data to conduct data quality checks. Quick and periodic access to data enabled the team to identify and alert assessors to issues immediately and to instruct assessors on ways to remedy errors.

Daily communication between CAPOLSA, data collectors, and USAID Education Data activity staff via WhatsApp groups and phone calls also increased quality assurance by allowing staff to closely monitor assessors throughout data collection. This enabled both CAPOLSA and Education Data Activity staff to support troubleshooting when the need arose, such as sending replacement schools due to inaccessibility. In addition, staff from both USAID Education Data activity and CAPOLSA conducted periodic unannounced monitoring visits to ensure compliance with all data collection guidelines.

DATA ANALYSIS METHODS

In April 2020, Education Data Activity staff validated the data prior to cleaning the database and preparing it for analysis. After cleaning the MELE and IDELA datasets, the team used the following data analysis methods to prepare this report.

DATA COLLECTION TOOL RELIABILITY ANALYSIS

IDELA RELIABILITY ANALYSES: In alignment with Save the Children's IDELA validation guidance, several psychometric analyses used data from the baseline to assess the reliability of the IDELA tool.[9] Cronbach's alpha (α) statistics were used, which measure the internal reliability of the IDELA by indicating the degree to which the individual subtasks are measuring the same underlying construct of school readiness for IDELA. Also, the team used two different correlations to examine the reliability of the IDELA tool: (1) how the different domains and their underlying readiness skills are related to each other and (2) how learner performance on the different domains relates to age. The first correlation coefficient helps to examine the degree to which scores in one subtask are associated with scores in another subtask. Higher correlation coefficients indicate that the various subtasks are measuring related constructs—underlying school readiness skills. The second helps us examine the degree to which we see these various skills develop in association with their developmental age. Positive coefficients demonstrate that there is a direct relationship and variation in skills with age.

To further examine the construct validity of the IDELA tool, or the extent to which an assessment measures the topics it intends to measure, variance in scores between 5 and 7 years for each of the domains was examined. This ensures that IDELA successfully captures differences in children's learning and development as they mature.

MELE RELIABILITY ANALYSES: Similarly, to the IDELA and in addition to the IRR and percent agreement statistics examined for data quality assurance, the team used Cronbach's alpha (α) statistics to examine the reliability of the MELE tool. The alpha indicates the degree to which individual subtasks within MELE are measuring what they intend to, or the quality of the ECE learning environment and ECE teacher's pedagogy. Additionally, the team calculated Cronbach's alpha statistics for each individual section, as well as the MELE as a whole. This enables researchers to examine to what extent items within each section relate to one another, as well as to what extent each section relates to the overall tool.

SAMPLE CHARACTERISTICS

The team calculated frequencies, averages, cross tabulations, and other descriptive statistics to discuss sample demographics and produce detailed summary statistics on learners' performance in the various domains of early childhood development. Descriptive statistics also highlight the sample demographics of ECE teachers and the ECE learning environment. Results are disaggregated by sex, participation in ECE and language for all learner performance data wherever applicable.

[9] For more information on IDELA tool reliability globally and guidance for validating the tool, see: https://www.savethechildren.org/content/dam/global/reports/education-and-child-protection/IDELA-tech-wrkppr-15.pdf

PREDICTORS OF SCHOOL READINESS SKILLS

In order to draw programmatic and policy-relevant conclusions and recommendations, the team examined factors associated with predicting ECE learners' school readiness skills using data from both the IDELA and MELE. Data gathered through ECE learner questionnaires and MELE data can provide independent factors to explain school readiness scores. The analysts used an Ordinary Least Squares (OLS) regression model to examine the isolated effects of various factors on predicted values of school readiness scores while controlling for other factors. Multiple OLS regression models allow analyst to identify consistent relationships between factors and outcomes. Only the factors that analysts found to be most consistently and robustly correlated with school readiness, of expressed interest to USAID and the USAID Let's Read or control variables that helped ensure accuracy and precision of the estimates were selected for this report. At Endline, analysts will also look for predictive factors of learner readiness scores to determine how the ECE intervention may affect the quality of the ECE learning environment and contribute to positive learning outcomes.

ANALYSIS OF MELE DATA

Consistent with ECD Measure guidance on how to analyze MELE data, the team used basic Likert-scale frequency analysis to present teacher pedagogies. The team also converted individual scores on each item into standardized variables to enable average and sum scores to be calculated for the OLS model. In addition, summary statistics show the distribution of classrooms within each level of MELE quality scale, which is as follows: (1) not taught, (2) basic with repetition only, (3) intermediate (one element of play-based pedagogy), and (4) sophisticated (two or more elements of play-based pedagogy). By sharing the distributions of classrooms on this scale, it is possible to set baseline levels of ECE teachers' instructional methods, interactions with learners and access to and use of instructional materials. Additional baseline levels include the percentage of ECE classrooms meeting MoGE standards for learner-teacher ratios, access to clean drinking water, and age-appropriate facilities, among other factors.

LIMITATIONS

This section outlines several important limitations of this research study.

COMPARABILITY ACROSS LANGUAGES

The IDELA was administered in two different languages, Cinyanja and Silozi. The content of the individual subtasks was the same across both languages except for emergent literacy. Due to language differences, there were slight variations in the letter sound identification, phonemic awareness, and oral comprehension tasks, which means that for these items, there should be no assumption of equivalence (i.e., identical item difficulty). Research indicates that in languages with transparent orthographies (often called "phonetically spelled languages"), children learn to progress in their reading skills quicker in comparison to languages with more complex or deeper orthographies. While Zambian languages tend to be orthographically transparent—meaning that the written spelling of a phoneme, or grapheme, corresponds to the phoneme—they have different levels of orthographic transparency. Therefore, for the emergent literacy tasks, which assess learners' ability to identify initial letter sounds and comprehend a short story, it is not recommended that the results for learners in Cinyanja be compared to the results for learners in Silozi. Any differences may be due to language differences rather than differences in skills. However, comparisons within a language over time are possible, such as between our baseline and endline data collection.

GENERALIZABILITY

Because of the specific research questions that this study intended to answer, in addition to budget limitations, a purely randomized and representative sample of schools at the provincial or district level was not feasible. As a result, the sample size of 52 schools is not large enough that generalized conclusions can be drawn. The study was also only able to collect data from within two provinces and two languages of instruction; therefore, the results cannot be used to draw conclusions on the performance of learners in other languages or provinces. Second, in order to have accurate and up-to-date information on which schools had active ECE classrooms, the sample from the Baseline EGRA in Five Target Provinces, conducted by Education Data activity in 2018, was used as the sampling frame rather than the entire populations of schools. This narrowed the sampling frame from which the sample was selected in Eastern and Western provinces from approximately 817 to 123 schools. Lastly, to be able to assess Grade 1 learners with and without ECE from within the sample schools, primary schools where all learners attended ECE and primary schools where almost all learners did not attend ECE were excluded from the sampling frame from the beginning. As a result, only schools with a sufficient proportion of both learners with ECE and learners without ECE were selected for inclusion. In the end, 27 and 25 schools from Eastern and Western provinces were purposefully selected for inclusion. The sample included both urban and rural schools; however, since there is a higher concentration of GRZ primary schools with ECE programs in urban areas, there were slightly more urban schools included in the sample in comparison to the population. For these reasons, the results and conclusions may not generalize beyond the sample schools included in the study. Therefore, there are statistically significant disaggregations at the sample level, but these are not generalizable. That said, the different results presented in this report can be interpreted as possible ECE and first grade learner performance illustrative trends for schools in similar conditions / contexts.

COMPARABILITY ACROSS DISTRICTS AND SCHOOLS

While the sample included schools from across districts within both Eastern and Western provinces, the number of schools per district ranged between one and five primary schools. Due to these differences in sample size at the district level, comparisons based on statistical analysis between the districts are not possible. In some schools, there were fewer than 10 learners enrolled in ECE and fewer than 12 Grade 1 learners present on the day of assessment. In other schools, there were many more ECE and Grade 1 learners, from which the sample could be selected for the IDELA assessment. Because the sample size at the school level was not large enough in some schools relative to others, it is not possible to statistically compare one school with another. As a result, throughout the report, the results are presented in the aggregate by sex, province, grade-level, and participation in ECE among the Grade 1 learners assessed. Disaggregated results at the school or district level are intentionally not included because of these limitations.

TIMING OF THE ASSESSMENT

Baseline data collection took place between February and March 2020, several weeks after schools opened for the new academic year but also during the peak of the rainy season. As a result, several sampled schools were inaccessible to data collection teams and/or closed to learners. In addition, there were chemical gassing attacks that took place in some particular districts during data collection. This resulted in school closures and high absenteeism among learners. In other cases, upon arrival at some schools, data collection teams learned that the ECE program was not active during this particular year due to a lack of

an ECE teacher or funding. Owing to these extenuating circumstances, the Education Data Activity had to s replace 14, or approximately 27 percent, of sampled schools during data collection. To minimize selection bias, the Education Data Activity staff choose all replacement schools. In addition, to the extent possible, Education Data Activity staff chose replacement schools that were similar to those originally sampled and that met the study's selection parameters. See Table 7 below for more information on the targeted versus actual sample size achieved during data collection.

In some schools, there were not enough Grade 1 learners without ECE to achieve the targeted sample size. The assessment teams adhered to the learner sampling procedure as closely as possible at the school to ensure rigor, but some bias could not be ruled out in the choice of alternative schools and learners who may have only attended school based on head teacher request. Overall, the study achieved 95.5 percent of the targeted learner sample size.

For MELE, assessors observed 50 of the 52 schools visited during data collection. In the two schools where assessors did not conduct classroom observations, the ECE teacher was on leave for the two days the assessment took place. As a result, the assessors only collected learner assessment data from these schools.

TABLE 7. TARGET VERSUS ACTUAL SAMPLE SIZE ACHIEVED AT BASELINE

	EASTERN		WESTERN	
TARGET GROUP	TARGET	ACTUAL	TARGET	ACTUAL
ECE	270	267	250	244
Grade 1 with ECE	162	162	150	152
Grade 1 without ECE	162	133	150	132
Total assessed	**594**	**562**	**550**	**531**
ECE classroom observations	27	26	25	24

RESPONSE BIAS

Response bias is a common issue with in-person questionnaires. This bias includes several types of false responses, where respondents might react to stimuli other than the question itself, such as the environment or the presence of others nearby. In addition, sometimes interviewees are inclined to choose the responses that they believe are more pleasing or acceptable to the interviewer. This risk can be especially high among young children, who are eager to please authority figures such as adults. As a result, there may be response bias in the learner questionnaire data, as ECE and Grade 1 learners were asked to provide information on the language they use at home, whether parents read to them and why they did not enroll in ECE before Grade 1. In the teacher questionnaire, there were several sensitive questions regarding teacher motivation, perceptions of headteacher support, and other topics that risk response bias. It is difficult to measure the extent of this bias, but there is no reason to suspect that any response

bias would not be uniform across respondents, so comparisons should remain valid even if a bias were detected. In order to reduce response bias, the Education Data Activity and CAPOLSA staff carefully trained assessors on how to create a safe environment for the assessment, including how to remind participants that their answers are anonymous, appropriate reactions to learner answers, and general best practices when interviewing both children and adults.

RESULTS: TOOL RELIABILITY

This section discusses the results of psychometric analyses used to determine the reliability of the IDELA and MELE tools. The team analyzed reliability characteristics of the IDELA and MELE tools using Cronbach's alpha (α) values based on the overall items for subtasks in IDELA and for MELE sections.

For the IDELA, the Cronbach alpha (α) for the overall tool was 0.92, indicating strong internal reliability. However, there were substantial differences among each of the domains. The Cronbach alpha (α) ranged from 0.53 for social-emotional skills to 0.92 for the math skills, suggesting that the academic domains tend to have stronger construct validity than the non-academic domains. This suggests that perhaps the individual items within the motor development and social-emotional subtasks may not relate to one another as strongly within this particular sample, as found in previous IDELA administrations in Zambia. For educational tests, an α value of 0.70 is considered acceptable (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education 2014; George and Mallery, 2003). See Table 8 below for the complete results of the reliability analyses conducted for the IDELA tool.

TABLE 8. RESULTS OF RELIABILITY ANALYSES FOR BASELINE IDELA

MEASURE	MOTOR	LITERACY	NUMERACY	SOCIAL-EMOTIONAL	IDELA	STANDARD
Internal Reliability (Cronbach Alpha	0.59	0.78	0.92	0.53	0.92	α > .7 is Acceptable
Correlation: literacy and other domains	0.56	--	0.66	0.55	0.85	Positive correlation[10]
Correlations between IDELA domains and age (n=727)	0.42	0.48	0.50	0.34	0.54	Positive correlation – shows significant skill variation with age
Construct Validity-Age: variance in performance 5 to 7 years old*	58%	32%	37%	36%*	41%	Statistically significant differences at p> .001
	69%	42%	48%	44%*	50%	

*All results were found to be statistically significant at p>.001, except for within the social and emotional domain of the IDELA tool.

As can be seen in the Table, the Alpha coefficient met the standard of 0.7 for the literacy, numeracy and overall IDELA tool. However, for the Motor and Socio-emotional sections are low and can be considered as poor. This means that, in general, there is a low weighted average correlation between the tasks used to measure both subconstructs. Since the tasks used in this IDELA evaluation do not differ from those

[10] A guideline for interpreting the strength of the relationship suggests 0.00 < r < 0.19 is a very weak positive relationship, 0.20 < r < 0.39 is a weak positive relationship, 0.40 < r < 0.59 is a moderate positive relationship, 0.60 < r < 0.79 is a strong positive relationship, and 0.80 < r < 1.0 is a very strong positive relationship (Evans 1996).

used in other evaluations, this suggests that other factors need to be included to measure both constructs locally. The team will analyze possible options to maintain a balanced evaluation in terms of length and duration, with other tasks that could improve the internal reliability of both constructs. However, the reliability of the School Readiness Score is high, and being the center of analysis of this report, it does not affect the conclusions derived from it.

Results from the correlations indicate that there is a moderate to strong correlation between the literacy domain and the motor, social and emotional, and numeracy domains. This suggests that emergent literacy skills may be predictive of learners' skills in the other domains. In addition, there are positive correlations in relation to the IDELA scores and age, consistent with findings from other IDELA administrations in Zambia (Pava, Sichamba and Waitolo, 2015). These positive correlations support the reliability of the IDELA tool used and indicate that it effectively captures differences in skill variation as children's learning and development progresses as they age.

For the MELE tool, the Cronbach alpha (α) for the overall tool was 0.81, indicating strong internal reliability within the overall tool. The results indicate that the MELE tool effectively measures the construct that it intends to, quality ECE learning environments. However, when breaking down the analysis by sub-sections, the Alpha is reduced. For example, it was found that the learning activities section, which mainly measures the teacher pedagogical strategies/approach, has an Alpha of 0.55; and the classroom interactions and approaches to learning section has an Alpha of 0.64. As shown in the results described below, the performance of teachers is concentrated in the lower performance categories and, in addition, a correlation analysis shows low correlation between the items in general, which suggests that the performance of teachers can be affected by other factors, such as their low levels of training, lack of experience, MoGE budget, etc. These factors are analyzed in greater depth in the MELE results section and show that there are external factors that seem to limit both teacher and student performance.

RESULTS: SAMPLE CHARACTERISTICS

This section presents selected descriptive statistics from the teacher and learner questionnaires to shed light on various contextual factors that may relate to ECE and Grade 1 learners' abilities among the sample of GRZ-schools in Eastern and Western provinces. Frequencies, distributions, and averages are presented and disaggregated where appropriate, by learner sex, grade level, and province. See Annexes 2 and 3 for the complete descriptive results for the learner and teacher questionnaires included in the MELE and IDELA instruments.

LEARNER CHARACTERISTICS

AGE

Learners in Zambia are expected to participate in ECE between the ages of three to six and to enter primary school at age seven. As a result, the appropriate age for ECE is three to six years old; for first grade, it is seven to eight years old. However, the average age of learners across languages for ECE was 6.02 and for first grade was 7.56. There were some variations by language and learner sex. For example, learners assessed in Cinyanja (Eastern province) were 7.00 years old, on average; learners assessed in Silozi (Western province) were younger at 6.65 years old on average. On average, boys tended to be older than girls. Table 9 shows the distribution of learners by grade, sex, and language in relation to the appropriate age for ECE and Grade 1. As shown in the table, most learners in ECE are at an appropriate age. However, 30 percent (about one in three learners) in ECE are over-age; 19 percent of those are slightly over-age, being 7 years old and the remaining 11 percent are 8 years or older. This behavior is more established in boys and in Eastern Province. Based on consultations with the MoGE, the Education Data Activity learned that one possible reason for overage learners in ECE is that some districts may be misinterpreting the mandatory nature of the ECE directive of the Zambian Ministry of General Education. As such, children who are entering the educational system for the first time at 7 years or older may be first enrolled in ECE instead of first grade, which would be more age appropriate.

TABLE 9. DISTRIBUTION OF SAMPLE BY AGE

LANGUAGE – GRADE	UNDERAGE	RIGHT AGE	SLIGHTLY OVER-AGE	VERY OVER-AGE
ECE	**0%**	**70%**	**19%**	**11%**
Boys	0%	66%	23%	12%
Girls	0%	75%	15%	10%
Eastern province	0%	65%	17%	18%
Western province	0%	78%	20%	2%
Grade 1	**19%**	**61%**	**10%**	**10%**
Boys	16%	61%	12%	11%
Girls	22%	62%	9%	8%
Eastern province	19%	57%	10%	14%
Western province	19%	66%	11%	4%

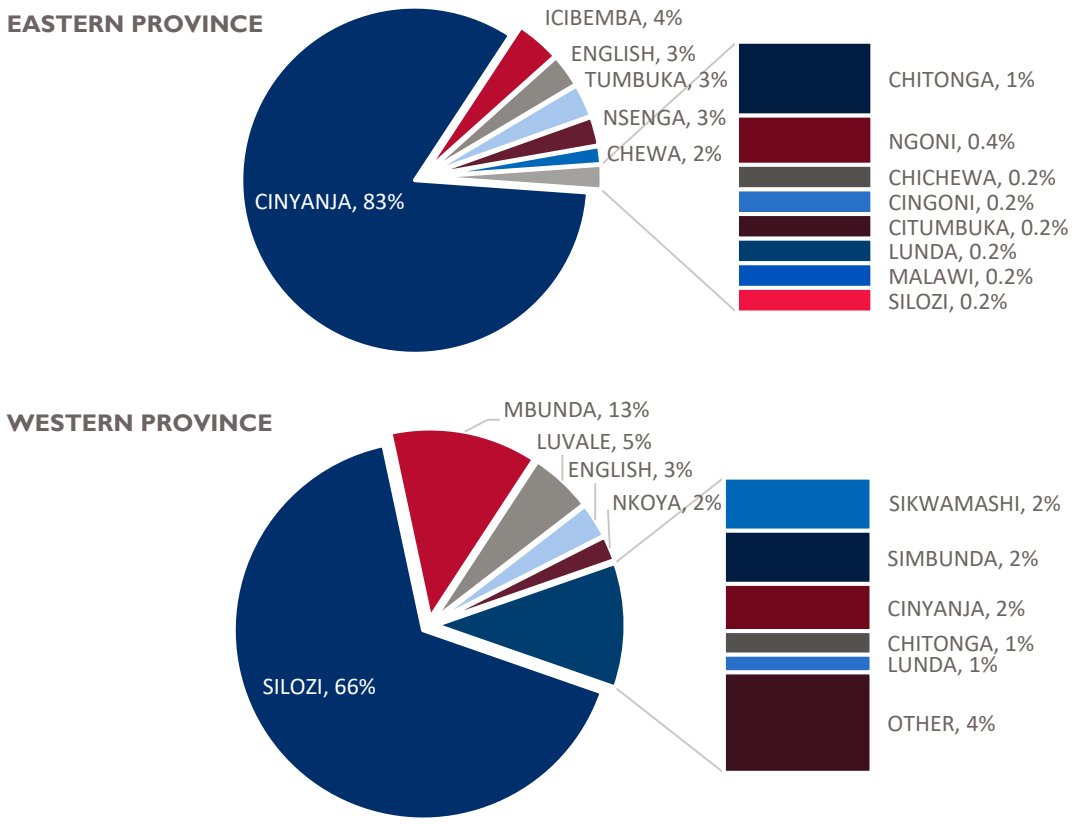
First graders have a lower percentage of age-appropriate learners when compared to ECE learners. Almost one of every five children (19 percent of first graders) are underage. The high percentage of children who are below the recommended age seems to be due to the little coverage that ECE centers have in Zambia, as there are a low number of centers and oftentimes, they are overcrowded. As such some parents send their children early and they are enrolled into first grade directly.

In contrast, approximately one in five learners are overage in first grade. In general, there seems to be a slightly higher percentage of over-age students in Eastern Province when compared to the Western Province for both ECE and Grade 1 learners. This trend was also observed among Grade 2 learners in the Baseline EGRA in Five Target Provinces (USAID Education Data activity, 2019). This may be in part due to parent's expectations that children help with household chores or concerns about their strength to be able to walk the long distances to get to school.

LANGUAGE SPOKEN BY LEARNERS AT HOME

As part of the learner questionnaire in the IDELA tool, assessors asked learners which language they speak the most at home, and the team compared learners' responses to their schools' formal language of instruction. The language of instruction is Silozi in Western province and Cinyanja in Eastern province. As shown in Figure 4, 83 percent of learners in Eastern province speak the same language of instruction at home as they receive at school, while in Western province, this drops to 66 percent. In both provinces, there is wide linguistic variety, which can affect the performance of learners. The differences in means from the average IDELA score by province are not statistically significant but are slightly better for Eastern

FIGURE 4. LANGUAGES SPOKEN BY LEARNERS AT HOME BY PROVINCE

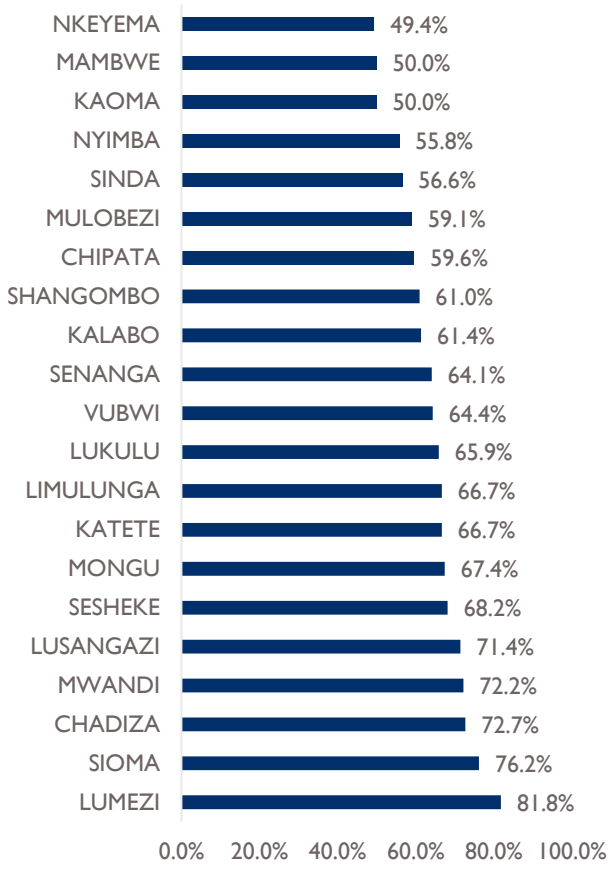


province. The differences are statistically significant for first-grade learners who attended ECE, which may suggest that, as learners gain more experience in the educational system, the language in which they learn may be more important. The model in section seven shows that learners who learn in the same language as they speak at home have an overall 6.5 percent higher IDELA score than those that speak different language at home.

LEARNER EATING BREAKFAST

About 37.5 percent of learners reported that they had not eaten breakfast on the day of the assessment. The results do not vary by province or by grade, which indicates that regardless of the learners' characteristics, at least one of every three learners assessed does not eat breakfast before school. Figure 5 shows the data disaggregated at the district level, illustrating that in the districts of Chipata, Kaoma, Mambwe, Mulobezi, Nkeyema, Nyimba, and Sinda, between 40 and 50 percent (almost one in two learners) reported not having had breakfast.

FIGURE 5. PERCENTAGE OF LEARNERS WHO ATE AT HOME

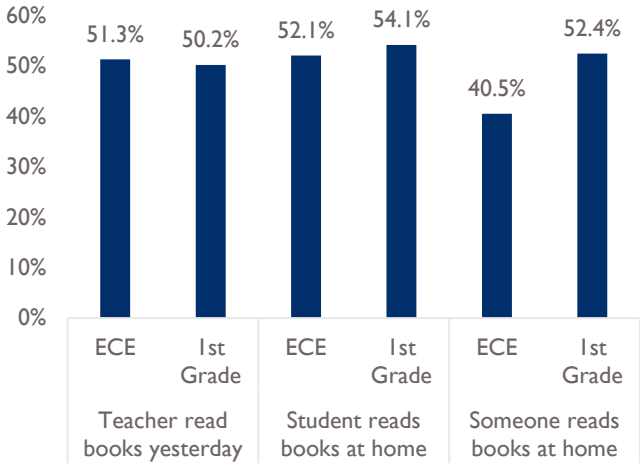


When analyzing the results, there are no statistically significant differences depending on whether or not they had breakfast. However, this remains concerning because a poor diet can negatively influence young learners' cognitive and physical development, and, as a result, may reduce learning as they progress through the school year. The MELE questionnaire asked ECE teachers whether their school has a feeding program. Of the schools where more than 40 percent of learners reported missing breakfast, the schools within Kaoma and Nkeyema districts (four schools assessed) did not have a school meal program. Given the abundance of evidence on the importance of nutrition within the first five years of life to support the cognitive and physical development of young children, increasing school feeding programs within these districts could help support subsequent learning outcomes.

READING HABITS AT HOME

Figure 6 shows the percentage of learners assessed who have some type of exposure to reading stories, because the teacher reads them a story the day before, someone reads them stories at home, or they read stories at home themselves. In general, levels were consistent across grades and types of exposure to reading. As Figure 6 shows, about 51 percent of learners report that their teachers read them a story the day before, and 53 percent report reading stories at home. In the case of ECE, this may mean flipping through story books or listening to oral stories, as learners may not read fluently.

FIGURE 6. LEARNERS' EXPOSURE TO READING



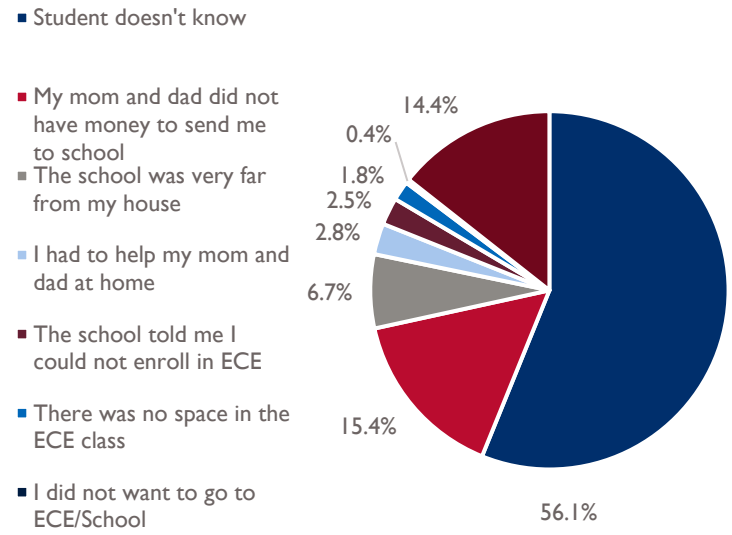
Slightly more than 40 percent of ECE learners reported that someone reads to them at home, while 52 percent of Grade 1 learners have someone read to them. This difference can show the involvement of family members and caregivers in children's learning. The data seem to indicate that parents place greater importance on reading once the learner is in Grade 1. While 52.4 percent of Grade 1 learners asserted that someone reads to them at home, only 13 percent reported that someone reads to them daily, while 39.5 percent reported that someone reads to them sometimes. Further, 46.4 percent reported that they were never read to at home.[11] Evidence suggests that frequent practice of reading skills is important for skills development, and, as such, it is important that ECE teachers and schools encourage parents to read to their children daily and to ask them questions to foster comprehension skills.

FIRST GRADE LEARNERS ECE ENROLLMENT

Of the total sample, 47 percent were in ECE, and 53 percent were in Grade 1, of which 29 percent of learners attended ECE last year and 24 percent did not attend ECE. The IDELA questionnaire asks learners why they did not enroll in ECE last year. As shown in Figure 7, in the case of Grade 1 learners who did not attend ECE last year, the majority (56.1 percent) did not know why they were not enrolled in ECE. For the other learners, in order from most frequent to least frequent, the reasons why they were not enrolled in ECE were that: (1) "My mom and dad did not have money to send me to school"; (2) "The school was very far from my house"; (3) "I had to help my mom and dad at home"; (4) "The school told me I could not enroll in ECE"; (5) "There was no space in the ECE class"; and (6) "I did not want to go to ECE / School." The results indicate that the main limitations for not attending ECE are factors related to the economic conditions of the family and the educational center, along with the remoteness of the schools in certain areas, rather than learner-level factors, such as a lack of desire.

[11] More information about learner involvement with story books in the classroom is discussed in the MELE results section below.

FIGURE 7. REASONS FOR NOT ENROLLING IN ECE (LEARNERS' PERCEPTIONS)



It should be noted that ECE enrollment and attendance are free in Zambia. However, there are always costs associated with education that are not covered by the educational system, such as clothing, materials, and transportation, among others. This study did not conduct a survey with the families of the participating learners; however, economic limitations are the main reason for not enrolling in ECE identified by Grade 1 learners. Given these findings, the MoGE should consider transportation, feeding programs, and direct support to families to pay for the ancillary costs of ECE, such as notebooks and uniforms, in order to expand access to ECE programming,

In the MELE instrument, assessors asked teachers about their perceptions of ECE enrollment. They were asked to identify what they consider to be the three main causes why learners do not enroll in ECE before entering primary school. About 64 percent of teachers identified economic limitations as the main cause, 52 percent considered long distances to be another limitation, and 22 percent believed that children may be required to help their family at home. These results closely align with the perceptions of Grade 1 learners who identified a primary reason themselves. Although teachers did not recognize this as one of the main causes for lack of ECE enrollment, 12 percent of teachers reported that their school did not accept all learners to enter ECE because of a lack of space available. The majority of Western province teachers (41.7 percent) considered ECE enrollment adequate, while the majority of Eastern province teachers (30.8 percent) considered that there were too many learners enrolled in ECE. Based on these results, additional classrooms and ECE teachers may be required in some schools in order to expand access to ECE programming if current classrooms are at capacity.

TEACHER CHARACTERISTICS

This section summarizes relevant characteristics of ECE teachers. As part of the MELE instrument, teachers were asked about their experience as teachers, their experience in ECE, their educational level, the type of education and training they have received, among other points of interest.

TEACHER QUALIFICATIONS AND EXPERIENCE

TABLE 10. TEACHERS' AGE AND EXPERIENCE

AGE	PERCENT	PROVINCE	FREQUENCY	AVERAGE AGE	YEAR IN CURRENT ECE CLASS	OVERALL YEARS TEACHING	YEARS TEACHING ECE
Below 30 years old	44.68%	General	21	26.2	1.4	2.8	1.7
		Eastern	13	25.3	1.4	2.1	1.7
		Western	8	27.8	1.4	4.0	1.8
31 to 40 years old	46.80%	General	22	37.2	3.4	9.0	4.8
		Eastern	8	38.3	3.4	10.3	4.1
		Western	14	36.5	3.4	8.0	5.4
41 years old or more	8.51%	General	4	44.0	0.0	11.0	0.0
		Eastern	2	43.0	0.0	2.0	0.0
		Western	2	45.0	0.0	20.0	0.0

The average age of the teachers in the 50 ECE centers included in this study is 32.6 years,[12] with a minimum age of 21 and a maximum of 59. As shown in Table 10, there is a similar distribution between the proportion of teachers under 30 years of age and those between 31 and 40 years of age, with 91 percent of teachers falling within that range; the remaining 9 percent are over 41 years of age. Similar to the findings from the teacher questionnaire administered as part of the 2018 Baseline EGRA in Five Target Provinces conducted by the Education Data Activity, many ECE teachers appear to be new to the profession, with 46 percent of teachers reporting that they had three years or less of experience. About 34 percent of teachers reported having between four and 10 years of experience, 14 percent between 11 and 15 years of experience, and 6 percent (three teachers) with 16 or more years of experience.

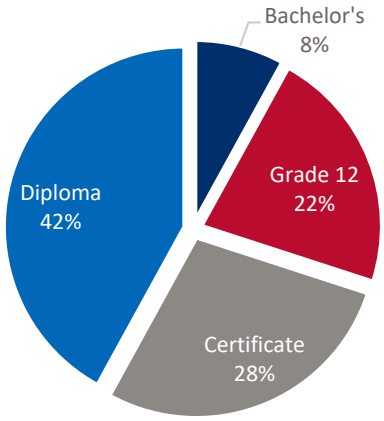
However, the years of experience teaching ECE is less, signifying that teachers may have been transferred from another grade level to teach ECE. On average, two out of three teachers (67.3 percent) have less than three years of experience teaching ECE. An additional 28.6 percent have between four to 10 years of experience, and the remaining 4 percent have more than 10 years of experience. ECE is relatively new to Zambia, as learners only began enrolling in GRZ-annexed ECE classrooms in 2012. Teachers over the age of 41 surveyed had no experience working in ECE, and this was their first year. If teachers do not have adequate training and experience in appropriate methods for teaching ECE, then ECE programming may not prepare learners effectively to successfully transition to primary school.

Figure 8 shows the highest educational level completed by ECE teachers. Most teachers at baseline reported that the highest level of education they completed was a Diploma (42 percent of teachers), followed by a certificate level (28 percent of teachers), Grade 12 (22 percent of teachers), and bachelor's degree (8 percent of teachers). Overall, 92 percent of the teachers reported that they did not have a degree. One teacher reported having a degree in ECE, another a degree in primary education, and two a

[12] Age information is presented for 47 teachers. Three ECE teachers declined to provide their age to the assessor.

degree in secondary education. In addition, 46 percent of the teachers that reported not having any degree also reported that they did not have any certification in ECE, 28 percent reported having a diploma certification in ECE, and 24 percent reported having a normal certificate in ECE. Also, 83 percent of the teachers that reported not having any degree or certification also reported that they did not have any training in ECE. This means that there is a group of 19 teachers in the sample (38 percent of teachers surveyed; 41 percent of Western province and 35 percent of Eastern province) that do not meet the minimum qualifications to teach ECE, per the MoGE Early Childhood Education Standard standards: they do not have a degree, a certification, or ECE training.

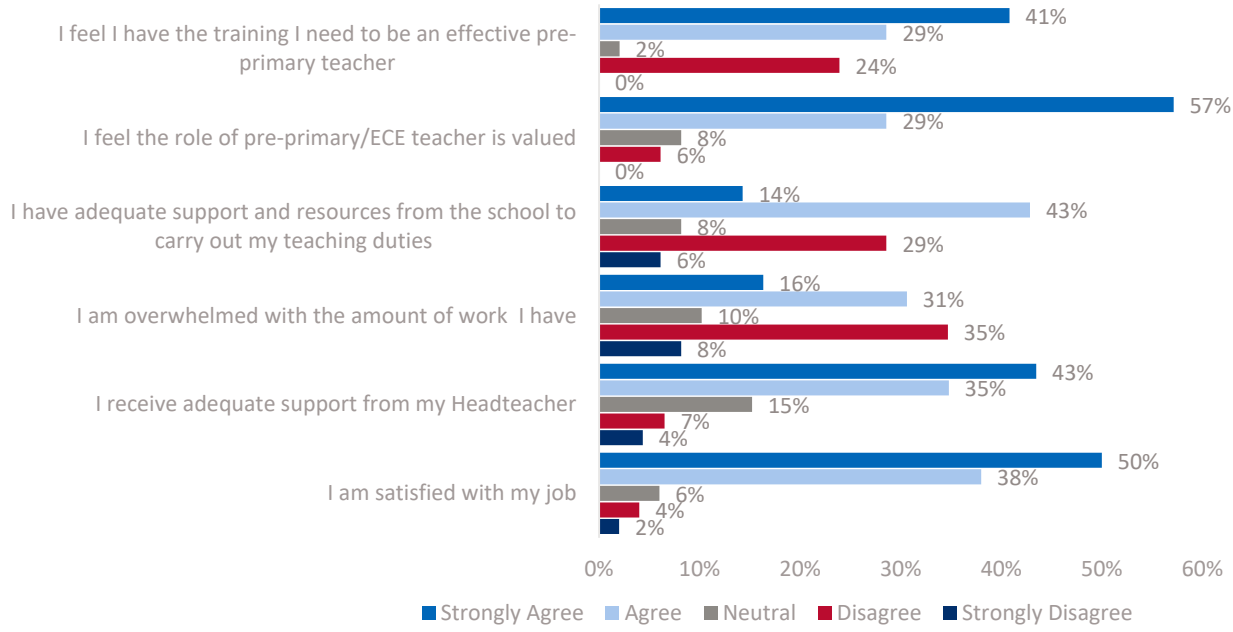
FIGURE 8. HIGHEST EDUCATION LEVEL REACHED BY ECE TEACHERS



ECE TEACHERS' PERCEPTIONS OF SCHOOL SUPPORT

To better understand ECE teachers' perceptions of school support, ECE teachers were asked a series of questions using a 5-point Likert scale that ranged from strongly disagree (1) to strongly agree (5). Figure 9 shows the level of agreement of ECE teachers with respect to their perceptions of the support they receive in their role as teachers, the usefulness of their work, and some school conditions.

FIGURE 9. ECE TEACHERS' PERCEPTIONS OF SCHOOL SUPPORT



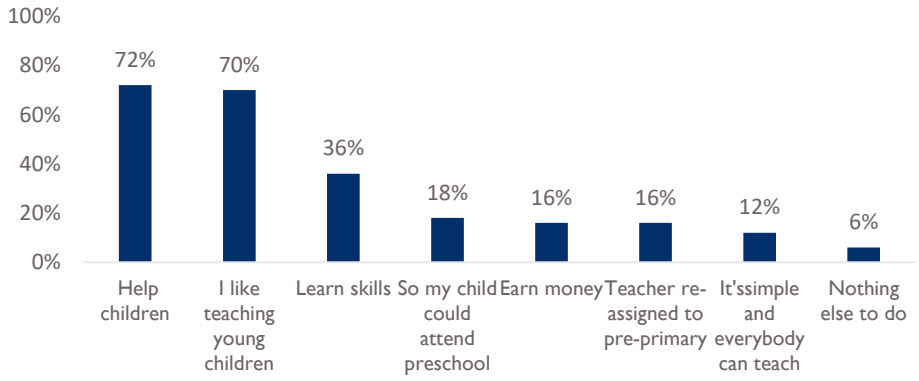
As discussed above, a high percentage of teachers do not have adequate preparation and/or training to be an ECE teacher. However, around 70 percent of teachers agree or strongly agree that they have the level of training they need to be effective. Teachers also agree that the role of ECE teachers is valued, they receive adequate support from their headteacher, and they feel satisfied with their work (50 percent of teachers strongly agree with this statement). However, there is a more neutral perception regarding the support and resources they receive from the school to carry out their work, as 29 percent of teachers disagree with that statement. Finally, teachers do not feel or perceive that they are overloaded, 35 percent of them disagree with that statement. Interestingly, in general, teachers in Eastern province have more positive perceptions than those in Western province.

Although teachers are more neutral about the resources and support, they receive from the school, 78 percent of them consider that the ECE system is doing very well to help children learn and prepare them for primary school. However, when asked about their plans for the short and medium term (one to five years), only 30 percent of teachers reported that they plan to continue in ECE, and 32 percent reported that they plan to work as a teacher at another level. Although most teachers do not plan to stay in ECE, 56 percent reported that they plan to study pre-primary education. Given the high degree of expected turnover of ECE teachers to other grade levels or out of the profession, it may be difficult to improve the quality of teacher instruction in the long-term with infrequent one-off teacher training programs. Ongoing training and coaching support may be more suitable to ensure that, as new ECE teachers enter the workforce, they are provided with adequate training and support to implement age-appropriate instructional practices to ECE learners. In addition, it is important that at the systems' level, the MoGE explores why ECE teachers may be inclined to change grade-levels or leave altogether in order to determine long-term solutions that reduce turnover and the increase the return on the education system's investment in their training.

MOTIVATIONS FOR BECOMING AN ECE TEACHER

Teacher motivation and satisfaction within the profession impacts their efforts and interactions with learners. In order to better understand the motivations of ECE teachers within the sample, they were asked about the reasons why they chose to become ECE teachers. The majority responded that the reasons are associated with wanting to help children (72 percent of teachers) and that they like to teach young children (70 percent of teachers), as is shown in Figure 10. About a third (36 percent) of ECE teachers also stated that they wanted to acquire teaching skills. Between 16 and 18 percent of ECE teachers stated that, to a lesser extent, they also chose this profession to earn money, or for their children to have the opportunity to enter the ECE program as well. Another 16 percent also mentioned that they were assigned to some grade of primary school but were reassigned to ECE. 12 percent of

FIGURE 10: REASONS TO BECOME AN ECE TEACHER



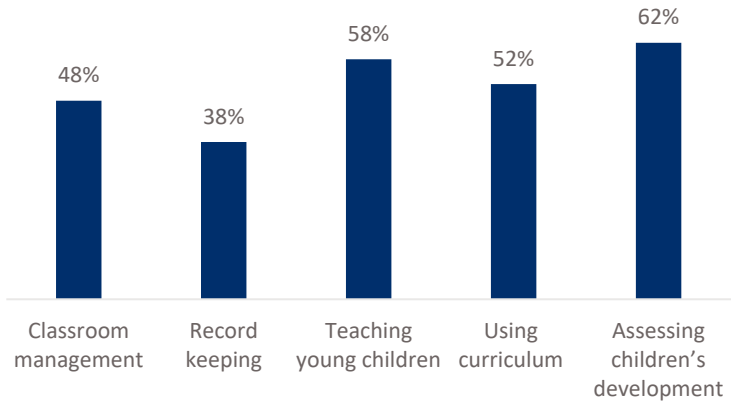
teachers consider that being an ECE teacher is easy, so anyone can teach, and a minimum percentage of 6 percent indicated that they had no other options, which is why they chose to learn teaching. In general, it can be said that most teachers choose to become an ECE teacher and are motivated within the position, which should positively influence the way they deal with learners. Given these results, it is surprising that only 30 percent of ECE teachers reported that they plan to continue in ECE, and 32 percent reported that they plan to work as a teacher at another level. Additional research to better understand these contrasting results is needed in order to ensure there are not recurrent adverse effects on the ECE teacher pipeline which would affect implementation of programming in the future.

Teachers were also asked about their professional status and the results indicate that 18 percent of teachers reported being professional teachers teaching only ECE, 38 percent reported being professional teachers teaching ECE and a higher grade; and 30 percent of teachers reported being paraprofessional or assistant teacher (including volunteer teachers). The rest of teachers identified themselves as professional teachers for primary school. The results indicate that very few teachers meet the MoGE standards of professional status specifically for ECE and as such may not have had the adequate amount of training to effectively deliver age-appropriate instruction.

TEACHER TRAINING

To better understand access to teacher training opportunities, ECE teachers were asked whether they have attended any in-service training in the past 12 months. The majority of teachers (68 percent) reported that they did not attend any in-service training. The remaining 32 percent of teachers attended a training covering topics like how to elaborate a lesson plan (37.5 percent), reading skills (25 percent), literacy (25 percent), or other (12.5 percent). Of the ECE teachers who reported having received some training during the last 12 months, just over half (56.3 percent) said they received the training from the USAID Let's Read Activity, one third (31.3 percent) mentioned receiving training from the MoGE, and, with less frequency, from VVOB Education for Development and World Vision (12.5 percent). Of all 50 teachers interviewed, 12 percent also reported receiving a workshop or training on child protection during the last 12 months.

FIGURE 11. ECE TEACHERS' DESIRE FOR TRAINING



As shown in Figure 11, teachers would like to receive more support and training in different areas. More than half of teachers would like support on how to use the curriculum (52 percent), how to teach young children (58 percent), and how to assess children's development (62 percent). This aligns with the lack of training and specialization of teachers, as well as their limited experience in the field of ECE. Lastly, almost 40 percent of teachers would also like to receive support on record keeping, and 48 percent would like to learn how to manage a classroom.

Classroom management skills are especially important in schools with large classroom sizes to ensure instructional time is maximized and, for ECE, to ensure that teachers can effectively implement play-based pedagogical practices. To understand teachers' perceptions of classroom management and discipline, ECE teachers were asked what kind of punishment children receive when they misbehave. About 56 percent of teachers reported that learners are redirected to an appropriate activity, 52 percent mentioned that learners receive verbal punishment, 12 percent reported that children receive physical punishment, and 8 percent reported that learners are removed from the classroom. The results indicate that many ECE teachers are employing classroom management techniques that may negatively impact learners' ability to receive instruction.

INSTRUCTIONAL TIME DEDICATED TO LEARNING

The MoGE ECE Standard Guidelines indicate that ECE should be for a minimum of four hours a day, out of which 60 percent should be dedicated to learning through play and 40 percent to formal, structured delivery. To better understand how much time ECE teachers spend on various activities, including instruction in the classroom, assessors asked them to quantify the amount of time they spent on each activity. Table 11 shows the results by activity and province. The results indicate that ECE teachers spend the majority of their time teaching in the classroom, with an average of nearly 170 minutes reported teaching classes per day (this is 2 hours and 50 minutes, or nearly 3 hours). Teachers spend, on average, less than one hour preparing their lessons/classes. After teaching, the next activity that teachers spend the most time on is administrative processes and procedures, with almost 90 minutes on average dedicated per teacher.

Although administrative activities are important, they exceed by more than 30 minutes the time they dedicate to other relevant activities, such as preparing lessons and involving children in play activities. To prepare high-quality instruction that utilizes play-based pedagogy, which often requires the creation of manipulatives and other visual aids, ECE teachers may need more time to dedicate to their lesson preparation.

TABLE 11. DISTRIBUTION OF ECE TEACHERS' TIME (MINUTES)

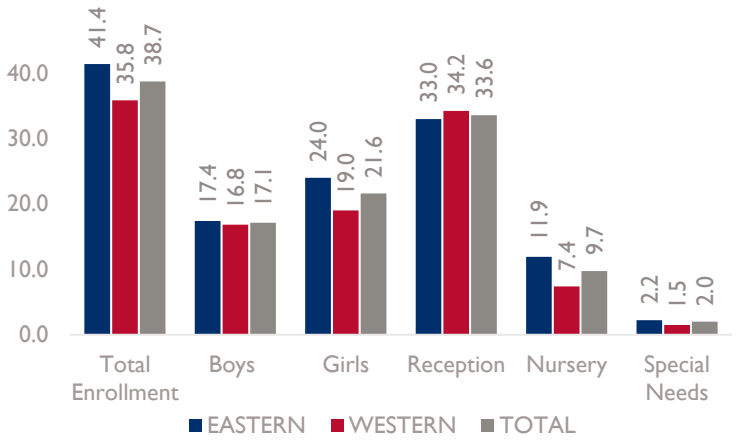
ACTIVITY	PROVINCE	MEAN	STANDARD DEVIATION	OBS.	MARGIN OF ERROR	LOWER 95% INTERVAL	UPPER 95% INTERVAL
Teaching	**Total**	**169.8**	**114.3**	**50**	**31.7**	**138.1**	**201.5**
	Eastern	174.8	101.2	26	38.9	135.9	213.7
	Western	164.4	129.1	24	51.6	112.7	216.0
Involving children in playing activities	**Total**	**58.5**	**37.6**	**50**	**10.4**	**48.1**	**68.9**
	Eastern	60.0	43.3	26	16.6	43.4	76.6
	Western	56.9	31.3	24	12.5	44.4	69.4
Preparing for lessons	**Total**	**54.3**	**35.3**	**50**	**9.8**	**44.5**	**64.1**
	Eastern	56.0	40.4	26	15.5	40.4	71.5
	Western	52.5	29.7	24	11.9	40.6	64.4
Administrative work	**Total**	**89.7**	**116.1**	**50**	**32.2**	**57.5**	**121.9**
	Eastern	92.3	142.8	26	54.9	37.4	147.2
	Western	86.9	80.8	24	32.3	54.5	119.2
Other activities	**Total**	**57.9**	**81.6**	**50**	**22.6**	**35.3**	**80.5**
	Eastern	51.3	61.2	26	23.5	27.8	74.9
	Western	65.0	100.1	24	40.0	25.0	105.0

SCHOOL CONDITIONS

ECE ENROLLMENT AND ATTENDANCE

ECE centers have an average enrollment of 41 learners per classroom, as shown in Figure 12. These are divided into 33 learners at reception and 12 learners at nursery. However, in most schools, there was only one ECE classroom, so teaching tended to be singular in practice rather than differentiated by these two age groups. On average, enrollment is 56 percent girls and 44 percent boys, reflecting a slight tendency for parents to send girls before boys to ECE. In addition, ECE classrooms tend to be overcrowded. Among sampled schools, 68 percent of classrooms had 31 or more learners enrolled, and 32 percent had more than 50 learners. As discussed under "Fidelity of Implementation" below, ECE classroom size is well over the MoGE ECE Standard Guidelines, which recommends 25 to 30 learners for a reception classroom with five- to six-year-olds and that the classroom should effectively be divided by "reception" and "nursery." In addition, the results indicate an average of two learners with special needs per classroom. Special needs conditions include,

FIGURE 12. AVERAGE ECE CLASSROOM SIZE



but are not limited to, autism, deaf/mute, poor vision/visually impaired/blind, mental impairment, physical impairment, or other permanent health conditions that may affect children's learning. Overcrowded classrooms may impact the ability of teachers to deliver high-quality instruction to all ECE learners, especially those with special needs. Additional information regarding the extent to which sampled ECE teachers' provided opportunities for learners to discuss diverse community or religious groups can be found within the MELE results section.

In addition to the high number of enrolled learners in the ECE classroom, assessors observed low attendance on the days they visited classrooms. It should be noted that the enrollment values described here refer to the classroom, so they include both reception and nursery enrollments. Attendance was low across learner sex and province, with a little more than one in three enrolled learners not in attendance on the day of the assessment. Table 12 shows the average enrollment and attendance in ECE classrooms on the day of the assessment. Low attendance may be due to many reasons including but not limited to the high incidence of illness, challenges in traveling to school due to road conditions in the rainy season, gassing attacks that affected several districts during data collection, the need to help with household chores at home, and/or a low priority parents may place on ECE. Thus, schools should implement measures that promote consistent ECE attendance to ensure learners receive enough instruction to develop skills in the fundamental domains of early childhood development.

TABLE 12. ATTENDANCE IN ECE CLASSROOMS

CATEGORIES	AVERAGE ENROLLMENT	ATTENDANCE ON DAY OF	PERCENTAGE ATTENDANCE
Classroom total	38.7	24.8	64.0%
Eastern	41.4	26.8	64.9%
Western	35.8	22.5	62.9%
Boys	17.1	11.1	64.6%
Girls	21.6	13.7	63.5%

RESULTS: INTERNATIONAL DEVELOPMENT EARLY LEARNING ASSESSMENT (IDELA) IN CINYANJA AND SILOZI

This section presents baseline results for each domain as average learner scores disaggregated by sex, grade level, and participation in ECE. The report first discusses baseline levels of skills among ECE learners, then Grade 1 learners with and without ECE, noting when the differences between categories are statistically significant. Annex 1 presents fully disaggregated results for the IDELA.

BASELINE PERFORMANCE OF ECE LEARNERS

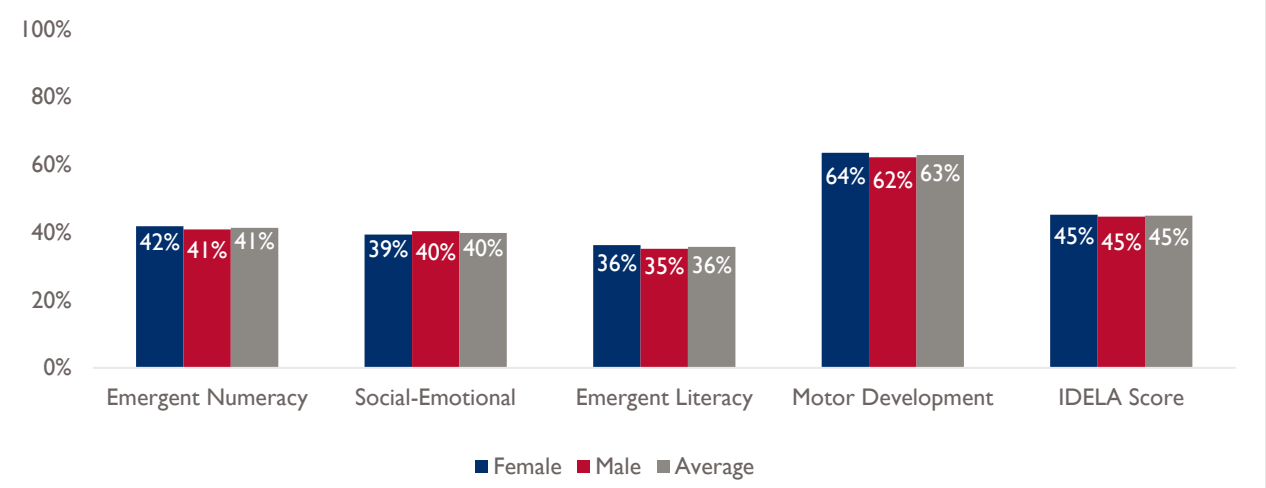
Drawn from 52 GRZ schools sampled in Eastern and Western provinces, 511 ECE learners were assessed at the beginning of the school year using the IDELA tool and responded to a short learner questionnaire. The results intend to set baseline levels at the start of ECE, from which trends over time can be examined to understand how ECE programming supports learners' skills development. This section presents the overall school readiness scores, as well as results for each of the IDELA domains. By identifying strengths and areas for improvement, we hope to support data-driven decision making to improve learning outcomes.

SCHOOL READINESS LEVELS

Overall school readiness levels are calculated as the average score on the IDELA tool, represented as a percentage and inclusive of all four domains: emergent numeracy, emergent literacy, social and emotional skills, and motor development. Overall, as shown in Figure 13, on average, ECE learners scored 45 percent at baseline. There were also no statistically significant differences based on learner sex: both ECE boys and ECE girls, on average, scored 45 percent. ECE learners in Eastern province scored slightly better than those in Western provinces, with an average score of 46 percent to 44 percent, respectively. However, the difference was not statistically significant.

Overall, ECE learners tended to perform best in the motor development domain (63 percent), in comparison to the emergent numeracy (41 percent), social and emotional skills (40 percent), and emergent literacy domains (36 percent). In Zambia, ECE learners may walk long distances to attend school, help at home with household chores, and play within diverse terrains in the community. As such, ECE learners may arrive at school with more advanced fine and gross motor development skills, in contrast to the other domains of early childhood development. While scores in the emergent numeracy, emergent literacy, and social and emotional skills may be lower than motor development scores, the results highlight that, when ECE learners enter school at the beginning of the year, they have some prior learning in all domains. However, there is also substantial room for improvement over the course of ECE programming.

FIGURE 13. ECE LEARNERS' AVERAGE SCORES BY SEX



* Differences by sex were not statistically significant.

EMERGENT NUMERACY SKILLS

According to the MoGE-approved ECE Syllabi, ECE learners should be able to demonstrate competency in pre-mathematics by classifying objects, counting, and applying geometrical skills and should be able to identify Zambian currency. To achieve competency in these areas, ECE teachers are expected to provide instruction on the following topics for five to six-year-olds in the reception year: (1) algebra: classification, including matching, sorting, ordering, and grouping; (2) numbers: counting, number recognition, number sequencing, adding, subtracting, and number writing; (3) geometry: shapes; (4) measurements: length, weight, and time; and (5) commercial arithmetic: money. The MoGE reports that ECE children learn best when math instruction includes manipulating objects, and they are exposed to rich, informal mathematics activities that support children's natural curiosity for math concepts (Ministry of General Education, 2013).

To assess learners' emergent numeracy skills, the IDELA tool includes seven sections that closely align to the MoGE's ECE Syllabi and emergent numeracy competencies. The IDELA tool includes the following emergent numeracy subtasks that assess skills and knowledge of:

1. **Size and Length:** In this subtask, learners are provided with several picture cards with objects of varying size and length on them. They are then asked to select the card that corresponds to the size characteristic provided by the assessor, such as asking them to select the longest or biggest object.
2. **Sorting and Classification:** Learners are provided with cards with different and similar characteristics and asked to sort them into two piles, first by one characteristic and then again by a second characteristic.
3. **Shape Identification:** Learners are provided with a picture that includes several different common shapes. The assessor then asks them to point to specific ones in turn.
4. **Number Sense/Identification:** Learners are provided with a number card with numbers between 1 and 20 divided into a grid with four rows and five columns. Learners are asked to go one by one across the row to tell the assessor what number each one is. If the learner identifies less than three numbers correctly in the first two rows, they stop there and do not continue to the third and fourth rows.

5. **Puzzle Completion:** Learners are provided with a complete picture, as well as the picture cut into six puzzle pieces. They are asked to join the pieces together to make the picture. This task aims to examine their problem-solving skills.
6. **Additional and Subtraction:** In this subtask, learners are provided with 20 small objects to serve as counters, as well as a picture with several items on it. Assessors then read short scenarios to the learners and ask them to correctly identify how many objects they have as a result.
7. **One-to-One Correspondence:** To assess learners' ability to assign exactly one number to one corresponding object that is being counted, learners are provided with 20 small objects to serve as counters and then asked to give a specific number to the assessor.

Overall, ECE learners scored 41 percent across all emergent numeracy subtasks at baseline. However, they demonstrated stronger skills in comparing objects by size and length, with an average score of 91 percent, in comparison to number sense (20 percent), sorting and classifying (32 percent), and shape identification (38 percent). ECE learners scored the lowest in the puzzle completion task, with an average score of 8 percent; however, this may be a result of a lack of exposure to puzzles at home prior to ECE. ECE Learners on average scored 58 percent on the addition and subtraction subtask, but, surprisingly, they performed better on subtraction, with an average score of 82 percent, in comparison to items assessing their addition skills (average score of 32 percent) and counting skills (average score of 62 percent). ECE girls scored slightly higher than ECE boys overall, but they did not consistently score better across the subtasks. The mean difference between ECE boys and ECE girls was only found to be statistically significant for the number sense and one-to-one correspondence subtasks. ECE learners sampled from schools within Eastern province also scored slightly higher than those from Western province. However, the differences were not statistically significant for all subtasks. Table 13 below shows the average scores on each of the emergent numeracy subtasks by learner sex and province.

TABLE 13. ECE LEARNERS' EMERGENT NUMERACY SCORES BY SEX AND PROVINCE

ITEMS	ALL	SIZE AND LENGTH	SORTING	SHAPE	NUMBER SENSE	PUZZLE	ADD AND SUBTRACT	ONE-TO-ONE
Overall	41%	91%	32%	38%	20%	8%	58%	43%
Girls	42%	91%	32%	37%	22%	7%	58%	46%
Boys	41%	92%	32%	39%	17%	8%	56%	40%
Significance	None	None	None	None	***	None	None	*
Eastern	42%	93%	32%	41%	21%	8%	56%	43%
Western	41%	89%	31%	35%	19%	8%	61%	42%
Significance	None	**	None	**	None	None	*	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

EMERGENT LITERACY SKILLS

The ECE Syllabi's weekly schedule provides that ECE learners should receive frequent instruction and practice in listening and speaking, pre-reading, and pre-writing skills. By the end of ECE, children are expected to manage the principles of sound, meaning, structure, and everyday use of language in order to engage in effective communication and linguistic accomplishment (Ministry of General Education, 2013).

Within the IDELA tool, learners complete six sub-tasks to assess their emergent literacy skills. These include expressive vocabulary, oral comprehension (listening comprehension), phonemic awareness, print awareness, letter identification, and emergent writing. These represent foundational skills that ECE learners begin to apply as they learn to put letter sounds together to decode new words. The results on these six subtasks are combined to provide learners' overall emergent literacy skills. At baseline, the average score in emergent literacy skills among ECE learners was 36 percent. Girls on average scored one percentage point higher than boys, and learners in Eastern province also on average scored one percentage point higher than learners in Western province. However, both of these differences were not statistically significant. Table 14 shows the overall scores in each of the six subtasks.

TABLE 14. ECE LEARNERS' EMERGENT LITERACY SCORES BY SEX AND PROVINCE

ITEMS	ALL	VOCABULARY	PRINT AWARENESS	LETTER IDENTFICATION	PHONEMIC AWARENESS	EMERGENT WRITING	ORAL COMPREHENSION
Overall	36%	37%	54%	6%	19%	52%	45%
Girls	36%	37%	54%	7%	21%	55%	43%
Boys	35%	38%	54%	6%	17%	50%	46%
Significance	None	None	None	None	*	**	None
Eastern	36%	42%	52%	9%	22%	48%	44%
Western	35%	32%	57%	4%	16%	57%	45%
Significance	None	***	*	***	***	***	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

In the 2018 Baseline EGRA in Five Target Provinces, boys on average outperformed girls in listening comprehension, but girls on average outperformed boys in the other subtasks (USAID Education Data Activity, 2019). Similarly, at baseline, ECE boys outperformed ECE girls in the oral comprehension subtask, with an average score of 46 percent to 43 percent, and in the vocabulary subtask, with an average score of 38 percent to 37 percent. ECE girls outperformed boys in letter identification, phonemic awareness, and emergent writing. However, the mean differences between ECE boys and ECE girls were only statistically significant in the phonemic awareness and emergent writing subtasks, at the 10 percent and 5 percent levels, respectively.

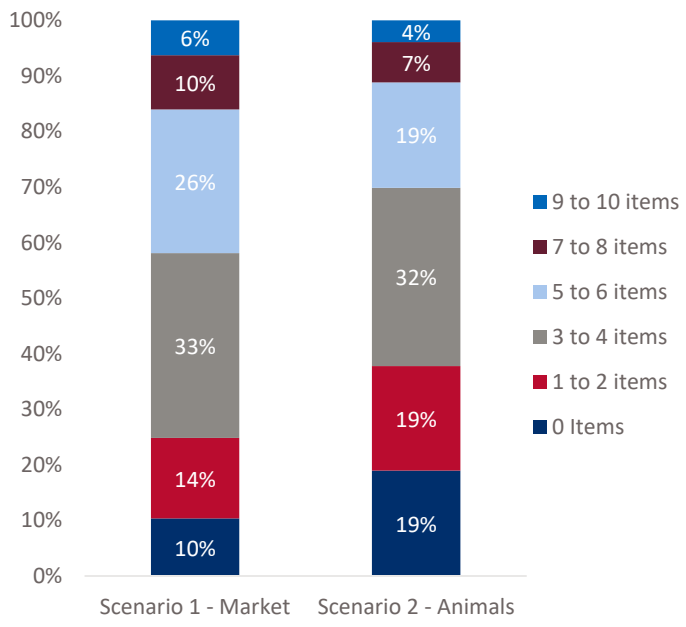
There also are statistically significant differences in performance in the emergent literacy tasks between sampled learners from Eastern and Western provinces, with ECE learners sampled from Eastern provinces on average performing slightly better than learners from the Western province. ECE learners sampled from Eastern province on average scored 42 percent on the expressive vocabulary task, in comparison to an average score of 32 percent for learners sampled from Western province; these results are statistically significant at the 1 percent level. This may be in part because there is a larger proportion of second language learners among the sample in Western province. Second language learners require additional exposure to the language of instruction in order to build their vocabulary skills in that second language. In addition, Western province tends to be more remote, with lower connectivity and more disadvantaged in terms of socio-economic status than Eastern province. These contextual factors may reduce ECE

learners' exposure to rich vocabulary through media such as the radio, TV and mobile phones. Finally, as mentioned in the section outlining the limitations of this study, there may be linguistic differences between Silozi and Cinyanja which could contribute to these differing results at baseline. On the letter identification subtask, ECE learners sampled in Eastern province on average scored 9 percent, in comparison to an average score of four percent among ECE learners from Western province, and the results are significant at the 1 percent level. The letter identification subtasks were specifically adapted for each of the languages to align to the National Literacy Framework's recommended scope and sequence for teaching each language. As a result, the observed differences in scores may be due to these differences rather than differences in ECE learners' skills.

The following additional data for each of the emergent literacy subtasks can help identify strengths and specific areas for additional instructional focus in ECE.

EXPRESSIVE VOCABULARY. As learners begin to apply letter sounds in order to decode simple words, it is important that they have sufficient vocabulary skills to attach meaning to those words. This enables them to focus on the process of decoding without simultaneously needing to learn what the words mean. The expressive vocabulary subtask assesses learners' knowledge of age-appropriate vocabulary words. Learners are asked to name up to 10 common items they would find at a market and up to 10 animals. Learners received a score of 0–10 based on the number of appropriate items they could say to the assessor. On average, ECE learners scored 37 percent on this subtask, indicating that they were able to identify, on average, between three and four words for each scenario. However, 10 percent of ECE learners were not able to identify a single item within a market, and 19 percent were not able to identify an animal they would find on a farm. These results suggest that ECE learners would benefit from the explicit teaching of vocabulary words, especially in schools with a high proportion of second language learners, in order to strengthen their oral language skills. Figure 14 shows the distribution of scores for both scenarios.

FIGURE 14. DISTRIBUTION OF EXPRESSIVE VOCABULARY SCORES



ORAL COMPREHENSION. Oral or listening comprehension, vocabulary, and phonemic awareness skills are pre-requisites for learning to read. To assess learners' oral comprehension skills in the IDELA, learners listen to a simple passage read aloud to them by an assessor and then are asked to respond to five comprehension questions. Four questions are literal comprehension questions that assess learners' recall of basic information from the text, such as where it took place. One question is an inferential question that may have more than one right answer, but only logical answers based on the text and the context

are accepted. Because IDELA was administered in two different languages, Cinyanja and Silozi, each passage differs slightly. As such, there should be no assumption of equivalence or comparability across them.

On average, ECE learners scored 45 percent on the oral comprehension subtask, meaning they could, on average, answer slightly more than two out of the five questions correctly. This closely aligns with the results of the 2018 Baseline EGRA in Five Target Provinces, where Grade 2 learners, on average, scored 41 percent (USAID Education Data Activity, 2019). There were no statistically significant differences in mean scores by learner sex and by province. Learners scored lowest on the inferential question, with only 18 percent of learners answering it correctly. However, their results varied on the four literal questions, with over 85 percent of learners answering one correctly but only 25 percent answering another correctly. Evidence suggests that explicit instruction on comprehension strategies supports learners' skills development (Save the Children, 2015). The results suggest that ECE learners would benefit from frequent practice with listening to stories, coupled with comprehension activities such as answering questions about what happened and why, retelling the story to a partner, or creating plausible alternative endings, among others. The lack of vocabulary described before could also be impacting oral comprehension performance. For example, ECE learners that scored up to 2 items in the previous vocabulary task scored only 38 percent in oral comprehension, while students that named up to nine or ten items scored almost 60 percent in oral comprehension.

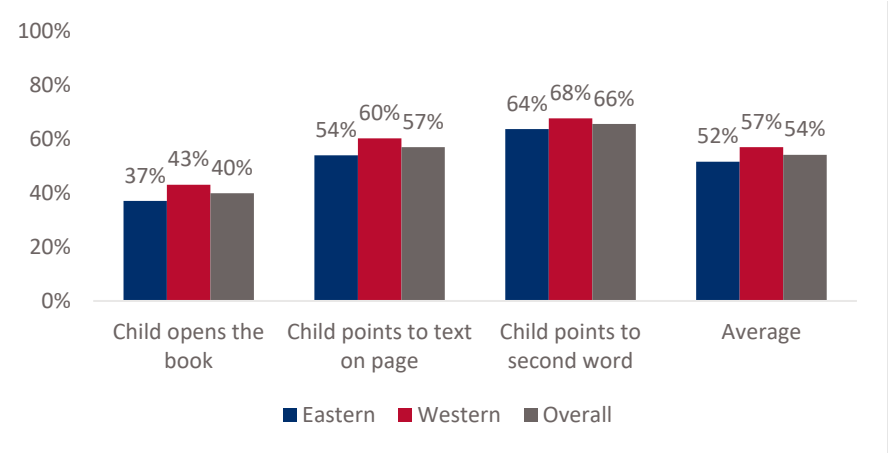
PHONEMIC AWARENESS. Evidence suggests that phonemic awareness, or the ability to hear and manipulate sounds in spoken words, is a strong predictor of early reading success (Blachman, 2000). In order to assess learners' awareness of familiar initial sounds, they are provided with a word and its initial sound, such as *cat* and the /c/ sound. Then, the assessor reads three additional words, one of which has the same initial sound as the word provided. The learner is asked to identify the word with the same initial sound. For example, if *cook*, *ball*, and *dog* are provided, the learner would select cook as having the same initial /c/ sound as *cat*.

On average, ECE Learners scored 19 percent on the phonemic awareness subtask. Learners sampled from Eastern province scored slightly better, with an average score of 22 percent correct, whereas learners sampled from Western province on average scored 16 percent. The results were statistically significant at the 1 percent level. These results indicate that, on average, ECE learners identified less than one of the three initial sounds presented to them. This low average is in part due to the high number of zero scores in this particular subtask, 60 percent of ECE learners scored zero and were not able to identify any initial sounds. However, there were slight differences in the subtask due to the linguistic differences between Cinyanja and Silozi, which may explain the differences in scores found. The results suggest that ECE learners at the beginning of the year lack familiarity with the initial sounds within words, and therefore would benefit from targeted activities to support them to develop these skills throughout the year. Phonemic awareness is an especially important skill to master within ECE to enable learners to successfully begin decoding simple words in Grade 1.

PRINT AWARENESS. The print awareness subtask assesses learners' orientation to books and print. Learners are provided with an age-appropriate story book and asked to show the assessor how they would open the book to read it, where they would start reading, and how they continue to read. On average, ECE learners scored 54 percent on this subtask, showing that learners begin ECE with prior exposure to print and/or story books. Overall, 40 percent of learners could correctly open the book, over half were able to show where t would start reading by pointing to the first word on the page, and

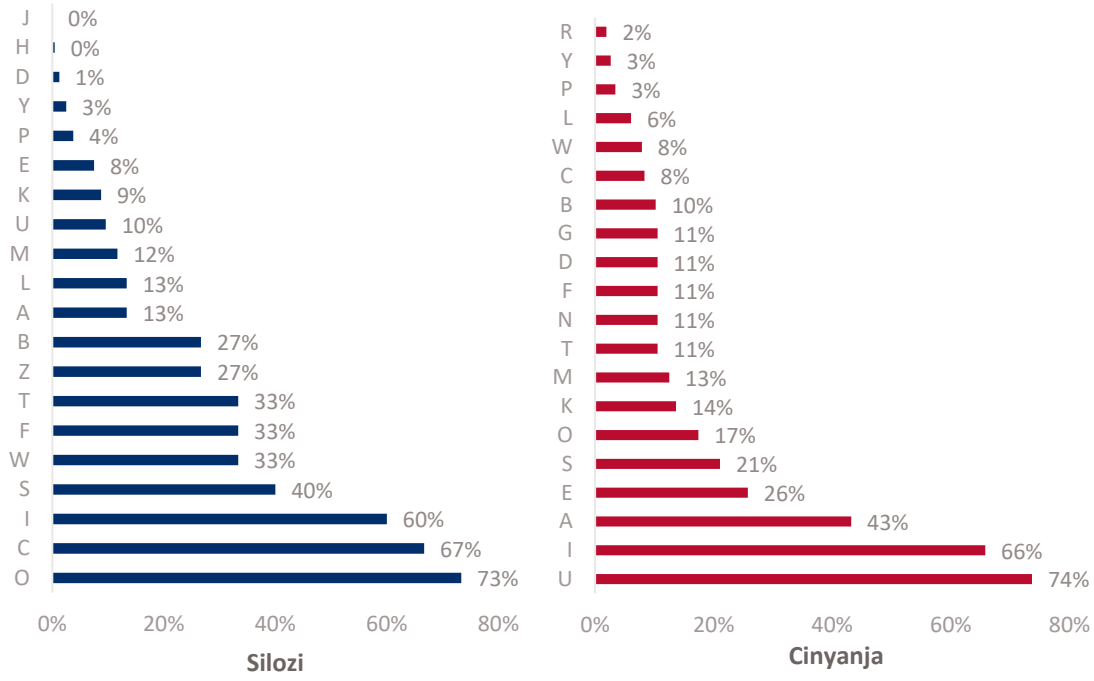
two-thirds were able to correctly show that they read the text from left to right across the page. Figure 15 below shows the average scores for each item by province.

FIGURE 15. PRINT AWARENESS SCORES BY PROVINCE



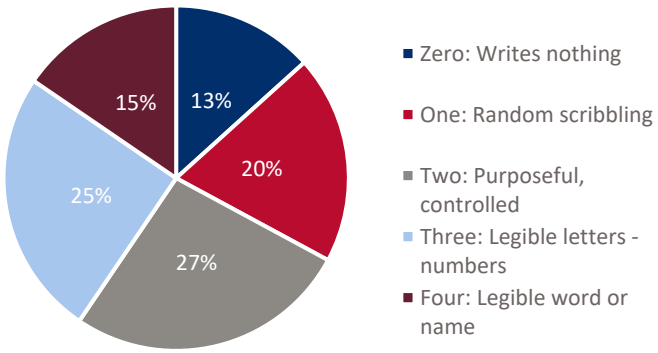
LETTER IDENTIFICATION. To assess learners' knowledge of the alphabet, they are given a letter chart with a total of 20 letters aligned to the National Literacy Framework and ECE Syllabi. Due to linguistic differences between Silozi and Cinyanja, each version of the IDELA tool was specifically adapted to ensure the letters closely aligned to their frequency within each language and are taught within the ECE Syllabi. Learners are asked to identify each letter one by one in the chart. There is no time limit, but if learners get three of fewer correct in the first two rows, they do not progress to the remaining two rows. Overall, ECE learners on average scored 6 percent on this subtask, but 62 percent of ECE learners scored zero, meaning that they could not identify a single letter at baseline**.** Figure 16 below shows the percentage of learners that correctly identified a particular letter. For ECE learners assessed in Cinyanja, more were familiar with vowels than consonants. This may be in part given that these sounds are taught first within the ECE syllabi. However, this trend was not observed among ECE learners assessed in Silozi.

FIGURE 16. CINYANJYA AND SILOZI LETTER IDENTIFICATION RESULTS



EMERGENT WRITING. To assess emergent writing skills on the IDELA tool, learners are provided with a piece of paper and pencil and asked to write their name in any way they know. The resulting script is then scored using the following scale: (0) if they write nothing; (1) if there is random scribbling that does not resemble letter-like symbols; (2) if there are purposeful controlled symbols, but the letters are unrecognizable; (3) if there are some legible letters or numbers; and (4) if the child's name or another word is written legibly. Figure 17 presents the distribution of scores among ECE learners at baseline. 13 percent of ECE learners wrote nothing, and 20 percent were able to write random scribbles. However, over half were able to write with purposefully controlled symbols or with some legible letters or numbers. In addition, 15 percent were able to write their name or another legible word. This indicates that most learners enter ECE with some minimal emergent writing skills; however, there is a large degree of variance among learners' skills. As a result, it will be important that ECE teachers provide scaffolded and differentiated instruction to support learners entering with less emergent writing skills to catch up to their peers.

FIGURE 17. BASELINE EMERGENT WRITING SKILLS AMONG ECE LEARNERS



SOCIAL AND EMOTIONAL SKILLS

One of the primaries aims of ECE in Zambia is to support learners in developing emotional intelligence and self-regulation skills. While there is not a specific subject within the ECE Syllabi dedicated to the teaching of these skills, there are several topics within social studies that align with items included in the IDELA, such as family and community. Within the IDELA, learners are asked to respond to questions related to perspective taking, naming friends, recognizing emotions, and responding to conflict.

At baseline, ECE learners, on average, scored 40 percent in the social and emotional domain, demonstrating that they enter ECE with existing skills. ECE boys scored slightly better than ECE girls. However, the difference in means was not statistically significant. Learners sampled from Eastern province scored higher at 44 percent, in comparison to learners sampled from Western province at 36 percent, and the difference was significant at 1 percent level. Table 15 below shows the complete results for the five subtasks that measured learners' social and emotional skills disaggregated by learner sex and province.

TABLE 15. ECE LEARNERS' SOCIAL AND EMOTIONAL SCORES BY SEX AND PROVINCE

ITEMS	ALL	PERSONAL AWARENESS	FRIENDS	EMOTIONAL AWARENESS	EMPATHY OR PERSPECTIVE TAKING	SOLVING CONFLICT
Overall	40%	67%	48%	26%	26%	32%
Girls	39%	68%	49%	24%	25%	32%
Boys	40%	67%	47%	28%	28%	33%
Significance	None	None	None	None	None	None
Eastern	44%	71%	53%	30%	28%	36%
Western	36%	64%	43%	20%	24%	28%
Significance	***	***	***	***	None	**

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

The results indicate that there are no statistically significant differences in mean scores between boys and girls. However, similar to the trend observed in the results for other early childhood domains on the IDELA, ECE learners sampled in Eastern province had higher average scores than learners in Western province. This trend was observed across all subtasks, and the results were statistically significant in all the subtasks at the one or five percent level, with the exception of the perspective taking subtask, where the difference was not significant.

While social and emotional skills may not be explicitly taught, ECE learners develop these skills through their peer interactions within and outside the classroom. As such, we would expect these skills to develop as children mature, interact with peers, and participate in education programming.

MOTOR DEVELOPMENT SKILLS

Motor development skills are actions that involve the use of our muscles. Fine motor skills are our ability to use our smaller muscles such as fingers, toes, wrists, lips, and tongue to complete actions. In children

aged 5 to 6 years, they may develop their fine motor skills through picking up small objects, putting on clothes, threading beads onto string, turning pages, or using writing utensils such as a pencil or pen. In contrast, gross motor skills require the use of larger muscles such as arms, legs, torso, and feet to conduct larger movements such as running, jumping, climbing, or throwing, among others.

In the IDELA tool, gross motor skills are assessed through the hopping subtask, where learners are asked to hop continuously on one foot. Fine motor skills are assessed through three subtasks: (1) drawing a shape based on a picture of one provided; (2) drawing a person; and (3) folding a piece of paper following the example of the assessor. Table 16 below shows the complete set of scores for each of the subtasks, disaggregated by learner sex and province.

TABLE 16. ECE MOTOR DEVELOPMENT SCORES BY SEX AND PROVINCE

ITEMS	ALL	COPYING A SHAPE	FOLDING PAPER	DRAWING A PERSON	HOPPING
Overall	63%	61%	42%	64%	85%
Girls	64%	59%	45%	67%	83%
Boys	62%	62%	39%	62%	86%
Significance	None	None	**	*	None
Eastern	60%	59%	36%	63%	84%
Western	66%	63%	48%	66%	86%
Significance	**	None	*	None	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

Overall, ECE learners at baseline, on average, scored 63 percent across all fine and gross motor subtasks. However, the results indicate that ECE learners have stronger gross motor skills, with an average score of 85 percent in hopping, in comparison to average scores of 61, 42 and 64 percent on the fine motor skills subtasks. Both ECE girls and ECE boys found the folding a shape subtask hardest, with an average score of 42 percent. There was no uniform pattern of boys outperforming girls or vice versa. ECE boys, on average, performed better on drawing a closed shape and in hopping; however, these differences were not statistically significant. ECE girls on average performed better than boys on folding a shape, significant at the five percent level, and drawing a person, significant at the 10 percent level.

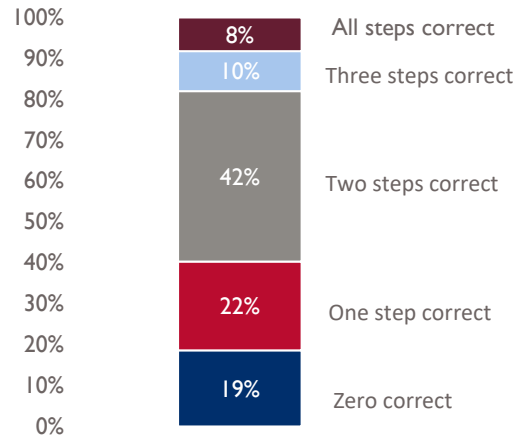
In contrast to the trends observed in the other domains, ECE learners sampled in Western province on average performed better than ECE learners sampled in Eastern province in the motor development subtasks. ECE learners sampled from Western province on average scored 66 percent, in comparison to 60 percent for ECE learners sampled in Eastern province, and the results were statistically significant at the 5 percent level.

COPYING A SHAPE. The first motor development subtask asked learners to copy a closed figure provided to them. At baseline, 61 percent of ECE learners were able to correctly copy the figure, including joining all its corners. However, 18 percent of ECE learners drew a figure with zero closed corners,

indicating that they may be entering ECE with less developed fine motor skills in comparison to their peers.

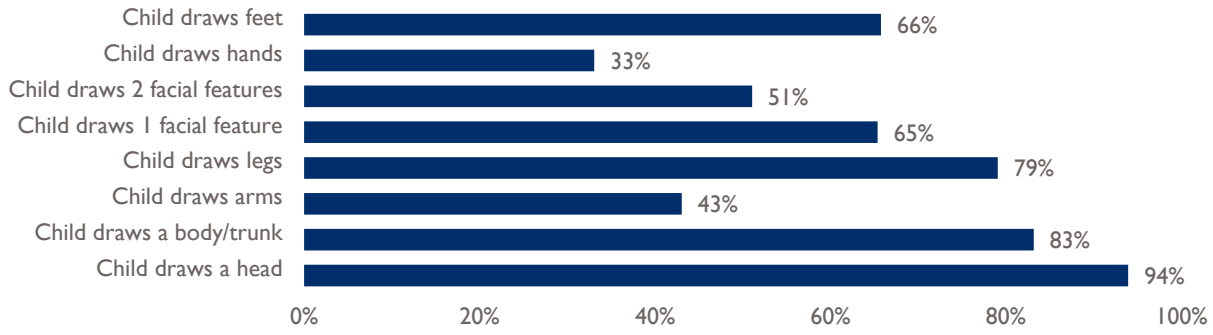
FOLDING PAPER. In this subtask, learners were provided with a square piece of paper and were asked to fold the paper following the assessor's example. Learners were expected to fold the paper in four steps and to ensure the edges met with less than a one-centimeter difference from each other. Figure 18 shows the distribution of ECE learners' scores at baseline. Slightly less that one in five ECE learners could not fold the paper correctly in half, the first step. However, over half were able to complete at least two steps correctly, and 8 percent were able to complete all four steps. This indicates that there is wide variance in fine motor skills among ECE learners at the beginning of the year.

FIGURE 18. DISTRIBUTION OF ECE LEARNERS' SCORES FOR THE FOLDING PAPER SUBTASK



DRAWING A PERSON. In this subtask, learners were given a blank piece of white paper and a writing utensil and asked to draw a person. Learners were assessed based on the types of features they included in their drawing, such as a head, hands, feet, etc. While, on the IDELA, this subtask intends to measure learners' fine motor skills, the "drawing a person test" is often used by educators, psychologists, and other medical professionals to assess early childhood learners' overall cognitive development and personal awareness skills (Basgul et al., 2011). Figure 19 shows the percentage of ECE learners who at baseline included each feature.

FIGURE 19. FEATURES INCLUDED IN ECE LEARNERS' DRAWING OF A PERSON



Over two-thirds of all ECE learners at baseline included feet, legs, a body, and a head when drawing their person. About 65 percent included at least one facial feature, such as eyes, nose, or a mouth, but only 51 percent included at least two of those facial features. Less commonly drawn features include arms, with only 43 percent of ECE learners including them, and hands, with only one-third of ECE learners including them in their drawing.

HOPPING. To assess learners' gross motor skills, they are asked to watch the assessor demonstrate hopping 10 steps in a straight line. Then the child is asked to do as they did, and they are scored based on the number of steps hopped continuously in one go. Only three percent of ECE learners at baseline could not hop at all, and an additional two percent could only hop two or three steps without interruption. In contrast, 20 percent could hop seven to eight steps, and over 60 percent could hop nine or steps continuously, demonstrating that almost all ECE learners enter school with existing levels of gross motor skills. As such, it may be beneficial for ECE teachers to focus instructional time on more complex gross motor skills, such as throwing, climbing, or kicking a ball.

TABLE 17. DISTRIBUTION OF ECE LEARNERS' HOPPING SCORES AT BASELINE

STEPS	PERCENTAGE
Zero steps	3%
One to two steps	0%
Three to four steps	2%
Five to six steps	10%
Seven to eight steps	20%
Nine to ten steps	64%

EXECUTIVE FUNCTION

Executive function is the brain's cognitive processes that support its ability to organize information, plan, solve problems, sustain attention, and connect thoughts and actions (Kind and Wiloughby, 2018). Executive function includes our:

- **Working memory** or the ability to retain and manipulate information over short periods of time,
- **Inhibitory control** or ability to inhibit our automatic response while completing a task, and
- **Cognitive flexibility** or ability to adjust responses or thinking and adapt to new situations or stimuli.

These three functions help support the subsequent development of higher-order processing skills such as problem solving. As such, it is important for early childhood development, as it helps children learn how to learn (King and Wiloughby, 2018).

Within the IDELA, both the inhibitory control and short-term memory subtasks aim to measure learners' executive function skills. In the inhibitory control tasks, learners are asked to perform an action that is the opposite of what the assessor does. To assess short-term memory, learners are asked to remember strings of numbers between one and five in length to then repeat back to the assessor. Since executive function skills are cross cutting, do not directly fall under the core school readiness domains, and are not explicitly taught in ECE, this domain is not included as part of the calculations for the overall IDELA school readiness scores (Pisani, Borisova and Dowd, 2015). Nonetheless, there is a growing understanding of the importance of measuring these skills in young children to better understand the relationship between general cognitive skills and overall school readiness skills to support improvements in learning outcomes.

At baseline, ECE learners scored an average of 58 percent across both the executive function subtasks. On average, they tended to perform better on the inhibitory control subtask (60 percent) in comparison to the short-term memory subtask (57 percent). Table 18 below provides ECE learners' disaggregated scores on the execution function subtasks. As Table 18 shows, there are no significant differences in performance between ECE girls and boys, however, there are statistically significant differences between learners sampled from Eastern province and those sampled from Western province. ECE learners from

Western province on average performance better on the short term memory subtask (59 percent to 55 percent), while ECE learners sampled from Eastern province on average performed better on the inhibitory control subtask (66 percent to 52 percent), and the results were statistically significant at the 10 and 1 percent respectively.

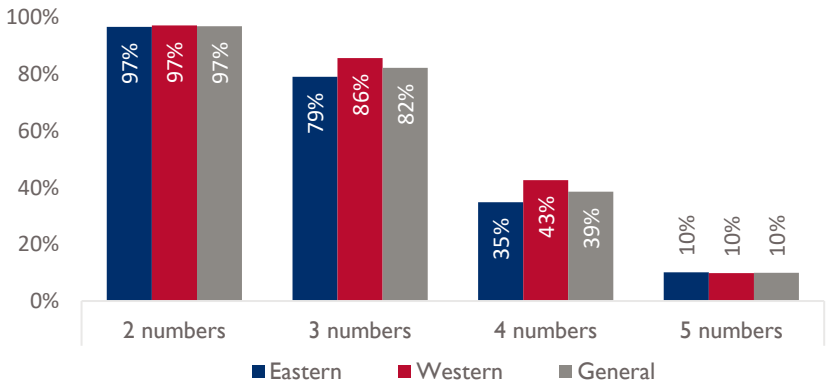
TABLE 18. ECE LEARNERS' EXECUTIVE FUNCTION SKILLS BY SEX AND PROVINCE

ITEMS	ALL	SHORT-TERM MEMORY	INHIBITORY CONTROL
Overall	58%	57%	60%
Girls	57%	58%	56%
Boys	60%	56%	63%
Significance	None	None	None
Eastern	61%	55%	66%
Western	56%	59%	52%
Significance	*	*	***

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

For the short-term memory subtask, there is a decline in the ability of ECE learners to correctly recall the string of numbers with each additional number. Figure 20 below shows the breakdown of the scores for each item, disaggregated by province. It shows that almost all ECE learners at baseline could correctly recall two numbers; however, it declines to 82 percent with three numbers, 39 percent with four numbers, and 10 percent with five numbers. ECE learners sampled from Western province on average performed better than learners sampled from Eastern province among strings with three or four numbers.

FIGURE 20. ECE LEARNERS' SHORT-TERM MEMORY PERFORMANCE BY PROVINCE



Similarly, in the inhibitory control subtask, ECE learners tended to perform better on the initial items, and performance declined on the subsequent items. For example, 64 percent of ECE learners got the first two items correct; however, the percentage who got the third, fourth, and fifth items correct declined to 36, 37, and 36 percent, respectively.

PERSISTENCE AND ENGAGEMENT

As part of the inhibitory control subtask, assessors are asked to provide yes/no responses to two questions based on their observation of the learner's persistence and engagement in the task. Specifically,

assessors answer whether the: (1) child stays concentrated on the task at hand and is not easily distracted; and (2) child is motivated to complete task and does not want to stop the task.

Overall, assessors reported that most learners (91 percent) concentrated on the task at hand and were not easily distracted. However, the percentage varies by gender and by province. For example, assessors observed that ECE boys concentrated slightly more, at 92.6 percent, in comparison to 89.8 percent of ECE girls. However, this small difference is not statistically significant. When comparing by province, the difference is higher and also statistically significant: 94.5 percent of ECE learners sampled from Western Province concentrated on the task and were not easily distracted, while among ECE learners sampled from Eastern Province this percentage is reduced to 88 percent. The same applies to the percentage of learners that were motivated to complete the task and did not want to stop. Overall, assessors observed that 93 percent of ECE learners were motivated. Boys were slightly more motivated than girls at 94.1 percent for boys compared to 91.8 percent for girls; although this difference is not statistically significant. The difference by province is higher and is statistically significant: 96.6 percent of learners from Eastern province were observed to be motivated, compared to 89.1 percent of ECE learners sampled from Western province. Learners that stood concentrated and motivated through the assessment reached an Executive Function overall score 13 percentual points higher than those who did not stay concentrated and motivated.

GRADE 1 LEARNER PERFORMANCE BY PARTICIPATION IN ECE PROGRAM

This section examines the differences in skill levels observed among Grade 1 learners who participated in ECE last year and those who did not. The sample of Grade 1 learners was drawn from the same 52 GRZ-schools sampled in Eastern and Western provinces as the ECE learners assessed, in order to minimize, to the extent possible, the bias of spurious variables within the results. In total, 582 Grade 1 learners were assessed using the IDELA tool in either Cinyanja or Silozi and administered the learner questionnaire. Of the 582 Grade 1 learners, 317 had participated in ECE in the previous year, and 265 had not. The results explore the potential value-added of ECE programming among sampled schools in order to support policymakers' decision-making. Similar to the previous section, this section discusses the overall school readiness scores, as well as results for each of the IDELA domains. When differences in mean scores between the groups are statistically significant, these results are highlighted and discussed.

SCHOOL READINESS SKILLS

Overall, there are statistically significant differences at 99 percent of confidence level between ECE learners at baseline, who scored 45 percent, Grade 1 learners without ECE, who scored 57 percent, and Grade 1 learners with ECE, who, on average, scored 62 percent. In addition, there were statistically significant differences in means between Grade 1 learners with ECE and those without for each of the four domains within the IDELA. Figure 21 shows the average scores for each of the IDELA domains disaggregated by ECE participation, and Figure 22 shows the average scores disaggregated by learner sex. The results illuminate a six percentage point difference based on ECE participation for the emergent literacy and emergent numeracy domains, a five percentage point difference for motor development, and a three percentage point difference for social and emotional skills. The mean differences are statistically significant at the 1 percent for the emergent literacy, emergent numeracy and motor development domains, and at the 5 percent for the social-emotional domain. These results indicate that ECE programming among sampled schools contributes to skills development across all domains as measured by the IDELA tool.

FIGURE 21. GRADE 1 IDELA SCORES BY ECE PARTICIPATION

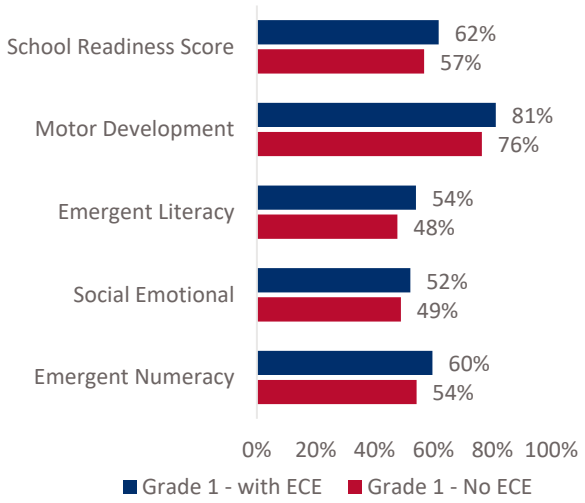
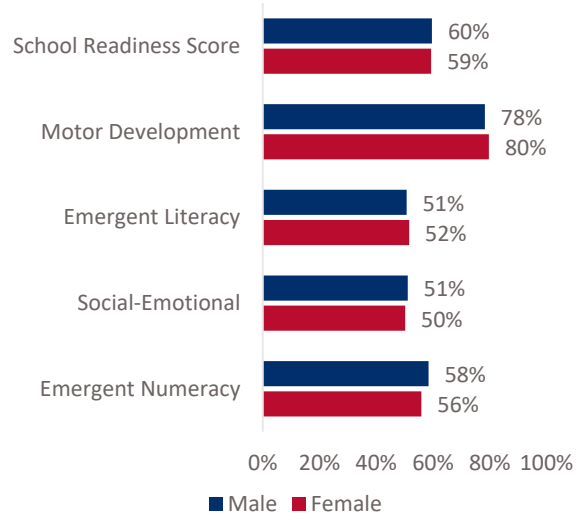


FIGURE 22. GRADE 1 IDELA SCORES BY LEARNER SEX



Similar to the trends observed among ECE learners, Grade 1 learners with and without ECE performed best on the motor development subtask in comparison to the other domains. This aligns to the trends observed in other administrations of IDELA in Zambia with different samples of learners (Pava, Sichamba, and Waitolo, 2015). After motor development, Grade 1 learners performed best on the emergent numeracy domain, scoring an average of 60 percent with ECE participation and 54 percent without it. Grade 1 learners on average scored lowest in the emergent literacy domain (54 percent and 48 percent, respectively). While Grade 1 learners performed at least nine percentage points higher in each domain in comparison to ECE learners at baseline, the results suggest room for substantial improvement, especially in emergent literacy and numeracy skills, to support successful transition to the primary grades.

There were slight differences in performance based on learner sex, with Grade 1 boys outperforming Grade 1 girls in all domains. However, the mean differences were only statistically significant at the 10

percent level for emergent numeracy. This indicates that Grade 1 boys and girls generally perform comparably across all IDELA domains, and that there is no need to focus teacher strategies to one specific gender. Grade 1 learners sampled from Eastern province also, on average, scored between 1 and 8 percentage points higher than Grade 1 learners assessed from Western province in all domains except for motor development, where learners sampled from Western province, on average, scored 3 percentage points higher than learners from Eastern province. The differences were statistically significant at the 1 percent level for the emergent numeracy, social and emotional skills and motor development. The mean difference was not statistically significant for the emergent literacy domain. As noted previously, this observed performance gap may be due to a number of different economic, political, or community-level factors not examined as part of this study. However, the MELE results discussed in the following section illuminate some school and classroom characteristics that may help explain the differences in performance observed.

EMERGENT NUMERACY

Grade 1 learners' emergent numeracy skills were assessed via the same seven subtasks as the ECE learners: (1) size and length, (2) sorting and classification, (3) shape identification, (4) number identification, (5) puzzle completion, (6) addition and subtraction, and (7) one-to-one correspondence.

Overall, Grade 1 learners, on average, scored 57 percent across the emergent numeracy subtasks. However, Grade 1 learners who participated in ECE had an average score that was six percentage points higher (60 percent) in comparison to learners without ECE (54 percent). Grade 1 learners who had participated in ECE on average consistently performed better than learners without ECE, with the exception of the size and length and puzzle completion subtasks. These differences were significant at the 1 percent level overall and for the shape identification, number identification, and addition and subtraction subtasks. The largest performance gap with ECE participation was observed in the number sense or identification subtask, with 13 percentage points between Grade 1 learners with ECE participation and those without it. Additionally, there were nine percentage point, six percentage point, and six percentage point differences in performance on the shape identification, addition and subtraction, and one-to-one correspondence subtasks, respectively. This indicates that ECE programming within the sampled schools may specifically support the development of these emergent numeracy skills. Table 19 provides the complete disaggregated scores by subtask.

TABLE 19. GRADE 1 EMERGENT NUMERACY SCORES BY ECE PARTICIPATION, LEARNER SEX, AND PROVINCE

ITEMS	ALL	SIZE AND LENGTH	SORTING	SHAPE	NUMBER SENSE	PUZZLE	ADD AND SUBTRACT	ONE TO ONE
Overall	57%	95%	43%	43%	48%	16%	82%	72%
With ECE	60%	95%	45%	47%	54%	16%	85%	75%
No ECE	54%	96%	41%	38%	41%	16%	79%	69%
Significance	***	None	None	***	***	None	***	**
Girls	56%	94%	43%	43%	46%	14%	80%	71%
Boys	58%	96%	44%	43%	51%	18%	84%	73%
Significance	*	**	None	None	*	*	*	None
Eastern	59%	97%	47%	45%	51%	14%	86%	73%
Western	55%	93%	39%	41%	46%	17%	79%	70%
Significance	***	***	***	**	**	**	***	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

Across all subtasks except shape identification and one-to-one correspondence, Grade 1 boys outperformed Grade 1 girls in the numeracy domain. The results were statistically significant at the 10 percent level. The largest gap in performance was observed in the number sense subtask, with Grade 1 boys on average scoring 51 percent, in contrast to Grade 1 girls, who, on average, scored 46 percent. However, Grade 1 boys and girls performed similarly on the sorting, shape identification, and the one-to-one correspondence subtasks. Globally, the performance gap in mathematics and science between girls and boys is well documented (Lee, Rhee & Rudolf 2019). However, the differences among Grade 1 learners are slightly larger and significant among more subtasks in comparison to ECE learners. As a result, additional training may be helpful to ensure that targeted interventions do not further exacerbate existing inequalities and help to reduce this performance gap.

Similar to the findings among ECE learners, Grade 1 learners sampled from Eastern province on average tended to perform better (59 percent) than Grade 1 learners sampled from Western province (55 percent), except for the puzzle completion subtask. The mean differences for the overall emergent numeracy domain and size and length, sorting and addition, and subtraction subtasks were significant at the one percent level. The largest observed difference in mean scores was on the sorting and classification subtask, where learners sampled from Eastern province on average scored 8 percentage points higher than learners sampled from Western province. These differences may be the result of various political, social, and economic factors within the provinces, as well as community and school-level factors that affect learners' performance and skills development.

EMERGENT LITERACY

In the emergent literacy domain, overall, Grade 1 learners, on average, scored 51 percent, 15 percentage points more than ECE learners. However, Grade 1 learners who had participated in ECE on average

scored higher, at 54 percent, in comparison to Grade 1 learners without ECE, who, on average, scored 48 percent. The differences were statistically significant at the one percent level. This demonstrates that Grade 1 learners without ECE performed comparably worse in emergent literacy skills than learners who participated in ECE, suggesting that ECE positively contributes to emergent literacy skills development. Table 20 below shows the average scores for each of the emergent literacy subtasks, disaggregated by ECE participation, learner sex, and province.

TABLE 20. GRADE 1 EMERGENT LITERACY SCORES BY ECE PARTICIPATION, LEARNER SEX, AND PROVINCE

ITEMS	ALL	VOCABULARY	PRINT AWARENESS	LETTER IDENTFICATION	PHONEMIC AWARENESS	EMERGENT WRITING	ORAL COMPREHENSION
Overall	51%	46%	67%	20%	34%	79%	61%
With ECE	54%	47%	68%	26%	38%	84%	61%
No ECE	48%	44%	66%	14%	29%	73%	60%
Significance	***	*	None	***	***	***	None
Girls	52%	45%	68%	21%	34%	80%	61%
Boys	51%	46%	67%	20%	33%	78%	61%
Significance	None	None	None	None	None	None	None
Eastern	52%	51%	66%	24%	36%	73%	60%
Western	51%	40%	69%	17%	31%	86%	62%
Significance	None	***	None	***	None	***	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

Grade 1 learners who had participated in ECE on average scored 12 percentage points higher on the letter identification subtask, 9 percentage points higher on the phonemic awareness subtask, and 11 percentage points higher on the emergent writing subtasks. These differences were all statistically significant at the one percent level. However, performance in these skills, which are pre-requisite skills for supporting decoding skills, even with ECE participation, remain low. On average, Grade 1 learners with ECE scored 26 percent on the letter identification subtask, which equates to being able to correctly identify slightly more than five letters out of 20 letters shown to the learner. All of the letters are included within the ECE syllabi; therefore, it may be beneficial to support teachers to incorporate formative assessments into their instructional practices so they can use learner data to inform their instruction. For phonemic awareness, Grade 1 learners with ECE, on average, scored 38 percent, meaning that they could correctly identify slightly more than one initial sound of the three included in the subtask. Phonemic awareness is directly embedded in the ECE syllabi on a daily basis in the pre-reading category, "sounds." While teachers are instructed to teach learners to recognize initial and final sounds, they are not provided specific guidance on evidence-based activities and practices to support learners' skills development in this area and other emergent literacy skills.

Grade 1 learners with ECE and those without performed similarly on the print awareness and oral comprehension subtasks. On average, Grade 1 learners scored 61 percent on the oral comprehension subtask, meaning that they were able to correctly answer three of the five comprehension questions. This is an improvement from ECE learners, who, on average, scored 45 percent, as well as Grade 2 learners, assessed as part of the baseline EGRA in 2018, who, on average, scored 41.05 percent (USAID Education Data Activity, 2019). However, the results are still shy of global standards, which set 80 percent as the benchmark for measuring comprehension (RTI International, 2016). As emergent literacy skills are a pre-requisite to and often predictive of subsequent reading success in later grades, it is important that both pre-service and in-service training to ECE teachers strengthen their capacity to deliver participatory instruction to improve learners' skills.

Grade 1 girls performed slightly better than Grade 1 boys in almost all subtasks; however, the differences were not statistically significant, suggesting that there may be gender parity in emergent literacy skills within this sample. Differences in performance were between one and two percentage points for all subtasks.

Similarly, Grade 1 learners sampled from Eastern province overall scored slightly better than Grade 1 learners from Western province; however, the difference was not statistically significant. Learners from Eastern province on average scored higher than learners from Western province on the vocabulary (51 percent to 40 percent) and letter identification (24 to 17 percent) subtasks, and these differences were statistically significant at the 1 percent level. The results are similar to those found among ECE learners at the start of the year, indicating that the differences may be due to linguistic differences between Silozi and Cinyanja. However, Grade 1 learners from Western province on average performed better by 13 percentage points on the emergent writing subtask, and the difference was significant at the one percent level. These differences may also reflect different instructional practices within the classroom, where ECE teachers in Western province may emphasize emergent writing skills over other skills.

SOCIAL AND EMOTIONAL SKILLS

Grade 1 learners, on average, scored 51 percent across the social and emotional development subtask, a 12 percent increase from ECE learners. Grade 1 learners who participated in ECE, on average, scored 52 percent, in comparison to those without ECE, who, on average, scored 49 percent. The difference was statistically significant at the 5 percent level. However, within the personal awareness, friends, emotional awareness, and empathy or perspective taking subtasks, there were no statistically significant differences in scores by ECE participation, indicating that these skills may develop with maturity, as well as through learning at home and in the community. There were statistically significant differences only on the solving conflict (44 percent to 35 percent), suggesting that the school environment and ECE instruction may support skills development in this particular area.

TABLE 21. GRADE 1 LEARNERS' SOCIAL AND EMOTIONAL SCORES BY ECE PARTICIPATION, SEX, AND PROVINCE

ITEMS	ALL	PERSONAL AWARENESS	FRIENDS	EMOTIONAL AWARENESS	EMPATHY OR PERSPECTIVE TAKING	SOLVING CONFLICT
Overall	51%	75%	56%	38%	45%	40%
With ECE	52%	75%	57%	39%	45%	44%
No ECE	49%	74%	54%	38%	45%	35%
Significance	**	None	None	None	None	***
Girls	50%	74%	57%	37%	44%	39%
Boys	51%	75%	55%	39%	46%	40%
Significance	None	None	None	None	None	None
Eastern	55%	80%	62%	43%	47%	41%
Western	47%	70%	49%	33%	43%	38%
Significance	***	***	***	***	None	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

There were no statistically significant differences in performance between Grade 1 boys and girls, indicating that they tend to perform comparably in this domain of early childhood development. These findings are consistent with the findings among ECE learners, indicating that gender parity in skills development remains after ECE programming and in the absence of it as well.

Grade 1 learners sampled from Eastern province tended to perform better across all subtasks in comparison to learners sampled from Western province, and the results were significant for three out of the five subtasks at the one percent level.

MOTOR DEVELOPMENT

Across all four subtasks within the motor development domain, Grade 1 learners, on average, scored 79 percent, indicating substantial school readiness in this particular domain among all Grade 1 learners. Learners who had participated in ECE, on average, scored 81 percent, 5 percentage points higher than those without ECE. The results were significant at the one percent level, indicating that learners with ECE perform better than those without. However, the differences based on ECE participation were larger among the copying a shape (11 percentage points) and the drawing a person (5 percentage points) subtasks. Both of these specific tasks involve learners' using a pencil to draw; as such, ECE programming may contribute to the specific development of the fine motor skills required to properly grip and maneuver a pencil. In contrast, there were no statistically significant differences by ECE participation among the folding a paper and hopping subtasks, indicating that these skills may develop on par at home and in the community, as within the school environment.

TABLE 22. GRADE 1 MOTOR DEVELOPMENT SCORES BY ECE PARTICIPATION, LEARNER SEX AND PROVINCE

ITEMS	ALL	COPYING A SHAPE	FOLDING PAPER	DRAWING A PERSON	HOPPING
Overall	79%	88%	59%	81%	88%
With ECE	81%	93%	59%	83%	89%
No ECE	76%	82%	58%	78%	87%
Significance	***	***	None	**	None
Girls	80%	87%	62%	82%	88%
Boys	78%	89%	55%	79%	89%
Significance	None	None	**	None	None
Eastern	77%	88%	54%	80%	87%
Western	81%	89%	63%	82%	90%
Significance	***	None	***	None	***

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

Grade 1 girls tended to perform better than Grade 1 boys within the motor development subtasks; however, only the folding a paper subtask was statistically significant. These results are consistent with the findings of among ECE learners. Grade 1 learners sampled from Western province on average scored higher across all motor development tasks in comparison to Grade 1 learners sampled from Eastern province. However, the results were only significant for the Folding a Paper and Hopping subtasks.

EXECUTIVE FUNCTION

Within the IDELA, the inhibitory control and short-term memory subtasks aim to measure learners' executive function skills. While the scores within this domain are included in the overall school readiness calculations, the results may help us to better understand the value-added of ECE programming on learners' cross-cutting cognitive skills.

Overall, a 4 percentage point increase is observed in executive function skills among Grade 1 learners with ECE in comparison to those without. The four percentage point increase is also observed in both the short-term memory and inhibitory control subtasks. However, the difference in means was only significant for the short-term memory subtask. The results indicate that ECE programming may contribute to learners' development of these cross-cutting cognitive skills. The OLS regression results discussed in the next section did not find either executive function as a whole or the individual subtasks as predictive of overall school readiness scores. This indicates that there may be a weak correlation between the skills assessed in this domain and other early childhood development domains assessed on the IDELA.

TABLE 23. GRADE 1 LEARNERS' EXECUTIVE FUNCTION SKILLS BY ECE PARTICIPATION, SEX, AND PROVINCE

ITEMS	ALL	SHORT-TERM MEMORY	INHIBITORY CONTROL
Overall	73%	67%	78%
With ECE	75%	69%	80%
No ECE	71%	65%	76%
Significance	*	**	None
Girls	71%	67%	75%
Boys	75%	68%	81%
Significance	None	None	None
Eastern	74%	67%	81%
Western	71%	68%	75%
Significance	None	None	None

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

In summary, across all domains of early childhood development measured on the IDELA, Grade 1 learners who participated in ECE on average performed better than Grade 1 learners without ECE. This indicates that ECE programming at the sampled schools contributes to skills development and overall school readiness levels.

RESULTS: MEASURING EARLY LEARNING ENVIRONMENT

As part of the study, Education Data activity gathered additional information about the ECE classroom environment that may influence children's learning including ECE teacher pedagogies, the learning environment, access and use of teaching and learning materials, and fidelity of implementation of MoGE curriculum through the MELE instrument. This information was collected through both a full-day classroom observation as well as a teacher questionnaire. In the section that follows, the factors included in the lesson plan and the curriculum are discussed first, before moving on to pedagogical strategies, teacher interactions and the classroom environment.

ACCESS TO AND USE OF THE MOGE CURRICULUM

As shown in Table 24, 87.5 percent of the teachers interviewed reported having a curriculum, which, in all cases, is provided by the MoGE. When asked whether the curriculum uses any of the MoGE ECE Directorate resources, 36 percent of teachers reported that it uses ECE Standard Guidelines, 78 percent reported that it also uses ECE Syllabi, and 16 percent mentioned that it uses Early Learning and Development Standards for Zambia. It is interesting that, although there is a slight trend of better results in the tasks and sub-tasks on IDELA in Eastern province, more teachers in Western province report making use of the MoGE ECE curriculum.

TABLE 24. LESSON PLAN AND CURRICULUM

	USES CURRICULUM	LESSON PLAN/ DAILY PROGRAM COVERS THE FOLLOWING TOPICS				
		Language and literacy	Pre-mathematics	Expressive arts	Environmental Science	Social Studies
Overall	87.5%	90.0%	88.0%	46.0%	64.0%	52.0%
Eastern	80.0%	88.5%	84.6%	34.6%	46.2%	30.8%
Western	95.7%	91.7%	91.7%	58.3%	83.3%	75.0%
Significance	None	None	None	*	***	***

***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively, for difference by learner sex and province.

The assessors also asked to see the lesson plan for the day of the assessment. As shown in Table 24, in an order from highest to lowest, the lesson plans have a greater presence of activities related to language and literacy (90 percent of teachers), pre-mathematics (88 percent of teachers), environmental science (64 percent of teachers), social studies (52 percent of teachers) and, finally, expressive arts (46 percent of teachers). There are well-marked and statistically significant differences between Eastern and Western provinces in the inclusion of environmental science and social studies topics. The lessons plans of Western province teachers seem to include instruction in these topics more frequently than those of Eastern province.

ECE TEACHER PEDAGOGIES

According to early childhood development research, educating young learners is best accomplished through children-centered, play-based activities in which teachers help learners develop school readiness skills. Use of developmentally appropriate teaching and learning methods such as encouraging expression

of ideas, conversation, and questions; small group instruction; peer-to-peer learning and learning areas in the pre-primary learning environment enhance the ways learners naturally learn (UNICEF/Tanzania, 2019). The MoGE ECE Syllabi advocates that a child-centered approach should be utilized at this level, which creates a stimulating environment that builds from children's existing knowledge, skills, values and experiences. However, the MoGE ECE Syllabi provides minimal guidance on what specific pedagogies should be used to implement each aspect of the curriculum. Instead, general methods are suggested that can be applied across the entire curriculum. These include group work, role plays, exploration, experimentation, drama, field trips, problem solving, imitation, games/quizzes, demonstration and discussion (MoGE, 2013).

This section analyzes the pedagogical strategies of ECE teachers in areas such as emergent numeracy, emergent literacy, and motor development, starting with play-based learning opportunities to promote mathematical skills.

EMERGENT NUMERACY SKILLS

Examples of learning topics that support the development of mathematics skills include number sense, time, shapes, colors, sequence, and size. As shown in Table 25, during the day the classroom observation took place, there was a marked trend teachers towards either not including these opportunities or only providing opportunities for the development of mathematical skills through repetition only. Overall, 20 percent of ECE teachers did not develop mathematical activities during the observation, and 44 percent of teachers approached mathematical activities through repetition. Examples of repetition include choral responses to closed-ended questions, individual children using a pointer to name numbers, and writing or copying numbers. In total, only 36 percent of teachers used one or more forms of play-based learning—28 percent used at least one, and eight percent used two or more elements. Teachers who employed play-based pedagogies to teach mathematics allowed children some choice in how they use materials or how to carry out an activity, or they engage children in discussion, use open-ended questions, mathematics games, or exploratory learning techniques. When analyzing the results by province, the data suggest that Western province teachers incorporate more elements of play-based learning into their pedagogical approach, which will positively affect the development of emergent numeracy skills in ECE and later in primary school. However, in general, it is recommended that teachers in both provinces include more of these elements in their pedagogical strategy.

TABLE 25. LEARNING OPPORTUNITIES TO PROMOTE MATHEMATICAL SKILLS

PEDAGOGICAL APPOACH	EASTERN	WESTERN	OVERALL
Does not occur	19%	21%	20%
Taught using repetition only	58%	29%	44%
Taught using ONE element of play-based learning	23%	33%	28%
Taught using TWO OR MORE elements of play-based learning	0%	17%	8%

LITERACY SKILLS

The second field observed by the assessors was the inclusion of elements of play-based learning to promote literacy skills. Examples of learning opportunities to support the development of literacy skills include reciting short rhymes, matching sounds, use of sound cards, initial sound games, songs to teach

letter sounds, listening for the words in stories, mapping letter sounds with words that learners are familiar with, or similar activities. As shown in Table 26, and similar to the findings for emergent numeracy, among sampled schools there is a trend toward repetition-based teaching, with 50 percent of teachers primarily using this pedagogical approach. That is, half of the teachers promote choral responses to closed-ended questions, such as singing the alphabet and repeating letter sounds, individual children using a pointer to name letters, and writing or copying letters. Further, 14 percent of the teachers observed did not develop activities in the area of literacy. Given the MoGE ECE Syllabi instructs that literacy topics should be taught every day, this finding is alarming. Finally, 36 percent of the teachers observed used one or more elements of play-based learning to promote the development of literacy skills, and 13 percent used at least two elements. Participatory and play-based approaches enable learners to practice manipulating sounds in order to learn different phonemes and graphemes, which support their subsequent skills in decoding. Thus, it is recommended that both pre-service and in-service training for ECE teachers focus on how to incorporate more elements of play-based learning into the way they teach literacy on a daily basis.

TABLE 26. LEARNING OPPORTUNITIES TO PROMOTE LITERACY SKILLS

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	19%	8%	14%
Taught using repetition only	38%	63%	50%
Taught using ONE element of play-based learning	35%	13%	24%
Taught using TWO OR MORE elements of play-based learning	8%	17%	12%

EXPRESSIVE LANGUAGE, LISTENING, AND SPEAKING SKILLS

Expressive language skills are taught by using structured and unstructured verbal exchanges that promotes discussion and learning between learners. For example, the teacher asks the majority of children to work in pairs to describe objects or pictures (e.g., color, shape, size, and function), teachers encourage children to tell or retell stories or describe events, or the teacher tells a story and asks children open-ended questions to encourage vocabulary development. Expressive language skills are especially important for supporting learners' vocabulary development, which in turn facilitates comprehension. In addition, for second language learners, frequent instruction and practice is necessary to enable them to acquire the vocabulary and grammatical skills to support learning all subject area. The results are shown in Table 27. One in ten of teachers did not provide any opportunities to promote expressive language skills, and 50 percent taught using repetition, a behavior common amongst the previous domains. In this case, repetition includes the use of choral responses to close-ended questions and individual children using a pointer to repeat words or sentences. About 30 percent of teachers observed used at least one of the elements of play-based learning described above, and only 10 percent of teachers taught expressive language skills by using two or more elements of verbal exchange to promote discussion and learning. As such, it is important that ECE teachers are coached on how to incorporate play-based activities to effectively support expressive language skills' development.

TABLE 27. LEARNING OPPORTUNITIES TO PROMOTE EXPRESSIVE LANGUAGE SKILLS

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	4%	17%	10%
Taught using repetition only	54%	46%	50%
Taught using ONE element of play-based learning	38%	21%	30%
Taught using TWO OR MORE elements of play-based learning	4%	17%	10%

To assess the opportunities provided to promote listening and speaking skills, assessors observed whether the teacher read an age-appropriate storybook to support listening and speaking skills. As shown in Table 28, 98 percent of teachers (almost all) did not read to the learners or read a book that is not age-appropriate, like a text or school book for older children or adults, religious text for adults, or a book with no pictures. The lack of adequate opportunities for developing listening and speaking skills can limit vocabulary development, which will limit the acquisition and development of reading with fluency and comprehension. This may be largely explained by the fact that only 20 percent of schools observed had any storybooks available. The 2018 Baseline EGRA in Five Target Provinces found that Grade 2 learners who read books at school on average performed better in oral reading fluency compared to those that did not and learners who attended a school with a library also performed better than those that did not (USAID Education Data activity, 2019). These results demonstrate the importance of ensuring learners both have access to and get frequent practice with storybooks to support their literacy development. As such, innovative solutions are needed in order to address the lack of reading materials within ECE centers.

TABLE 28. LEARNING OPPORTUNITIES TO PROMOTE LISTENING AND SPEAKING SKILLS

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	100%	96%	98%
Taught using repetition only	0%	0%	0%
Taught using ONE element of play-based learning	0%	0%	0%
Taught using TWO OR MORE elements of play-based learning	0%	4%	2%

In the absence of access to storybooks, another pedagogical strategy teachers can employ to promote learning and vocabulary acquisition is to tell oral stories and promote discussion based on them. Table 29 shows that most teachers (74 percent) did not engage children in oral storytelling or told children an oral story that is not age appropriate. A small percentage of teachers (four percent) did tell the children an oral story but did not engage in further discussion through questions about the story. Finally, 12 percent of teachers used one element of play-based learning, such as asking children basic or close-ended questions about what happened in the story, encouraging children to discuss the story through open-ended questions, discussing vocabulary learned in the story, or connecting the story to the children's own experiences. Lastly, only 10 percent of teachers used two or more of these elements of play-based learning. The results are similar across provinces.

TABLE 29. TELLING ORAL STORIES			
PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	73%	75%	74%
Taught using repetition only	8%	0%	4%
Taught using ONE element of play-based learning	15%	8%	12%
Taught using TWO OR MORE elements of play-based learning	4%	17%	10%

In general, ECE teachers need support in incorporating evidenced-based approaches to support literacy skills development. This finding was found to also be true of this subsection, since little or even no use of play-based elements were observed to promote the development of expressive language, listening, and speaking skills.

FINE AND GROSS MOTOR SKILLS

Fine motor skills refer to the ability to make movements using the small muscles in our hands and wrists. ECE learners rely on these skills to do key tasks in school and in everyday life. Learning opportunities to promote fine motor skills include opportunities for writing, drawing/painting, gathering and ordering small objects, weaving, and stringing beads, among others.

As is shown in Table 30, a high percentage of teachers (60 percent) are teaching fine motor skills, although in an ineffective way. Most teachers use teacher-directed activities focused on the result and not the process, such as writing as directed by the teacher, stringing beads, sorting small objects by color or shape, or activities that are too hard or easy for most children. Further, 22 percent of teachers are using at least one element of play-based learning to promote fine motor skills, such as allowing learners some choice in how to use materials or carry out an activity, having learners engage in the activity on their own with little teacher intervention, or mostly process-focused activities with some emphasis on the product. Lastly, 14 percent of teachers used two or more of the elements of play-based pedagogy mentioned above. In general, although teachers are trying to provide opportunities to promote the development of fine motor skills, the lack of elements of play-based learning may be limiting the effectiveness of these activities, so it is necessary to support teachers to include more of these elements in classroom activities.

TABLE 30. LEARNING OPPORTUNITIES TO PROMOTE FINE MOTOR SKILLS			
PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	0%	8%	4%
Taught using repetition only	73%	46%	60%
Taught using ONE element of play-based learning	23%	21%	22%
Taught using TWO OR MORE elements of play-based learning	4%	25%	14%

Gross motor skills involve movement of the larger muscle groups, like the arms and legs. This includes activities like climbing and jumping. Kids rely on these skills to have successful experiences at school, on the playground, and in the community. The assessors observed whether the teachers provided learning opportunities that allow children to engage in gross motor activities. Activities at school may include running, stretching, and dancing, among others. Table 31 shows that most teachers (42 percent) dedicated

20 minutes or more to activities that promote gross motor skills, 10 percent of teachers did not include any gross motor activities during the time they were observed, 26 percent dedicated 10 minutes or less to gross motor activities, and 22 percent dedicated between 10 and 20 minutes to such activities.

TABLE 31. LEARNING OPPORTUNITIES THAT ALLOW CHILDREN TO ENGAGE IN GROSS MOTOR ACTIVITIES

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	0%	21%	10%
Taught using repetition only	42%	8%	26%
Taught using ONE element of play-based learning	23%	21%	22%
Taught using TWO OR MORE elements of play-based learning	35%	50%	42%

Both ECE and Grade 1 learners demonstrated stronger gross motor skills in comparison to the other domains assessed on the IDELA. As the MELE results suggest, this may be part due to the fact that almost all teachers include activities that support gross motor skill development on a regular basis.

FREE PLAY AND OPEN CHOICE ACTIVITIES

Free play and open choice are especially important for early childhood development as they support creativity, confidence, and critical thinking skills. As part of the MELE, assessors observed whether teachers used learning activities that promote free play or open choice. Such activities include exploring activity centers in the classrooms, self-directed games in small groups, and play inside or outside the classroom. As shown in Table 32, in about half the cases (48 percent of teachers observed), no free choice/open play activity was observed. Next, in 14 percent of classrooms, the teacher chose where or how children played with materials, or the teacher provided limited choices for the activity, and children played with materials in a prescribed way, discouraging free play or open choice. About one in four (24 percent) teachers gave the learners one opportunity to choose their own activity and where and how they played with materials, but the teacher did not interact and/or add to children's play or extended learning. Lastly, 14 percent of teachers gave such opportunities to learners and interacted and added to children's play or extended learning.

TABLE 32. LEARNING ACTIVITIES TO PROMOTE FREE PLAY OR OPEN CHOICE

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	50%	46%	48%
Taught using repetition only	19%	8%	14%
Taught using ONE element of play-based learning	19%	29%	24%
Taught using TWO OR MORE elements of play-based learning	12%	17%	14%

ENGAGEMENT IN MUSIC OR MOVEMENT ACTIVITIES

The MoGE ECE Syllabi articulates that the purpose of expressive arts including music and movement is to promote creativity, critical thinking, positive personal relationships, self-expression and self-confidence.

As such, ECE teachers are expected to implement frequent learning opportunities for children to engage in music/movement activities including singing songs, dancing, acting and role-play, group songs/dances all together or in turns, nursery rhymes, and similar activities. In addition, Outcome 0.2.3.1.3 articulates that learners should be able to demonstrate their ability to initiate their own singing and dancing styles, and teachers are guided to incorporate free dancing and singing activities into the classroom (MoGE, 2013). Table 33 shows that 8 percent of teachers observed did not use any music/movement activity. Most teachers (64 percent) promoted engagement in music or movement by requiring all children to participate and complete the activity in the same way, such as asking children to dance in a prescribed way, sing a song in a prescribed way, or watch a music video, but not allowing children to move to the music as they wished. Next, 24 percent of teachers promoted one opportunity for children to express themselves individually, such as encouraging children to freely dance to a song as they liked without specific dance moves prescribed. Lastly, only 4 percent of teachers included two or more elements of play-based learning when engaging in music or movement activities. The results indicate that additional training and implementation support may be beneficial to help ECE teachers implement less prescriptive music and movement activities.

TABLE 33. LEARNING OPPORTUNITIES THAT ALLOW CHILDREN TO ENGAGE IN MUSIC/MOVEMENT ACTIVITIES

PEDAGOGICAL APPROACH	EASTERN	WESTERN	OVERALL
Does not occur	4%	13%	8%
Taught using repetition only	77%	50%	64%
Taught using ONE element of play-based learning	15%	33%	24%
Taught using TWO OR MORE elements of play-based learning	4%	4%	4%

CONCLUSIONS

In summary, there are ample opportunities for improvement in the way that teachers include elements of play-based learning in their pedagogical approach. In most of the fields analyzed, the observed teachers are primarily using repetition to teach ECE learning or are using play-based approaches ineffectively. The results disaggregated by province seem to suggest that Western province teachers tend to use slightly more elements of play-based learning in the development of classes. However, these results are not reflected in the performance of ECE learners on the IDELA test. This may be because learners were entering the school year when the data for this study was collected, and overall teaching strategies do not consistently explain learner outcomes at this time of the school year. Rather, individual learner outcomes are expected to be more influenced by the learner's context. At Endline, the research study will examine trends in ECE teachers' pedagogies across time to better understand how the Let's Read ECE training and materials may support teachers' implementation.

TEACHER INTERACTIONS

This section discusses the types of interaction ECE teachers have with learners. The higher the level of interaction achieved, the better the pedagogy. A teacher who displays negative emotions when dealing with learners discourages children from participating in class, may reduce their concentration, and may contribute to learner absenteeism. Negative teacher emotions, such as showing little interest in teaching, ignoring learners, showing irritation has been shown to have a negative effect on learner engagement and

performance. On the contrary, a teacher who shows that he or she enjoys teaching will transmit similar emotions and feelings to the learners, who will also enjoy and become more involved with what happens in the classroom. When analyzing these results, it should be remembered that the sample of this study is not statistically significant to obtain a conclusive context about ECE teachers across Zambia, nor from the provinces under study; rather, the results should be understood as illustrative, since they show trends in the level of interaction of teachers among sampled schools.

TABLE 34. ECE TEACHER ENGAGEMENT

TEACHER ENGAGEMENT THROUGHOUT OBSERVATION	EASTERN	WESTERN	OVERALL
Level 1. Teacher has clear negative emotions, is irritated towards children or reluctant to be there, ignores children, leaves room often.	0%	0%	0%
Level 2. Teacher has neutral or disengaged emotions, is distracted or uninterested in children or shows no emotion—not positive or negative—when interacting with children.	19%	4%	12%
Level 3. Teacher appears to enjoy children but sometimes shows behaviors at levels 1 or 2 with some children or during some activities.	50%	38%	44%
Level 4. Teacher appears to genuinely enjoy teaching and shows physical and verbal affection most of the time.	31%	58%	44%

As seen in Table 34, no teacher showed negative emotions when engaging with learners in the classroom, while 12 percent of teachers showed neutral or disengaged emotions. In this sense, the majority of the teachers (88 percent) from the sample seem to enjoy or genuinely enjoy interacting with learners, demonstrating it with their actions and words. When analyzing the data by province, it appears that teachers in Western province have a better level of engagement than teachers from Eastern province. Half of the teachers from Eastern province fall under level 3 of teacher engagement (they appear to enjoy children most of the time but sometimes show behaviors at levels 1 or 2 with some children or during some activities).

The assessors also tried to determine the types of disciplinary strategies used by ECE teachers. The results in Table 35 show that 6 percent of the teachers used negative physical interactions with children to control behavior, such as yelling, humiliating, purposely ignoring, or threatening. This type of discipline will have a negative effect on children and should be avoided. Although the percentage of teachers who demonstrated this type of disciplinary strategy is very low, it is recommended to provide more training in applying appropriate and positive disciplinary strategies. Next, 17 percent of ECE teachers used negative verbal interactions with children to control child behavior or did nothing to control behavior problems. The majority of teachers (53 percent) are using adequate strategies to redirect the learner to better behavior. Among the most appropriate strategies may be to say, "sit down" or "use a quiet voice." These teachers may be inconsistent in the application of these strategies because they only used them in some situations or with some children. Finally, 30 percent of ECE teachers used positive techniques for consistently guiding children's behavior. Such techniques include explaining reasons for rules and consistently applying such rules. Teachers from Western province appear to be using overall better disciplinary strategies than the Eastern province teachers. Training on effective classroom management techniques may be especially beneficial to ECE teachers, to support them to implement positive disciplinary strategies and to manage play-based pedagogies within the context of large class sizes.

TABLE 35. ECE TEACHERS' DISCIPLINARY STRATEGIES			
TEACHER DISCIPLINARY STRATEGIES	EASTERN	WESTERN	OVERALL
Level 1. Teacher uses negative physical interactions with children to control child behavior.	4%	9%	6%
Level 2. Teacher uses negative verbal interactions with children to control child behavior or does nothing to control behavior problems.	24%	9%	17%
Level 3. Teacher redirects children to using more appropriate behavior but is inconsistent or ineffective with redirection techniques.	52%	55%	53%
Level 4. Teacher uses positive techniques for guiding children's behavior consistently/addresses behavior problems.	24%	36%	30%

Finally, we analyzed the frequency with which teachers used negative physical or verbal interactions with children during the observation. Examples include threatening, yelling, insulting, humiliating, name-calling, pinching, poking, pushing, or striking. As shown in Table 36, and consistent with the results shown in Table 35, the majority of teachers (68 percent) never make use of negative forms of physical or verbal interaction with learners, 23 percent of teachers rarely interact in this way, 9 percent do so only occasionally, and 6 percent do so frequently. It is recommended to provide training to teachers on effective ways to correct learner misbehavior in the classroom, avoiding negative forms of physical or verbal interaction.

TABLE 36. NEGATIVE VERBAL OR PHYSICAL INTERACTIONS			
FREQUENCY OF NEGATIVE VERBAL OR PHYSICAL INTERACTIONS	EASTERN	WESTERN	OVERALL
Level 1. Frequently (5 or more times)	13%	0%	6%
Level 2. Sometimes (3–4 times)	9%	8%	9%
Level 3. Rarely (1–2 times)	39%	8%	23%
Level 4. Never	52%	83%	68%

CHILD ENGAGEMENT

The MELE also assessed whether learners are engaged throughout the observation. For this section, engagement includes learners that are paying attention, looking at the teacher, or that are focused on lesson or work. In 56 percent of classrooms observed, most learners were engaged for most of the observation, and in 24 percent of the classrooms, all students were engaged, which is a positive result. In the rest of the classrooms observed (20 percent), only a few or some learners were engaged. Teaching strategies that keep the majority of students engaged throughout the lesson are recommended. It was found that ECE learners had to wait 10 minutes or more with no specific activity in 30 percent of the classrooms. Given the ECE school day is only approximately 3 hours including recess, it is important that teachers maximize time on task for learning. Also. Learners were left without an adult present in the classroom between less than five minutes and up to 10 minutes or more in 24 percent of the classrooms observed. In 76 percent of classrooms learners were never left without an adult.

An effective way to improve student engagement and interaction is through providing more opportunities for group or couple work. Therefore, the application of different grouping types was observed, such as

whole group (entire class), small groups (three or more learners), pairs (two learners) or learners working alone. Results are shown in Table 37.

TABLE 37. GROUPING

TYPE	EASTERN	WESTERN	OVERALL
Whole group	54%	75%	64%
Two grouping types	31%	13%	22%
Three grouping types	15%	13%	14%
All four grouping types	0%	0%	0%

In most of the classrooms observed (64 percent), the teachers taught the class without dividing the learners into any groups for activities. This equates to almost 2 out of 3 teachers. The rest, 1 in 3 teachers, applied 2 to 3 forms of group work, either in pairs, individually or in small groups. No classroom was observed where the 4 types of group were applied. When analyzing this factor by province, it was found that teachers from Western province have a slight tendency towards working with the whole class.

THEMATIC TEACHING

While the MoGE ECE Syllabi does not explicitly divide the ECE curriculum into cross-curricular themes, within each subject area there are identifiable themes. For example, the social studies syllabi is divided into thematic units such as family, community and festivals. The MELE asks assessors observe whether teachers draw learners' attention to and connect lessons to the theme within the subject areas. About 10 percent of teachers observed did not say anything about a theme and there are no materials reflecting a specific theme with the classroom. A small 4 percent of teachers mentioned information about the "theme" but did not talk with the learners about the theme; and/or do not draw the learner's attention to the theme during the activities observed. Approximately 64 percent of teachers engaged learners in the theme and provided one related activity or made connections to the theme for the learners. Lastly, 22 percent of teachers engaged ECE learners in one activity related to the theme, encouraged the learners to reflect on the theme and how the activities are connected to each other and also gave ECE learners opportunities to expand on the theme through connecting the theme to their daily lives and their experiences.

INDIVIDUALIZED INSTRUCTION

Learners all enter ECE with varying levels of existing skills, various learning styles and preferences and diverse prior knowledge and experiences from home. As such it is important that learners receive individualized or differentiated instruction to enable them to build from their existing skills as they develop new skills and knowledge. Therefore, by providing individualized instruction, the teacher support learners; skills development regardless of the differences between learners, the majority can progress towards grade-level standards and benchmarks. In the case of learners who have learning lags, learning disabilities or are second language learners, individualized instruction can provide them with timely reinforcement to support them to catch up with their peers. Table 38 shows the performance of teachers on this factor.

TABLE 38. INDIVIDUAL INSTRUCTION

	Eastern	Western	Overall
Level 1 awareness	8%	0%	4%
Level 2 awareness	38%	33%	36%
Level 3 awareness	38%	54%	46%
Level 4 awareness	15%	13%	14%

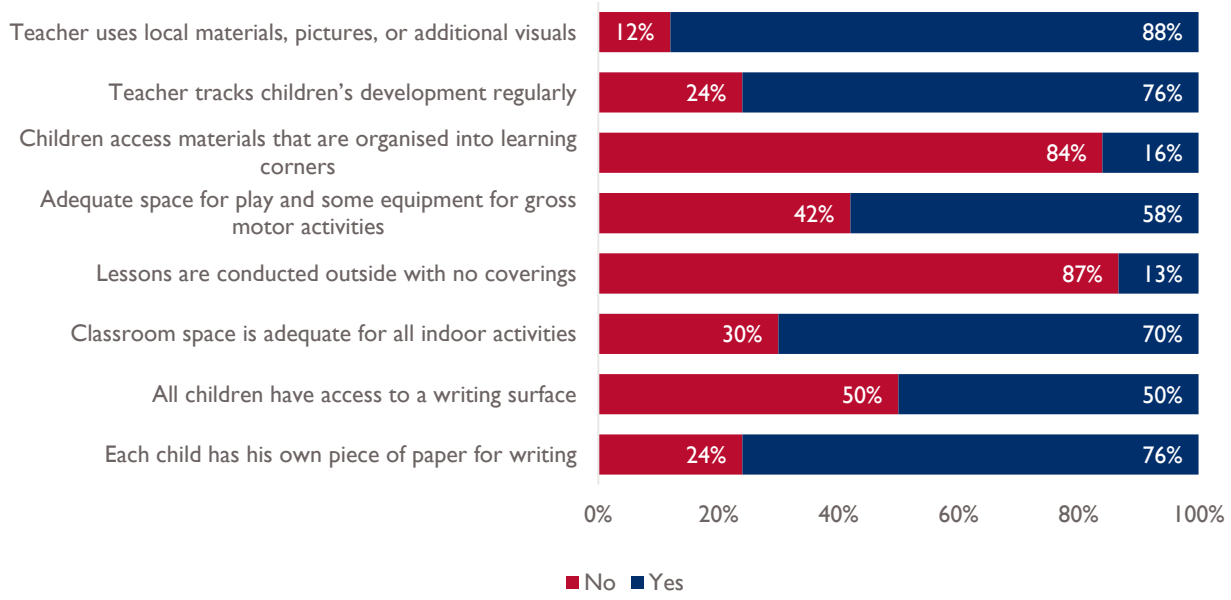
The classroom observations found that 4 percent of teachers showed no awareness that some children have different needs and abilities. The teacher made all learners do the same work and receive the same instruction and support, ignoring students that were struggling, and made no adaptations for children with special needs. All ECE teachers that fall under this category were from Eastern Province. An additional 36 percent of teachers occasionally showed awareness of individual needs of learners by checking for understanding of concepts and providing minimal individualized support. Most teachers (46 percent) noticed when some learners were having difficulty and provided support (with or without specific requests for help). Lastly, 14 percent of ECE teachers demonstrated that they knew which ECE learners had difficulty and provided extra attention with enough help to support their participation and success. These teachers also provided more challenging activities or questions to advanced learners who could be pushed further, and they were consistent when offering adaptations. Teacher training that discusses inclusive education and differentiation techniques may be helpful to support teachers' understanding of learners different needs and abilities.

Most ECE teachers (62 percent) encouraged active and equal participation of all ECE learners (boys and girls) across all activities. However, more than a third did not, and as such it may be beneficial to raise awareness among ECE teachers on how to implement gender inclusive pedagogy. Lastly, among 86 percent of the ECE teachers observed, no materials or discussion about community or religious groups took place.

ECE LEARNING ENVIRONMENT

The conditions of the classroom, such as space, the place where the classes take place, access to writing materials, and an area in which to write, among other factors, are essential for learning. The evaluators observed the characteristics of the ECE learning environment, with the results shown in Figure 23.

FIGURE 23. ECE CLASSROOM ARRANGEMENT AND SPACE



As shown in Figure 23, in 24 percent of the observed classrooms, there were learners who did not have their own materials to write on, and, in 50 percent of the cases, there were learners who did not have access to a surface on which to write, like a table or desk. In 30 percent of classrooms observed, the classroom space was inadequate for all attending children to do all indoor activities. This does not necessarily indicate that the classroom space was too small but is linked to the high concentration of learners enrolled in ECE, considering that the average attendance is around 65 percent of enrollment. In 13 percent of the cases, the lessons were developed outside, without having an adequate cover for protection, such as a roof or enclosure. These are factors that, in general, are beyond the teacher's control and depend more on the economic conditions of the country since greater investment in physical infrastructure is required for all learners to have an appropriate place to learn. In addition, learners need the MoGE to support the purchasing of the necessary equipment at school. In the ECE Standard Guidelines, it is noted that ECE centers should include some play equipment such as see-saws, merry go rounds, swings, a sand pit and monkey bars. In addition, the outdoor space should be adequate for children to run and play, and painted in attractive colors (MoGE, 2013). However, in 42 percent of observed ECE centers, there was not enough space for play and equipment for gross motor activities (such as see-saws, ladders, swings, etc.).

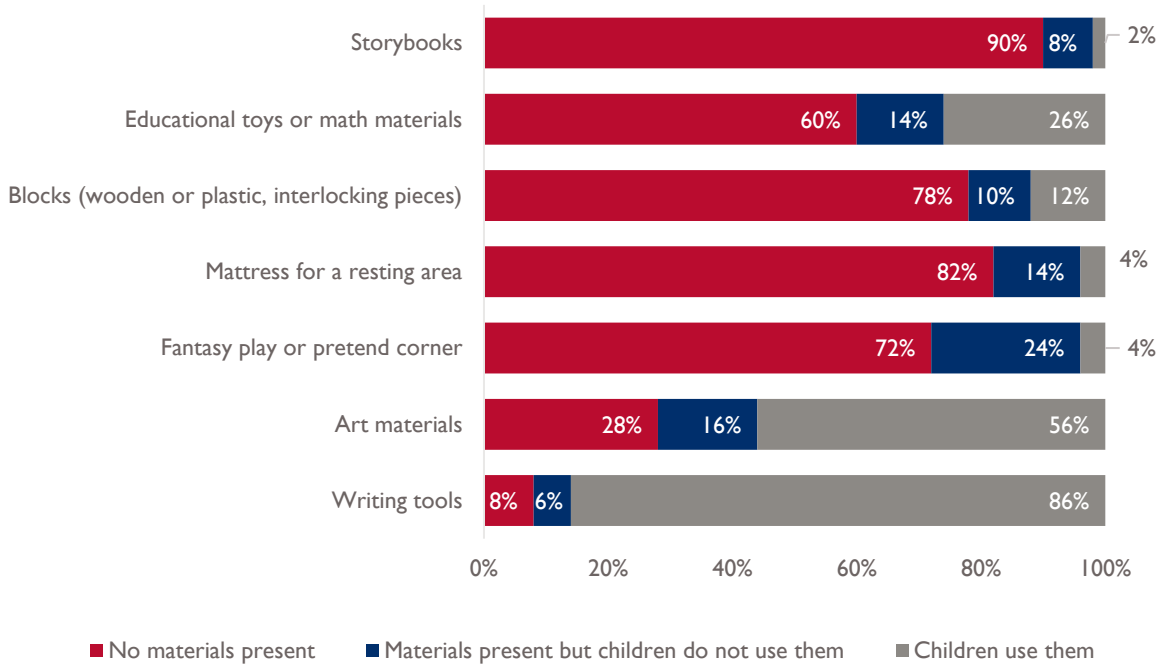
In 84 percent of classrooms observed, children did not have access to materials organized into learning corners. As further analyzed below, 80 percent of ECE centers did not have any storybooks in the local language, and 88 percent of ECE centers did not have storybooks in English. Most ECE teachers observed (76 percent) kept track of children's development on a regular basis, such as by asking for books and

individual records to confirm children's learning progress. Also, most teachers (88 percent) used local materials, pictures, or additional visuals to support the teaching and learning process.

ACCESS TO AND USE OF TEACHING AND LEARNING MATERIALS

The ECE Standard Guidelines articulate that each ECE center should have adequate provision of play materials and equipment such as plush toys (MoGE, 2013). Learners need to access and use different materials for proper learning and skill development. Therefore, as part of the classroom observation, the assessors observed the existence and use of some prioritized materials. The results are shown in Figure 24.

FIGURE 24. ACCESS TO AND USE OF TEACHING AND LEARNING MATERIALS



Naturally, ECE learners need a surface to lean on to write. Desks or tables usually fulfill this function. In the observed classrooms, 8 percent did not have a writing surface for learners. This may mean that some or many children do not have a desk or table or what was available did not provide a support surface for writing. In 6 percent of the classrooms observed, the learners had a surface but did not use it. In the rest of the classrooms, learners had a writing surface and used it during the day of observation. Assessors also noted the availability and use of art supplies. These types of materials include paper, crayons, markers, chalk, pencils, paints, clay, sand, scissors, tape, glue, stamps, sticks, grasses, and natural materials. These are important because they facilitate learner interaction and free play opportunities to be creative or express imagination. In 28 percent of the classrooms observed, ECE learners did not have access to these types of materials, and in 16 percent of cases, they had access, but it was not used. In just over half of the classrooms observed (56 percent), children had access to and used these types of materials.

In the rest of the observed categories, it is noticeable that, in general, in most of the ECE classrooms (between 60 percent and 90 percent of the observed classrooms), learners did not have access or did not

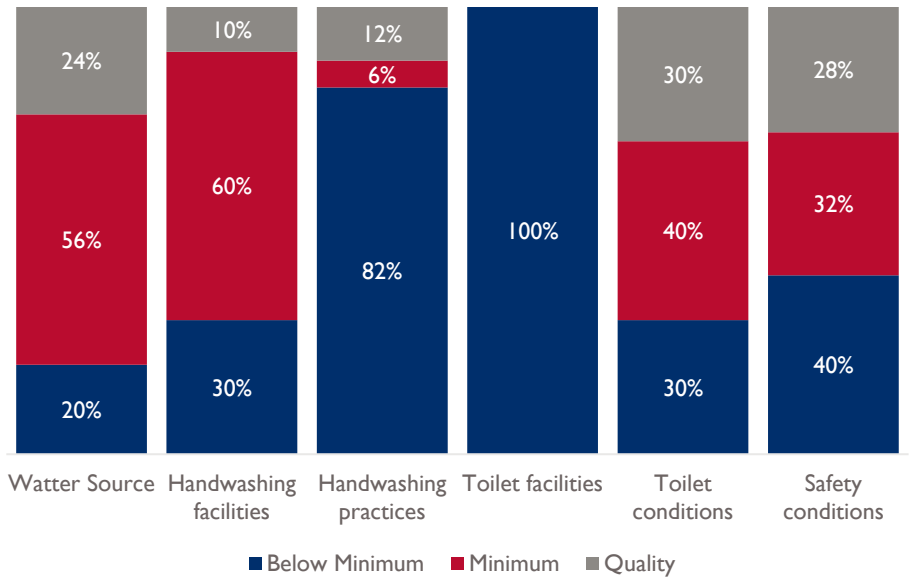
use certain materials. Among these, some are especially fundamental. For example, 90 percent of the classrooms observed did not have story books, and, in 8 percent of the cases, they did have storybooks, but they were not used. It was also found that in 8 percent of ECE classrooms observed had between 1 and 14 storybooks, which is not enough, considering that the average number of learners enrolled in the classroom is almost 39. Only 4 percent of ECE classrooms were observed to have between 15 and 24 storybooks. As discussed earlier in this report, the availability of reading materials in general is very low. Short story books are classified as books with pictures and/or text, including those made by the teacher. Storybooks are essential to enable teachers' to develop learners' emergent literacy skills, and as a result this may in part explain why ECE and Grade 1 learner scores in emergent literacy were lower than the other domains. As such, it is pertinent to support ECE teachers to acquire more and develop their own storybooks and encourage them to use them frequently with learners.

There is also a scarcity of other types of important materials to facilitate the implementation of play-based pedagogies. For example, in 72 percent of the classrooms observed, learners did not have access to fantasy play or pretend corner, such as dolls, stuffed animals, dress-up clothes, masks, pretend foods, pots, and spoons. Additionally, in 82 percent of the classrooms, learners did not have a mattress or resting area, which is a minimum requirement as outlined within the MoGE's ECE Standard Guidelines (MoGE, 2013).

FIDELITY OF IMPLEMENTATION OF MOGE STANDARDS

Finally, we analyzed the degree to which the physical conditions of ECE classrooms adhere to desirable characteristics for early childhood learners. The assessors observed the security conditions, water quality and handwashing, as well as the conditions and characteristics of the latrines. For each of these conditions, Education Data activity analysts established a cutoff point to measure to what extent each classroom met or did not meet the minimum required. The results are shown in Figure 25, and further discussion around each one is presented afterwards.

FIGURE 25. FACILITIES STANDARDS



WATER SOURCE

For reporting and comparability purposes, the quality of the water source is considered as below minimum if no water is available in school, and water, if present, is brought in by parents or staff, or if the water available is unprotected or an unmaintained well. One in five (20 percent) of the ECE classrooms within the sample fell within this range. The majority, 56 percent of the centers, met the desirable minimum, with water available via a water stand or water cart. Finally, 24 percent of the centers observed had a sanitary water source, piped water, public tap, protected dug well, borehole, working and maintained water pump, or bottled water. The next factor observed is handwashing facilities, for which only 10 percent of the centers had running water or a hand-poured system with soap available or used most of the time. In 60 percent of cases, there was a water system for handwashing, but little or no hand soap was used. In the remaining 30 percent of classrooms observed, there was no handwashing station, or there was it was a shared basin or bucket with no soap. This implies that handwashing if done, is done in standing water which would not be a sanitary source especially if it is not changed frequently throughout the day.

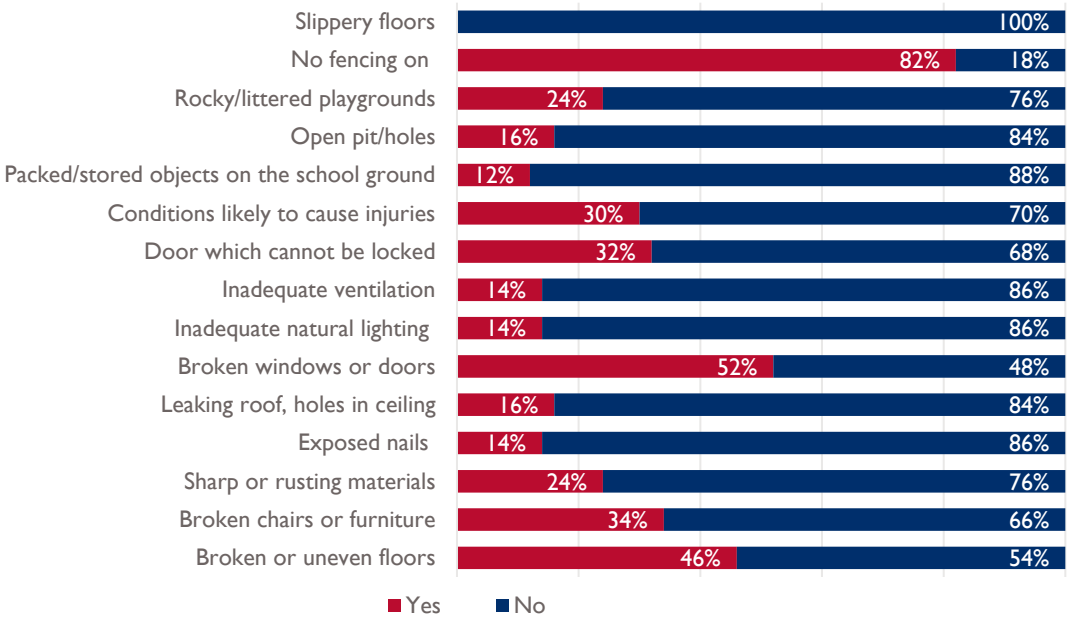
When looking at handwashing practices, in most cases, children did not wash their hands, or some children washed their hands while others did not. Only in 12 percent of the ECE classrooms observed did learners take the initiative to wash their own hands, and the teacher encouraged handwashing. Most ECE classrooms within the sampled schools only had a latrine, and there was one case where the center did not have a latrine. In 30 percent of the classrooms, the toilets were below minimum standards, in which case they met only one or none of the following conditions: clean, age-appropriate, gender-separated, child-sized, and accessible for the youngest children. Next, 40 percent of the centers met at least two conditions, which is considered minimum, and the remaining 30 percent met three or four conditions, which is considered to meet the conditions for quality.

SAFETY CONDITIONS

The MoGE ECE Standard Guidelines stipulate that the ECE classroom should be safe from all danger including no slippery floors and no sharp objects. In order to measure the safety conditions in and round the ECE classroom, assessors were asked to mark off how any unsafe conditions they observed. A list of common and plausible items was provided for reference.

Classroom observations found that 40 percent of ECE classrooms and their surrounding area had five or more harmful conditions, 32 percent had three or four harmful conditions, and the remaining 28 percent had fewer than two unsafe conditions. As shown in Figure 26, the most common harmful security conditions no fencing, which occurs in up to 82 percent of the observed centers, followed by broken windows with 52 percent occurrence and the broken and /or uneven floors with 46 percent occurrence in the ECE classrooms observed.

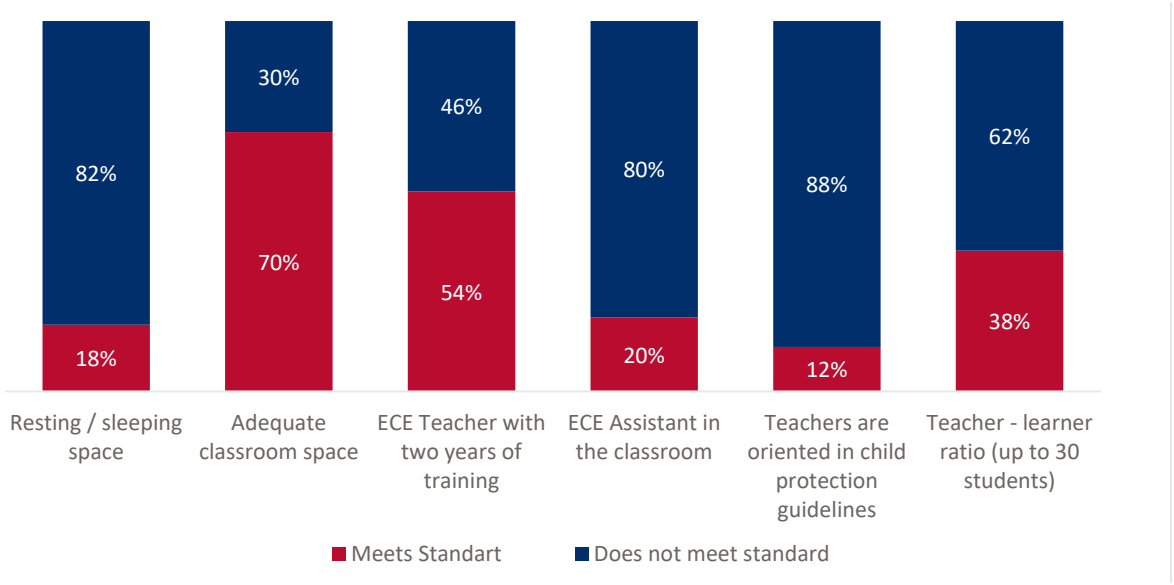
FIGURE 26. SAFETY CONDITIONS



CLASSROOM AND ECE TEACHER MINIMUM STANDARDS

MOGE has defined other standards in the Early Childhood Education Standard Guidelines. Not all of these standards have been measured through MELE since it would be too extensive of an observational instrument. In addition, some standards are qualitative in nature and therefore more difficult to reliably measure. Nonetheless, some of these standards, such as those related to aspects of safety, water, hand washing, facilities, have been previously addressed. The MOGE also establishes some standards regarding the student to teacher ratio, space, ECE teacher qualifications, among others, which are described in Figure 27.

FIGURE 27. PERCENTAGE OF ECE CENTERS MEETING OTHER MOGE STANDARDS



As shown in the Figure 27, in general there is low compliance with the standards as defined by the MoGE. It should be remembered that these results are only illustrative, they show trends within the sample schools, but the size of the sample does not allow for conclusive statements about the adherence of all ECE classrooms to the standards. Approximately 18 percent of the ECE classrooms observed had a resting/sleeping space for ECE students; 70 percent had an "adequate" space, although the MOGE does not define a specific minimum size for classrooms. The MoGE indicates that there should be a trained assistant pre-school teacher in the classroom, with a minimum of one year training where possible. Only 20 percent of the observed classrooms had the support of an assistant. It was not possible to collect more information on the skills of the assistant, however, it is expected that they have limited capacities, since, as shown in the Figure, 54 percent of ECE teachers (about the half of teachers observed had the MoGE required training of two years, which is represented by the Normal Certificate. Currently, the MoGE is moving towards requiring a three-year diploma for ECE teachers, which only 26 percent of teachers in the sample have. Only 12 percent of teachers assessed mentioned that they have received training or orientation on child protection guidelines, which is very low. Lastly, only 38 percent of classrooms meet the standard for the number of learners enrolled per classroom. The standard is set up as a maximum of 30 ECE students in a single classroom. This will allow for attachment and individual attention to all learners and enables ECE teachers to implement play-based pedagogies and flexible grouping for activities. However, as the MOGE standards indicate, "no learner should be denied an opportunity to have access to some form of ECE services regardless of their status." As such, it was found that among sampled schools, 62 percent of ECE classrooms had more than the maximum of number of recommended learners, which can have a negative impact on the quality of instruction and classroom management.

RESULTS: FACTORS ASSOCIATED WITH ECE LEARNERS' SCHOOL READINESS SKILLS

In order to better understand how individual ECE learner and teacher characteristics relate to school readiness overall scores, USAID Education Data activity examined 31 plausible factors to measure the extent that they may predict ECE learners' school readiness scores. An OLS regression model was used for the analysis. The learner questionnaire independent variables were recorded as binary variables (yes or no response), and most variables from the baseline MELE were standardized or rescaled to have a mean of zero and a standard deviation of one. For a standardized variable, each case's value on the standardized variable indicates its difference from the mean of the original variable via the number of standard deviations (of the original variable). The factors considered in the regressions were:

LEARNER-RELATED FACTORS (6)

- Age of the learner
- Learner speaks LoI at home
- Learner reads at home
- Learner sex (Male, Female)
- Others read to learner at home
- Learner had breakfast today

TEACHER-RELATED PEDAGOGIC FACTORS (19)

- Teachers age
- Teacher provides learning opportunities to support the development of mathematics skills
- Teacher provides learning opportunities to support development of literacy skills
- Teacher provides learning opportunities to develop expressive language skills
- Teacher reads age-appropriate storybook to support listening and speaking skills
- Teacher tells children an oral story
- Teacher provides learning opportunities to promote fine motor skills
- Teacher provides learning activities that promote free play or open choice
- Teacher provides learning opportunities that allow children to engage in music/movement activities
- Teacher provides learning opportunities that allow children to engage in gross motor activities
- Teacher engagement
- Teacher disciplinary strategies
- Frequency of negative verbal or physical interactions
- Teacher engages children
- Grouping strategies
- Teacher provides individualized instruction
- Teacher encourages equal participation of girls and boys
- Teacher encourages diversity
- Teacher uses local materials, pictures, or additional visuals to support the teaching and learning process

SCHOOL ENVIRONMENT (6)

- School has a feeding program
- Each ECE learner has his/her own book/piece of paper for writing

- Classroom space is adequate for all attending children to do all indoor activities
- All ECE learners have access to a writing surface
- ECE learners access materials that are organized into learning corners
- School premises have adequate space for play and some equipment

In Table 39, the average marginal effect for each factor/independent variable is shown for the ECE learners assessed at baseline. On average, a change in a factor, that is, a change from one binary category to another (yes to a no) or a unit such as age (4 to 5 years old) is associated with a change in overall readiness score (IDELA Score).

TABLE 39. PREDICTORS OF READINESS SCORE

Dependent Variable: IDELA Score	Sample = 303	R-Squared = 0.9479					
Independent Variables	Coeff.	Significance	Standard Error	t	Prob>t	Lower 95% Conf Int	Upper 95% Conf Int
Student learns in Mother Tongue	0.065	***	0.014	4.53	0.000	0.037	0.094
Someone reads to them at home	0.040	***	0.013	3.01	0.003	0.014	0.066
Age (Student)	0.050	***	0.005	10.95	0.000	0.041	0.059
Teacher provides learning opportunities to develop expressive language skills	0.028	***	0.007	3.82	0.000	0.013	0.042
Teacher provides learning activities that promote free play or open choice	0.032	***	0.007	4.43	0.000	0.018	0.047
School premises has adequate space for play	0.030	**	0.013	2.22	0.027	0.003	0.056
Teacher uses local materials, pictures, or additional visuals to support the teaching and learning process	0.033	*	0.018	1.91	0.058	-0.001	0.068
Number of local storybooks	0.030	**	0.012	2.56	0.011	0.007	0.053
Age (Teacher)	0.001	**	0.001	2.12	0.035	0.000	0.003

Although the model was run with all the variables listed previously, most of these did not have statistical significance as predictors of the results of the final IDELA score. MELE collects a set of relevant information on pedagogy and teaching characteristics, however, most of these variables did not have statistical significance. This may be due, among other things, to at least two factors: (i) first, the time of application of the instrument. The field work and information gathering for this study was done between the months of February and March, at the beginning of the school year. Therefore, teachers have had little time to develop their pedagogical strategies with the ECE learners, so, in general, this does not yet have a tangible or differentiating effect on the results of IDELA. We would expect to see more statistically significant effects at Endline, after the learners will have had a complete year of ECE instruction with the teacher. (ii) a second factor may be that, as has been analyzed throughout the description of the MELE results, teachers in general need a lot of support with the development and application of pedagogical strategies, since, in most of the classrooms observed, the development and promotion of play-based learning were rather limited at this time. In this sense, a variable that summarizes the opportunities of play-based / free-choice is found to be statistically significant. Therefore, given that the teachers do not show a broad mastery of the observed strategies, they would not have an effect on the learners' results.

Table 39 summarizes the model that best predicts the IDELA results. In general, most of the variables included have statistical significance at the 99 and 95 percent confidence level. The factors that have a greater statistical significance are those derived from the learner's own characteristics. It is interesting that learner sex was not found to be predictive or does not play any role in learning outcomes, instead both ECE boys and girls perform comparably on the IDELA at baseline. Results show that:

MOTHER TONGUE INSTRUCTION

Evidence suggests that children learn to read best in a language that they know and understand (Kim et. al. 2016; UNESCO 2014). In this sample, learners that were learning in their mother tongue, that is, learners that were instructed in the same language that they speak at home with their parents had an overall 6.5 percent higher IDELA score than those that speak different language at home. This was the second most significant variable in our analysis. This finding has been contrasted in various studies in the educational field, and the early results found in ECE show that the MoGE should continue to direct resources and training in preparing teachers for teaching in the mother tongue before primary school. It is interesting to note, however, that the 2018 Baseline EGRA in Five Target Provinces did not find learners who spoke the LoI at home to be a predictive variable in the results (USAID Education Data activity, 2019). This suggests that perhaps this factor is more important at the start of school, however its effect fades out as learners progress and develop language skills in the LoI.

LEARNER READING PRACTICES AT HOME

Children who have someone in the home who reads story books to them perform up to 4 percent higher than those who have no one read to them. However, only 47 percent of the learners surveyed reported that someone reads to them at home, either occasionally or very often. The rest indicated that no one reads to them. Having parents or a family member involved in the educational process of the student at home can be empowering. Teachers' perception is that there is a low level of parental involvement; 60 percent of ECE teachers indicated that parents are involved with activities at school or in the classroom on a quarterly basis, and only 20 percent of parents are involved daily to biweekly. In this sense, it is appropriate to identify strategies to sensitize parents so that they become more involved in and can help support their children's skills development at home. Much will depend on the educational level of the parents, and the characteristics of the home. Programs such as the "School for Parents and Mothers" implemented by DevTech Systems Inc. in other countries have found that increasing awareness on the importance of education can motivate some parents to make changes in their habits to support their children's education (DevTech Systems Inc., 2020).

LEARNER AGE

The age of the learner is the most statistically significant variable in this analysis. At an older age, learners have developed other skills that contribute towards the IDELA sub-constructs. Holding everything else constant, an ECE learner will increase their overall IDELA score by around 5 percent for each additional year in age they are. For example, a 6 year old will have an increase in their score by about 5 percent in comparison to a 5 year old. Since there was a higher enrollment at the reception level of ECE rather than nursery, it indicates that most parents are waiting until their child is at least 5 or 6 years old to send them to ECE. These students will have developed more motor and social-emotional skills at home than those who are younger, but they are not taking full advantage of the opportunity to acquire much needed literacy and numeracy skills at the nursery stage. The MoGE ECE

curriculum has been developed specifically to teach the emergent numeracy, literacy and social and emotional skills learners' ages three to six are expected to develop. Table 9, in the section that describes learner characteristics, has relevant information about the age of ECE learners in the sample. It shows that there is a high percentage of over-age students. In this sense, the recommendation is to provide clear guidance to parents and promote timely enrollment in ECE programming, and to not wait until children are over 6 years old to enroll them. Timely enrollment can help to ensure learners enter grade 1 with the prerequisite skills to be successful and optimize the learning opportunities available through ECE programming.

ECE TEACHERS' PEDAGOGICAL PRACTICES

Next, learners whose teacher provide learning opportunities to develop expressive language skills or activities that promote free play or open choice perform better. Both variables have been standardized. A positive change of one standard deviation in the opportunities that teachers provide in these fields will improve the IDELA result by about 3 percent. These variables are the only ones taken from the play-based / free-choice approach that are statistically significant. The fact that early in the ECE cycle these factors have positive results reinforces the need to strengthen these pedagogical strategies. ECE teachers do not have the necessary training or have very little experience (51 percent of the ECE teachers within the sample have 2 years or less of experience teaching pre-primary), thus, specialized training is a must to support them to implement these approaches

ACCESS TO INSTRUCTIONAL MATERIALS AND ADEQUATE SPACE

The following three variables: school premises has adequate space for play; teacher uses local materials, pictures, or additional visuals to support the teaching and learning process; and the number of local storybooks are descriptive of the education environment. Each has a marginal effect of about 3 percent on student performance in IDELA and all three variables are statistically significant at least at the 95 percent confidence level. ECE learners need to have access to appropriate storybooks and other instructional materials to support their skills development. It was found that 90 percent of the ECE classrooms observed do not have this type of materials, so additional investment from the MOGE and other donors would help to increase access to and the use of materials to support learning outcomes.

ECE TEACHER'S AGE

Finally, the actual age of the teachers (how old they are) turned out to be statistically significant. The team tested variables such as the years of experience of the teachers, years of experience teaching in ECE, and years that they have been in the current educational center to verify statistical significance, but none were statistically significant. This may be due to the fact that, in general, teachers have little or no experience in ECE. The age variable does not have a strong correlation with the years of teaching experience (0.42 correlation coefficient), but it may be an indication of the development of instructional and classroom management skills in general that are useful for working with learners. However, for each additional year of age of teachers, learners only improve their IDELA score on average by 0.1 percent. Although statistically significant at the 95 level confidence level, the age of the teacher does not appear to have a tangible effect on student performance.

CONCLUSIONS

At Baseline, learners enter into ECE with some pre-existing school readiness skills, however, there is significant room for improvement in the areas of emergent numeracy and emergent literacy. ECE learners on average scored 41 percent on emergent numeracy, but within the subtasks their average scores ranged from a high of 91 percent on size and length to 8 percent on the puzzle completion task highlighting their existing strengths and areas of focus for ECE programming. In emergent literacy, ECE learners on average scored 36 percent across subtasks, but the average score was 7 percent on letter identification, which equates to being able to correctly identify less than 2 letters out of the 20 presented to them. In addition, ECE learners on average were able to answer slightly more than 2 out of 5 oral comprehension questions presented to them, and slightly less than 4 words per scenario on the vocabulary subtask.

ECE programming in the sampled schools positively contribute to learners' skills development. There are statistically significant differences in performance among ECE learners at baseline, Grade 1 without ECE participation and Grade 1 learners with ECE participation. These results indicate that ECE programming in the sampled schools positively contributes to the development of learners' emergent numeracy, emergent literacy, social and emotional development and motor development skills. Overall, Grade 1 learners with ECE on average scored 45 percent on the IDELA, in comparison to 57 percent from Grade 1 learners without ECE and 62 percent for ECE learners at the start of the year. These mean differences were statistically significant at the 99 percent confidence interval. In the absence of additional teaching training and access to materials, ECE programming supports learners' skills development. Therefore, with additional instructional support and materials, ECE programming can further support ECE learners' development of the pre-requisite skills to successfully transition to primary school.

Grade 1 learners who have participated in ECE still exhibit low skills in letter identification, phonemic awareness and oral comprehension. Overall, grade1 learners with ECE scored 54 percent on the emergent literacy domain, however, learners did not demonstrate important pre-requisite skills for subsequent decoding. On letter identification the average score was 26 percent equating to slightly more than 5 out of the 20 letters presented to them, despite the fact that all the letters should have been taught in accordance with the ECE syllabi. On phonemic awareness, on average learners were able to correctly identify 38 percent of initial sounds, which is slightly more than one out of the three test items. Finally, oral comprehension skills are especially important as learners begin to decode. This is because with sufficient skills they are able to focus their mental energy on the process of decoding rather than simultaneously trying to map meaning on the words as they read them. Grade 1 learners with ECE on average scored 61 percent or approximately could answer 3 out of the 5 questions asked of them. Grade 1 learners without ECE on average scored 60 percent, suggesting that ECE programming may not sufficiently dedicate enough time to developing these key listening comprehension skills with learners.

Second language learners perform worse than those that learn in a language they speak at home demonstrating the importance of mother tongue instruction to support early learning outcomes. Among Grade 2 learners in the 2018 Baseline EGRA in Five Target Provinces, this variable was not found to be predictive of EGRA scores. However, at baseline, ECE learners who spoke the LoI at home, on average scored 8.6 percent higher than learners who did not speak the LoI at home. Within the sample, 17 percent of learners in Eastern province and 34 percent of learners from Western province are learning in a second language. The results corroborates the global evidence of the importance of

mother tongue instruction as it contributes to early learning outcomes. In addition, it highlights the need for differentiated support for second language learners to enable them to acquire the vocabulary and oral language skills necessary to understand and actively participate in ECE instruction.

At Baseline, most ECE classrooms are significant overcrowded and learner attendance is low. The MoGE ECE Standard Guidelines outline that there should be between 25 - 30 learners at the reception age within the classroom. However, the average classroom size among sampled schools was 41 learners. In 68 percent of ECE classrooms observed, there were more than 31 learners enrolled and in 32 percent of classrooms, more than 50 learners were enrolled. With large class sizes, ECE teachers may struggle to implement play-based pedagogies, flexible grouping for activities and may not be able to provide the individualized attention that support learning outcomes. At the same time, ECE attendance was low on the day the classroom was observed, with an average of 64 percent of learners in attendance compared to the number enrolled. With low and inconsistent attendance, ECE learners will not fully benefit from ECE instruction and programming and as a result, learning outcomes will be negatively affected.

Most ECE teachers primarily use repetition such as choral response across the subject areas in order to provide instruction to ECE learners. Across all domains, in over 60 percent of classrooms, ECE teachers either did provide opportunities within that subject area to learners or used repetition methods only. For example, in pre-mathematics, 20 percent of ECE teachers did not provide any instruction in this subject, and 44 percent provided instruction using primarily repetition only. Similarly, 14 percent of teachers did not provide literacy instruction on the day the classroom was observed, and an additional 50 percent only utilized repetition based methodologies. However, ECE learners performed better when they had opportunities for free play and choice, therefore it is important that ECE teachers receive targeted training and on-going coaching to support them to regularly implement play-based pedagogies in the classroom.

Very few ECE teachers provide opportunities for learners to develop their expressive language and listening skills. Assessors observed that in 10 percent of ECE classrooms no opportunities for expressive language occurred and in an additional 50 percent only repetition based methodologies were used. In addition, in 98 percent of ECE classrooms observed no opportunities for listening skills development occurred and in 74 percent of observed classrooms no opportunities for oral storytelling occurred. However, an increase in one standard deviation in the provision of instructional opportunities to develop these skills contributed to a 2.8 percent increase in the school readiness score, according to the OLS model. Oral language skills are especially important for subsequent reading skills development and for second language learners. As such, ECE teachers may benefit from additional guidance on how to incorporate activities that develop these skills within the classroom.

Almost half of all ECE teachers (46 percent) are new to the profession and most have not received ECE specific training. Approximately 46 percent of ECE teachers interviewed reported that they had three years or less of experience. However, the years of experience teaching ECE is less, signifying that teachers may have been transferred from another grade level to teach ECE. On average, two out of three teachers (67.3 percent) have less than three years of experience teaching ECE. In addition, 68 percent of teachers reported that they had not received any in-service training within the last 12 months, despite their desire for training in teaching young children (58 percent), assessing children's development (62 percent) and how to use the curriculum (58 percent). If teachers do not have adequate

training and experience in age-appropriate methods for teaching at the ECE level, then ECE instruction may not adequately prepare learners to successfully transition to primary school.

At baseline, there are insufficient reading and other play materials to support the implementation of play-based pedagogies. While 88 percent of teachers use their own materials and visuals to support learning, demonstrating their resourcefulness and awareness of the importance of these materials for learning, the majority of the ECE classrooms observed lack basic materials to support play-based instruction. For example, in 90 percent of the ECE classrooms observed, no storybooks were available and in 8 percent they were available but not used by the learners. Additionally, 60 percent of classrooms had no education toys or math materials, and 72 percent had no fantasy or pretend corner. Also, 42 percent of school premises don't have adequate space for play or adequate equipment. Evidence suggests that opportunities for free play and choice are predictive of learners' school readiness skills, as such it is important that ECE classrooms are equipped with the materials to facilitate these opportunities.

RECOMMENDATIONS

Based on the baseline findings and conclusions, the Education Data Activity recommends the following to both the MoGE and the Let's Read project to improve school readiness among ECE learners to support their successful transition to the primary grades:

RECOMMENDATIONS FOR THE MOGE

Gradually expand access to ECE programming to reduce any adverse effects on instructional quality. Evidence suggests that ECE programming positively contributes to learners' skills development, however participation in Zambia remains low at 26.1 percent. Therefore, it is important that access is expanded to ensure all learners have the opportunity to develop these skills to support their successful transition to the primary grades. However, most ECE classrooms within the sample are already overcrowded with an average of 41 learners. Therefore, it is recommended that efforts to increase access such as raising parental awareness of the positive contributions of ECE are coupled with increased investment to build additional classrooms and hire sufficient ECE teachers to ensure classrooms do not continue to increase in size above the recommended 25 – 30 learners. Without such investments, increases in access may negatively affect instructional quality as teachers struggle to implement participatory and play-based approaches with increasing numbers of learners. A gradual and scaffolded approach would help to ensure that both increases in access and improvement in quality are achieved.

Develop quantifiable localized benchmarks and formative assessments to measure ECE learners' skills progression throughout the year. The MoGE ECE Standards state that assessments can assist teachers to track progress and determine the effectiveness of ECE delivery. In addition, the ECE Directorate has developed a school readiness tool to assess learners' prior to entering grade 1 and is in the process of developing an Early Childhood Assessment Tool (ECAT). However, currently, there are no established benchmarks for ECE skills, and no formative assessments embedded in the ECE Syllabi. However, 62 percent of ECE teachers reported that they desired training to learn how to assess children's development. Formative assessments and benchmarks are essential at multiple levels within education systems, including to: (1) enable teachers to monitor individual learners' progress, identify areas for remediation and in general support the use of data to inform instruction; (2) support headteachers and in-service school coordinators to identify teachers who may need additional coaching and mentoring support and; (3) support the MoGE to develop data-driven plans to scale up ECE programming and target resources where they are needed most. The MoGE ECE Standard Guidelines do set some qualitative standards for the ECE environment; however, there is little guidance on instructional practices nor established expectations for learners' skill progression. Qualitative in comparison to quantitative standards can oftentimes make it difficult for key stakeholders to reliably measure progress over time to identify strengths and areas for improvement. Therefore, it is recommended that the MoGE develop quantifiable benchmarks with aligned formative assessments to enable stakeholders to track learners' skill development throughout ECE programming. To support a robust process for setting these benchmarks, it is recommended that a national study on the general performance of ECE learners be conducted to support the establishment of relevant standards for the local context.

Collaborate with the Let's Read project to institutionalize its play-based ECE teacher training program into pre-service teacher training systems. Currently, more than two-thirds of ECE teachers included in the sample have less than three years of experience in ECE and most were transferred from another primary grade level. The MELE results indicated that most ECE teachers

implement repetition methodologies to provide instruction across the subject areas, which are not age appropriate for ECE learners. Rather, evidence suggest play-based pedagogies which give children choice in their activities and use of materials and involve them in discussions to extend their understanding are more effective at supporting learning. The Let's Read project has developed ECE specific training and materials to support implementation of play-based pedagogies. Therefore, it is recommended that the MoGE work in collaboration with the Let's Read project to integrate these training modules into existing pre-service teacher training systems to establish a robust pipeline of trained ECE teachers to match with current and future vacant positions.

Align the Language and Literacy component of the ECE Syllabi with the National Literacy Framework. Currently, the MoGE ECE Syllabi has the same scope and sequence across all seven languages of instruction. However, the frequency and difficulty of individual letter sounds differs by language, warranting a language-specific scope and sequence to scaffold instruction appropriately. The National Literacy Framework, developed by the MoGE - Curriculum Development Center in 2013, establishes guidelines for teaching literacy in Zambia for grades 1 – 7. In addition, it provides teachers with examples of activities for the explicit instruction of phonics, phonemic awareness, oral comprehension and vocabulary skills, all of which are key components within the ECE Syllabi. Most importantly, it includes a language-specific scope and sequence the teaching of letter sounds that takes into account the linguistic differences among Zambia languages. Therefore, it is recommended that the MoGE align the Language and Literacy component within the ECE Syllabi with the scope and sequence and methodologies outlined within the National Literacy Framework to provide language-specific instruction at the ECE level and to support the continuity in instructional practices with the primary grades.

Encourage age-appropriate enrollment of all learners in ECE and the primary grades. The ECE curriculum has been developed specifically to teach the emergent numeracy, literacy and social and emotional skills learners' ages three to six are expected to develop. Therefore, it is important to encourage parents to enroll their children at this age to ensure they enter grade 1 with the prerequisite skills to be successful. At baseline, 19 percent of ECE learners were slightly overage and 11 percent were very overage. At the same time, 19 percent of grade 1 learners were underage. Underage grade 1 learners may benefit from being enrolled in ECE instead given the curriculum is designed to build from their existing skill levels. While, overage learners, especially those that are 8 years and older, may benefit from being enrolled alongside their same age peers with additional remedial support to promote social and emotional well-being and to reduce drop-out. Evidence from remedial support programs in Zambia, such as the Teaching at the Right Level or "Catch-up" program implemented by VVOB and the MoGE, show that teacher-led models can support overage primary school learners to catch up to their peers (VVOB, 2019). This model could be adapted to include Grade 1 and 2 and expanded to all provinces to support overage learners as they enter primary school for the first time.

RECOMMENDATIONS FOR THE LET'S READ PROJECT

Provide training coupled with coaching to support ECE teachers to implement play-based methods in ECE classrooms. Evidence at baseline found that learners who had more opportunities for free play and choice scored 3.5 percent higher than those that did not. Evidence suggests that early childhood learners learn best when they have positive interactions with their teachers, they have opportunities to choose activities and how to use materials and when teachers engage them in discussions to expand their learning (MELQO Global Team, 2018). However, most ECE teachers sampled at baseline reported that they are relatively new to teaching and specifically to ECE, and 68 percent reported that they had not participated in any in-service teacher training within the previous 12 months. As a result, it is not surprising that most ECE teachers at baseline primarily used repetition based methodologies. This

underscores the importance that ECE teacher training focus on supporting teachers to implement play-based methods and training being coupled with coaching to support teachers to put these new methods into practice.

Focus on improving learners' expressive language, oral comprehension and vocabulary skills to support second language learners. At baseline, ECE learners who spoke the LoI at home scored 6.5 percent higher than second language learners who spoke another language at home. Approximately 18 percent of sampled learners from Eastern province, and 34 percent of sampled learners from Western province are learning in a second or third language. Plenty of scaffolded opportunities to model and practice expressive language and vocabulary skills are essential among second language to ensure that they are able to understand and participate in ECE instruction. These skills are also pre-requisites for subsequent initial reading skills such as decoding, and therefore it is recommended that they are prioritized, especially in schools with a higher percentage of second language learners. Further, ECE teachers may benefit from targeted training and/or coaching support on evidence-based approaches that support second language acquisition.

Improve access to adequate and appropriate reading and play materials and their use in ECE classrooms and at home. At baseline, learners who attended a school with adequate space for play, whose teacher used local materials, pictures and visual to support instruction, and had a higher number of storybooks performed better by approximately one standard deviation or 3 percent in comparison to learners who did not. This demonstrates the importance of access to instructional materials to support learning opportunities. However, 90 percent of the ECE classrooms that were observed do not have access to storybooks and 60 percent do not have access to educational toys or math materials. In addition, more than a third of ECE teachers reported that they do not have adequate support and resources from the school to carry out their teaching duties. Most ECE teachers were observed using their own materials to develop visuals and instructional aids, which should continue to be encouraged, but additional investments to increase access to age-appropriate storybooks and math manipulatives is highly recommended to further enable teachers to implement high-quality instruction to improve learners' skills development. To ensure the type of materials selected meet ECE teachers' needs and are user-friendly, it is recommended that a collaborative consultation process with the MoGE and other key stakeholders be conducted. In addition, learners who were read to at home scored 4 percent higher than those that did not. As a result, it is important that schools support families access to books at home and encourage parents to read to their children often.

Collaborate with the MoGE to strengthen the ECE Syllabi and curriculum especially in the teaching of emergent literacy skills. At baseline, ECE and grade 1 learners performed poorly on the letter identification, phonemic awareness and oral comprehension subtasks. Evidence from other developing countries (Weatherholt et al., 2018; Cambridge Education, 2017) shows that strengthening the ECE curriculum and ensuring that it is implemented well can help learners develop critical emergent literacy skills that help them transition better to Grade 1 and attain reading fluency by Grade 2. As such, it is recommended that ECE syllabi and curriculum be strengthened to provide specific and detailed guidance to ECE teachers on how to explicitly teach these skills effectively. At the same time, ECE teacher training should include ample practice on how to implement the ECE Syllabi and associated curriculum documents to ensure they are implemented with fidelity.

Plan strategically for ECE teacher turnover to ensure improvements in the quality of instruction and learning outcomes are sustained. Approximately 88 percent of ECE teachers report that they are satisfied with their job. However, only 30 percent reported that they plan to continue in ECE. This may be in part due to their workload as over 40 percent of ECE teachers surveyed, reported that they feel overwhelmed by the amount of work they have as well as other economic, cultural and

individual-level factors. Nonetheless, given the high degree of turnover, it is critical that Let's Read plans strategically with the MoGE on how in-service teacher training and on-going coaching and mentoring support can be sustained once the project ends to ensure that as new teachers enter the workforce or are re-assigned to teach ECE, they receive adequate support to deliver high-quality play-based instruction. Otherwise, improvements in learning outcomes will not be sustained in the long-term. At the same time, additional research to explore the reasons why ECE teachers leave the workforce would help policymakers, donors and implementers to develop long-term solutions that address the high levels of turnover and increase their return on the investment in training and other inputs.

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ANNEX 1: COMPLETE DISAGGREGATED IDELA RESULTS

BASELINE ECE RESULTS

TABLE A1. BASLINE IDELA SUBTASK MEAN SCORES BY LEARNER SEX AND PROVINCE

SUBTASK	ALL	GIRLS	BOYS	DIFFERENCE	EASTERN	WESTERN	DIFFERENCE
School Readiness	**45.0%**	**45.3%**	**44.7%**	**0.6%**	**45.6%**	**44.3%**	**1.3%**
Emergent Numeracy	**41.4%**	**41.9%**	**40.9%**	**1.0%**	**42.0%**	**40.6%**	**1.4%**
Comparison by Size and Length	91.2%	90.5%	91.9%	-1.4%	93.1%	89.1%	3.9%
Sorting and Classification	31.9%	32.2%	31.6%	0.6%	32.4%	31.4%	1.0%
Shape Identification	38.0%	36.8%	39.4%	-2.6%	40.7%	35.2%	5.5%
Number Identification	19.8%	22.4%	17.1%	5.3%	20.9%	18.6%	2.3%
Puzzle Completion	7.9%	7.4%	8.5%	-1.1%	8.2%	7.7%	0.5%
Addition and Subtraction	58.1%	58.1%	58.0%	0.1%	55.7%	60.7%	-5.0%
One-to-one Correspondence	42.7%	45.6%	39.7%	5.9%	43.4%	41.9%	1.5%
Emergent Literacy	**35.7%**	**36.3%**	**35.2%**	**1.1%**	**36.2%**	**35.2%**	**1.0%**
Expressive Vocabulary	37.4%	37.1%	37.8%	-0.7%	42.4%	31.9%	10.5%
Print Awareness	54.1%	54.2%	54.1%	0.0%	51.6%	57.0%	-5.4%
Letter Identification	6.5%	6.7%	6.2%	0.5%	8.6%	4.1%	4.5%
Initial Letter Sounds/Phonemic Awareness	19.1%	21.2%	16.9%	4.3%	22.2%	15.7%	6.5%
Emergent Writing	52.4%	55.2%	49.6%	5.6%	48.3%	57.0%	-8.7%
Oral Comprehension	44.7%	43.2%	46.3%	-3.1%	44.0%	45.5%	-1.4%
Social and Emotional	**39.9%**	**39.4%**	**40.4%**	**-1.0%**	**43.6%**	**35.8%**	**7.8%**
Personal Awareness	67.4%	67.9%	67.0%	0.9%	71.0%	63.6%	7.4%
Friends	47.8%	48.8%	46.7%	2.1%	52.5%	42.5%	10.0%
Emotional Awareness/ Regulation	25.5%	23.7%	27.5%	-3.8%	30.2%	20.4%	9.9%
Empathy/Perspective Taking	26.1%	24.5%	27.7%	-3.2%	28.0%	24.0%	3.9%
Solving Conflict	32.5%	32.0%	33.0%	-1.0%	36.1%	28.5%	7.7%
Motor Development	**62.9%**	**63.5%**	**62.2%**	**1.3%**	**60.5%**	**65.5%**	**-5.0%**
Drawing a Shape/Copying	60.7%	59.4%	62.0%	-2.6%	58.8%	62.7%	-3.9%
Folding a Shape	41.8%	44.8%	38.7%	6.1%	36.2%	48.0%	-11.7%
Drawing a Person	64.3%	66.5%	62.0%	4.5%	63.1%	65.6%	-2.5%
Hopping	84.7%	83.4%	86.1%	-2.7%	83.8%	85.7%	-2.0%
Executive Function	**58.3%**	**56.8%**	**59.7%**	**-2.9%**	**60.6%**	**55.6%**	**5.0%**
Short-term Memory	56.9%	57.7%	56.1%	1.6%	55.1%	58.8%	-3.7%
Inhibitory Control	59.6%	56.0%	63.4%	-7.3%	66.1%	52.5%	13.7%

GRADE 1 LEARNERS RESULTS

TABLE A2. GRADE 1 IDELA SUBTASK MEAN SCORES BY LEARNER SEX AND PROVINCE

SUBTASK	ALL	ECE	NO ECE	DIFFERENCE	GIRLS	BOYS	DIFFERENCE	EASTERN	WESTERN	DIFFERENCE
School Readiness	**59.5%**	**61.7%**	**56.8%**	**4.9%**	**59.3%**	**59.6%**	**-0.3%**	**60.6%**	**58.3%**	**2.3%**
Emergent Numeracy	**57.2%**	**59.6%**	**54.2%**	**5.4%**	**55.9%**	**58.4%**	**-2.5%**	**59.3%**	**55.0%**	**4.3%**
Comparison by Size and Length	95.3%	95.0%	95.7%	-0.6%	94.2%	96.5%	-2.3%	97.4%	93.2%	4.2%
Sorting and Classification	43.4%	45.3%	41.1%	4.1%	43.0%	43.8%	-0.9%	47.3%	39.4%	7.9%
Shape Identification	43.1%	47.0%	38.5%	8.5%	42.9%	43.4%	-0.5%	45.4%	40.8%	4.7%
Number Identification	48.4%	54.1%	41.5%	12.7%	46.2%	50.5%	-4.4%	50.9%	45.8%	5.1%
Puzzle Completion	15.8%	16.0%	15.6%	0.4%	14.1%	17.5%	-3.4%	14.5%	17.2%	-2.7%
Addition and Subtraction	82.3%	85.4%	78.6%	6.8%	80.3%	84.3%	-4.0%	86.0%	78.5%	7.5%
One-to-one Correspondence	71.8%	74.6%	68.6%	6.0%	70.8%	72.9%	-2.1%	73.4%	70.2%	3.3%
Emergent Literacy	**51.2%**	**54.0%**	**47.7%**	**6.3%**	**51.6%**	**50.7%**	**0.9%**	**51.6%**	**50.7%**	**0.8%**
Expressive Vocabulary	45.7%	47.3%	43.8%	3.4%	45.1%	46.3%	-1.2%	50.9%	40.3%	10.5%
Print Awareness	67.3%	68.5%	65.9%	2.5%	67.9%	66.7%	1.3%	66.1%	68.5%	-2.4%
Letter Identification	20.4%	25.6%	14.2%	11.4%	20.9%	19.9%	1.0%	23.9%	16.8%	7.1%
Initial Letter Sounds/Phonemic Awareness	33.5%	37.5%	28.7%	8.9%	34.4%	32.6%	1.7%	35.6%	31.4%	4.2%
Emergent Writing	79.3%	84.1%	73.4%	10.8%	80.5%	78.0%	2.5%	72.8%	85.9%	-13.1%
Oral Comprehension	60.8%	61.2%	60.4%	0.8%	60.8%	60.8%	0.0%	60.1%	61.5%	-1.4%
Social and Emotional	**50.6%**	**52.1%**	**48.9%**	**3.2%**	**50.2%**	**51.1%**	**-1.0%**	**54.5%**	**46.7%**	**7.8%**
Personal Awareness	74.7%	75.4%	73.8%	1.6%	74.3%	75.1%	-0.9%	79.6%	69.7%	9.9%
Friends	55.6%	57.2%	53.8%	3.3%	56.7%	54.5%	2.2%	61.7%	49.4%	12.4%
Emotional Awareness/ Regulation	38.3%	38.6%	37.8%	0.8%	37.4%	39.2%	-1.8%	43.2%	33.2%	10.0%
Empathy/Perspective Taking	45.0%	45.4%	44.5%	0.9%	43.6%	46.4%	-2.7%	46.8%	43.2%	3.6%
Solving Conflict	39.6%	43.8%	34.5%	9.3%	38.8%	40.4%	-1.5%	41.2%	38.0%	3.2%
Motor Development	**79.0%**	**81.1%**	**76.4%**	**4.7%**	**79.7%**	**78.3%**	**1.5%**	**77.1%**	**80.9%**	**-3.8%**
Drawing a Shape/Copying	88.3%	93.4%	82.3%	11.1%	87.3%	89.3%	-2.1%	88.1%	88.5%	-0.4%

TABLE A2. GRADE 1 IDELA SUBTASK MEAN SCORES BY LEARNER SEX AND PROVINCE										
SUBTASK	ALL	ECE	NO ECE	DIFFERENCE	GIRLS	BOYS	DIFFERENCE	EASTERN	WESTERN	DIFFERENCE
Folding a Shape	58.5%	59.1%	57.7%	1.4%	61.6%	55.4%	6.2%	53.8%	63.3%	-9.5%
Drawing a Person	80.6%	82.6%	78.3%	4.4%	82.1%	79.2%	2.9%	79.8%	81.5%	-1.7%
Hopping	88.5%	89.4%	87.3%	2.1%	87.9%	89.0%	-1.2%	86.6%	90.3%	-3.7%
Executive Function	**72.9%**	**74.7%**	**70.7%**	**4.0%**	**71.1%**	**74.7%**	**-3.6%**	**74.2%**	**71.5%**	**2.7%**
Short-term Memory	67.5%	69.5%	65.1%	4.4%	66.8%	68.2%	-1.5%	67.1%	67.9%	-0.7%
Inhibitory Control	78.2%	79.9%	76.2%	3.7%	75.4%	81.1%	-5.7%	81.3%	75.1%	6.2%

ANNEX 2: COMPLETE DESCRIPTIVE RESULTS FOR LEARNER QUESTIONNAIRE

TABLE A3. LEARNER QUESTIONNAIRE RESULTS BY PROVINCE AND LEARNER SEX

QUESTION	RESPONSE OPTION	EASTERN	WESTERN	GIRLS	BOYS	ALL
What language do you most often speak at home?	Silozi	0.2%	58.6%	28.4%	28.7%	28.5%
	Cinyanja	71.9%	1.5%	36.8%	38.6%	37.7%
	Chitonga	0.5%	0.8%	0.5%	0.7%	0.6%
	Icibemba	3.6%	0.0%	1.4%	2.2%	1.8%
	Lunda	0.2%	0.6%	0.5%	0.2%	0.4%
	Luvale	0.0%	4.7%	2.2%	2.4%	2.3%
	English	2.7%	2.6%	2.9%	2.4%	2.7%
	Other	9.1%	20.0%	15.0%	13.5%	0.0%
	No response	11.9%	11.3%	12.1%	11.3%	26.0%
Did you teacher read books to you during school yesterday (or on the most recent school day)?	Yes	52.8%	48.4%	46.0%	55.5%	50.7%
	No	44.1%	48.2%	51.3%	40.9%	46.1%
	I don't know	3.0%	3.4%	2.7%	3.7%	3.2%
Did you eat food before you came to school?	Yes	62.5%	62.5%	61.8%	63.2%	62.5%
	No	36.7%	36.2%	37.0%	35.9%	36.4%
	I don't know	0.9%	1.3%	1.3%	0.9%	1.1%
Do you read books at home?	Yes	55.9%	50.3%	52.9%	53.4%	53.2%
	No	43.4%	48.2%	46.0%	45.5%	45.7%
	I don't know	0.7%	1.5%	1.1%	1.1%	1.1%
How often does someone read to you at home?	Never	43.6%	57.6%	48.9%	51.9%	50.4%
	Sometimes	43.1%	28.6%	37.3%	34.8%	36.0%
	Everyday	10.5%	11.1%	10.9%	10.7%	10.8%
	I don't know	2.8%	2.6%	2.9%	2.6%	2.7%
Did you attend this school last year?	Yes	51.1%	44.6%	48.9%	47.0%	47.9%
	No	47.3%	53.1%	49.6%	50.6%	50.1%
	I don't know	1.6%	2.3%	1.4%	2.4%	1.9%

TABLE A3. LEARNER QUESTIONNAIRE RESULTS BY PROVINCE AND LEARNER SEX

QUESTION	RESPONSE OPTION	EASTERN	WESTERN	GIRLS	BOYS	ALL
If yes, what class were you in last year?	ECE	94.4%	90.3%	93.3%	91.7%	92.6%
	Grade 1	5.6%	4.6%	4.4%	5.9%	5.2%
	I don't know	0.0%	5.1%	2.2%	2.4%	2.3%
Administered to Grade 1 Learners with no ECE participation only to examine barriers to accessing ECE programming						
Last year, did you or your parents ever try to enroll you in an ECE program?	Yes	24.1%	24.3%	26.8%	21.8%	24.2%
	No	62.1%	62.9%	58.7%	66.0%	62.5%
	I don't know	13.8%	12.9%	14.5%	12.2%	13.3%
What is the primary reason you did not attend ECE last year?	The school was very far from my house	2.1%	11.4%	6.5%	6.8%	6.7%
	There was no space in the ECE class	2.8%	0.7%	1.4%	2.0%	1.8%
	The school told me I could not enroll in ECE	2.1%	2.9%	2.9%	2.0%	2.5%
	I had to help mom and dad at home	4.1%	1.4%	2.9%	2.7%	2.8%
	I did not want to go to ECE/school	0.7%	0.0%	0.0%	0.7%	0.4%
	My mom and dad did not have money to send me to school	14.5%	16.4%	12.3%	18.4%	15.4%
	I don't know	55.2%	57.1%	56.5%	55.8%	56.1%
	Other	18.6%	10.0%	17.4%	11.6%	14.4%

ANNEX 3: COMPLETE DESCRIPTIVE RESULTS FOR TEACHER QUESTIONNAIRE

TEACHER'S CHARACTERISTICS		EASTERN	WESTERN	MALE	FEMALE	OVERALL
Highest educational level completed by the teacher	Bachelors	12%	4%	0%	10%	8%
	Certificate	8%	50%	27%	28%	28%
	Diploma	50%	33%	36%	44%	42%
	Grade 12	31%	13%	36%	18%	22%
Degree (if applicable)	Not applicable	88%	96%	100%	90%	92%
	ECE	4%	0%	0%	3%	2%
	Primary Education	0%	4%	0%	3%	2%
	Secondary Education	8%	0%	0%	5%	4%
Certification in ECE	Bachelors	4%	0%	0%	3%	2%
	Diploma	31%	21%	18%	28%	26%
	Normal	12%	38%	27%	23%	24%
	Other	4%	0%	0%	3%	2%
	No	50%	42%	55%	44%	46%
Training in ECE (if no certificate)	No	69%	100%	83%	82%	83%
	Yes	31%	0%	17%	18%	17%
Reasons for becoming an ECE / Pre-Primary Teacher	Earn money	12%	21%	9%	18%	16%
	Help children	65%	79%	73%	72%	72%
	So my child could attend preschool	23%	13%	9%	21%	18%
	I like teaching young children	73%	67%	64%	72%	70%
	Nothing else to do	12%	0%	18%	3%	6%
	Teaching young children because it is simple and everybody can teach	15%	8%	27%	8%	12%
	Learn skills	38%	33%	45%	33%	36%

TEACHER'S CHARACTERISTICS		EASTERN	WESTERN	MALE	FEMALE	OVERALL
	Was teacher at other level, re-assigned to pre-primary	19%	13%	9%	18%	16%
I am satisfied with my job	Strongly disagree	4%	0%	0%	3%	2%
	Disagree	0%	8%	0%	5%	4%
	Neutral	8%	4%	9%	5%	6%
	Agree	23%	54%	36%	38%	38%
	Strongly Agree	65%	33%	55%	49%	50%
I receive adequate support from my Headteacher	Strongly disagree	4%	4%	0%	5%	4%
	Disagree	8%	4%	0%	8%	6%
	Neutral	17%	13%	18%	14%	15%
	Agree	25%	42%	18%	38%	33%
	Strongly Agree	46%	38%	64%	35%	42%
I am overwhelmed with the amount of work I have	Strongly disagree	16%	0%	9%	8%	8%
	Disagree	32%	38%	18%	39%	35%
	Neutral	8%	13%	9%	11%	10%
	Agree	24%	38%	18%	34%	31%
	Strongly Agree	20%	13%	45%	8%	16%
I have adequate support and resources from the school to carry out my teaching duties	Strongly disagree	8%	4%	9%	5%	6%
	Disagree	20%	38%	36%	26%	29%
	Neutral	4%	13%	27%	3%	8%
	Agree	48%	38%	18%	50%	43%
	Strongly Agree	20%	8%	9%	16%	14%
I feel the role of pre-primary/ECE teacher is valued	Strongly disagree	0%	0%	0%	0%	0%
	Disagree	4%	8%	0%	8%	6%
	Neutral	0%	17%	27%	3%	8%

TEACHER'S CHARACTERISTICS		EASTERN	WESTERN	MALE	FEMALE	OVERALL
	Agree	24%	33%	0%	37%	29%
	Strongly Agree	72%	42%	73%	53%	57%
I feel I have the training I need to be an effective pre-primary teacher	Strongly disagree	0%	0%	0%	0%	0%
	Disagree	21%	27%	40%	19%	24%
	Neutral	0%	5%	10%	0%	2%
	Agree	21%	41%	10%	36%	30%
	Strongly Agree	58%	27%	40%	44%	43%
Teacher's plan for the next 1-5 years	Plan to stay as pre-primary/ECE teacher	38%	21%	36%	28%	30%
	Plan to work as teacher at other level	31%	33%	9%	38%	32%
	Plan to go study pre-primary education	65%	46%	82%	49%	56%
	Plan to go study something else	23%	13%	27%	15%	18%
	Plan to do something else	19%	13%	18%	15%	16%
In which of the areas would you like more help in teaching advice or suggestions?	Classroom management	38%	58%	64%	44%	48%
	Record keeping	42%	33%	45%	36%	38%
	Teaching young children	65%	50%	64%	56%	58%
	Using curriculum	58%	46%	64%	49%	52%
	Assessing children's development	62%	63%	55%	64%	62%
What kind of punishment do children receive when they misbehave?	Physical punishment	19%	4%	18%	10%	12%
	Verbal reprimand	54%	50%	64%	49%	52%
	Removed from the class/time out	8%	8%	0%	10%	8%
	Redirected to an appropriate activity	35%	79%	45%	59%	56%
	Other	27%	8%	0%	23%	18%

ANNEX 4: COMPLETE DESCRIPTIVE RESULTS FOR MELE

PEDAGOGICAL APPROACH		EASTERN	WESTERN	MALE	FEMALE	OVERALL
Learning opportunities to support the development of mathematics skills	Not taught	19%	21%	18%	21%	20%
	Basic with repetition only	58%	29%	36%	46%	44%
	Intermediate	23%	33%	27%	28%	28%
	Sophisticated	0%	17%	18%	5%	8%
Learning opportunities to support development of literacy skills	Not taught	19%	8%	0%	18%	14%
	Basic with repetition only	38%	63%	64%	46%	50%
	Intermediate	35%	13%	27%	23%	24%
	Sophisticated	8%	17%	9%	13%	12%
Learning opportunities to develop expressive language skills	Not taught	4%	17%	9%	10%	10%
	Basic with repetition only	54%	46%	45%	51%	50%
	Intermediate	38%	21%	45%	26%	30%
	Sophisticated	4%	17%	0%	13%	10%
Learning opportunities to promote listening and speaking skills	Not taught	100%	96%	91%	100%	98%
	Basic with repetition only	0%	0%	0%	0%	0%
	Intermediate	0%	0%	0%	0%	0%
	Sophisticated	0%	4%	9%	0%	2%
Teacher tells oral stories	Not taught	73%	75%	82%	72%	74%
	Basic with repetition only	8%	0%	0%	5%	4%
	Intermediate	15%	8%	9%	13%	12%
	Sophisticated	4%	17%	9%	10%	10%
Learning opportunities to promote fine motor skills	Not taught	0%	8%	0%	5%	4%
	Basic with repetition only	73%	46%	55%	62%	60%
	Intermediate	23%	21%	36%	18%	22%
	Sophisticated	4%	25%	9%	15%	14%
Learning opportunities to promote free play or open choice	Not taught	50%	46%	45%	49%	48%
	Basic with repetition only	19%	8%	9%	15%	14%
	Intermediate	19%	29%	27%	23%	24%
	Sophisticated	12%	17%	18%	13%	14%
Learning opportunities that allow children to engage in music / movement activities	Not taught	4%	13%	18%	5%	8%
	Basic with repetition only	77%	50%	55%	67%	64%
	Intermediate	15%	33%	27%	23%	24%
	Sophisticated	4%	4%	0%	5%	4%
	Not taught	0%	21%	9%	10%	10%

PEDAGOGICAL APPROACH		EASTERN	WESTERN	MALE	FEMALE	OVERALL
Learning opportunities to promote gross motor skills	Basic with repetition only	42%	8%	27%	26%	26%
	Intermediate	23%	21%	0%	28%	22%
	Sophisticated	35%	50%	64%	36%	42%

CLASSROOM INTERACTIONS AND APPROACHES TO LEARNING		EASTERN	WESTERN	MALE	FEMALE	OVERALL
Teacher engagement throughout the observation	Level 1	0%	0%	0%	0%	0%
	Level 2	19%	4%	0%	15%	12%
	Level 3	50%	38%	27%	49%	44%
	Level 4	31%	58%	73%	36%	44%
Teacher disciplinary strategies	Level 1	4%	9%	0%	8%	6%
	Level 2	24%	9%	18%	15%	17%
	Level 3	52%	55%	36%	54%	53%
	Level 4	24%	36%	45%	23%	30%
Frequency of negative verbal or physical interactions	Frequently	13%	0%	0%	8%	6%
	Sometimes	9%	8%	0%	10%	9%
	Rarely	39%	8%	18%	23%	23%
	Never	52%	83%	82%	59%	68%
Children are engaged throughout the observation	Few	12%	4%	9%	8%	8%
	Some	15%	8%	18%	10%	12%
	Most	54%	58%	64%	54%	56%
	All	19%	29%	9%	28%	24%
Groups	Level 1	54%	75%	73%	62%	64%
	Level 2	31%	13%	9%	26%	22%
	Level 3	15%	13%	18%	13%	14%
	Level 4	0%	0%	0%	0%	0%
Children are supervised	Level 1	8%	0%	0%	5%	4%
	Level 2	15%	0%	9%	8%	8%
	Level 3	15%	8%	0%	15%	12%
	Level 4	62%	92%	91%	72%	76%
Theme	Level 1	12%	8%	0%	13%	10%
	Level 2	4%	4%	9%	3%	4%
	Level 3	65%	63%	55%	67%	64%
	Level 4	19%	25%	36%	18%	22%
Individualized Instruction	Level 1	8%	0%	0%	5%	4%
	Level 2	38%	33%	45%	33%	36%
	Level 3	38%	54%	45%	46%	46%
	Level 4	15%	13%	9%	15%	14%
Teacher encourages equal participation of girls and boys	Level 1	0%	0%	0%	0%	0%
	Level 2	4%	0%	0%	3%	2%
	Level 3	54%	17%	27%	38%	36%

CLASSROOM INTERACTIONS AND APPROACHES TO LEARNING		EASTERN	WESTERN	MALE	FEMALE	OVERALL
	Level 4	42%	83%	73%	59%	62%
Diversity	Level 1	0%	4%	9%	0%	2%
	Level 2	88%	83%	73%	90%	86%
	Level 3	12%	8%	18%	8%	10%
	Level 4	0%	4%	0%	3%	2%

CLASSROOM ARRANGEMENT, SPACE, AND MATERIALS	EASTERN	WESTERN	OVERALL
Each child has his own piece of paper for writing	77%	75%	76%
Teacher tracks children's development regularly	85%	67%	76%
Classroom space is adequate for all indoor activities	58%	83%	70%
Lessons are conducted outside with no coverings	18%	0%	13%
All children have access to a writing surface	31%	71%	50%
Children access materials that are organised into learning corners	19%	13%	16%
Adequate space for play and some equipment for gross motor activities	62%	54%	58%
Teacher uses local materials, pictures, or additional visuals	96%	79%	88%

PERCENTAGE OF CLASSROOMS THAT MEET SAFETY CONDITIONS	EASTERN	WESTERN	OVERALL
Broken or uneven floors	23%	71%	46%
Broken chairs or furniture	31%	38%	34%
Sharp or rusting materials	27%	21%	24%
Exposed nails	19%	8%	14%
Leaking roof, holes in ceiling	23%	8%	16%
Broken windows or doors	46%	58%	52%
Inadequate natural lighting	23%	4%	14%
Slippery floors	0%	0%	0%
Inadequate ventilation	19%	8%	14%
Door which cannot be locked	23%	42%	32%
Other conditions likely to cause injury to children	35%	25%	30%
Packed/stored objects on the school ground	12%	13%	12%
Open pit/holes	12%	21%	16%
Rocky/littered playgrounds	23%	25%	24%
No fencing on No fencing on	92%	71%	82%

	EASTERN	WESTERN

CHILDREN ENGAGEMENT WITH MATERIALS	NO MATERIALS PRESENT	MATERIALS PRESENT BUT CHILDREN DO NOT USE THEM	CHILDREN USE THEM	NO MATERIALS PRESENT	MATERIALS PRESENT BUT CHILDREN DO NOT USE THEM	CHILDREN USE THEM
Writing tools	4%	4%	92%	13%	8%	79%
Art materials	15%	15%	69%	42%	17%	42%
Fantasy play or pretend corner	62%	35%	4%	83%	13%	4%
Mattress for a resting area	69%	23%	8%	96%	4%	0%
Blocks (wooden or plastic, interlocking pieces)	69%	8%	23%	88%	13%	0%
Educational toys or math materials	42%	19%	38%	79%	8%	13%
Storybooks	81%	15%	4%	100%	0%	0%

AMOUNT OF STORYBOOKS	NONE	1 TO 14	25 OR MORE	NONE	1 TO 14	25 OR MORE
In local language	69%	23%	8%	92%	8%	0%
In English	77%	19%	4%	100%	0%	0%

FACILITIES AND SAFETY		EASTERN	WESTERN	OVERALL
Drinking Water	Level 1	12%	21%	16%
	Level 2	8%	0%	4%
	Level 3	65%	46%	56%
	Level 4	15%	33%	24%
Handwashing facilities	Level 1	12%	38%	24%
	Level 2	4%	8%	6%
	Level 3	69%	50%	60%
	Level 4	15%	4%	10%
Handwashing practices	Level 1	50%	54%	52%
	Level 2	23%	38%	30%
	Level 3	8%	4%	6%
	Level 4	19%	4%	12%
Toilet facilities	Level 1	0%	4%	2%
	Level 2	100%	96%	98%
	Level 3	0%	0%	0%
	Level 4	0%	0%	0%
Toilet conditions	Level 1	8%	13%	10%
	Level 2	23%	17%	20%

FACILITIES AND SAFETY	EASTERN	WESTERN	OVERALL
Level 3	38%	42%	40%
Level 4	31%	29%	30%

ANNEX 5: METHODOLOGY

IDELA AND MELE PREVIOUS USAGE IN ZAMBIA

As part of the research design process, Education Data Activity reviewed several early childhood education assessment and classroom observation tools used globally to assess their suitability for the Baseline ECE Research Study. Education Data Activity found that the IDELA tool had been adapted and used at least five times as part of both pilot and evaluation studies by Save the Children starting in 2013. Most recently, it was adapted by USAID/Zambia's Right to Care project. In reviewing the results of these studies, the IDELA was found to have strong reliability and validity for the context. The MELE tool had been used twice recently within Zambia, once as part of a pilot study conducted by the University of Zambia's Centre for Promotion of Literacy in Sub-Saharan Africa and once by World Vision. Through consultations with various cooperating partners and education stakeholders, Education Data Activity found both tools to be suitable for the Zambian context. Table A4 provides further information on the prior usage of both the IDELA and MELE tools in Zambia.

TABLE A4. IDELA AND MELE PRIOR USAGE IN ZAMBIA

TOOL	ORGANIZATION	YEAR	SAMPLE SIZE	TYPE OF STUDY	REPORT
IDELA	Save the Children	August 2013	262	Pilot Study	International Development and Early Learning Assessment Technical Working Paper: https://idela-network.org/resource/international-development-and-early-learning-assessment-technical-working-paper/
IDELA	Save the Children	November 2013	273	Assessment Report	Zambia School Readiness and ECCD Baseline Report: https://idela-network.org/wp-content/uploads/2017/06/Zambia-School-Readiness-Baseline-Report-Final.pdf
IDELA	Save the Children	December 2015	318	Evaluation Report	Zambia Lufwanyama Sponsorship Baseline Progress Report: https://idela-network.org/wp-content/uploads/2017/06/IDELA-Zambia-Lufwanyama-Baseline-2015.pdf
IDELA	Save the Children	2016	30 ECE centers	Endline Evaluation	Zambia Lufwanyama Sponsorship Endline Progress Report
IDELA	Save the Children	July 2017	210	Cross-sectional Study	International Development of Early Learning Assessment (IDELA) for ECCD Learners
IDELA	USAID Zambia Right to Care	August 2019		Baseline Assessment	Still in Progress
MELE	CAPOLSA and VVOB	2018	Five schools from three districts	Pilot Study	Use of Measuring Early Learning Environment (MELE) as an Early Childhood Education (ECE) Quality Assessment Tool in Selected Schools – a Pilot Study in Central Province.

TABLE A4. IDELA AND MELE PRIOR USAGE IN ZAMBIA					
TOOL	ORGANIZATION	YEAR	SAMPLE SIZE	TYPE OF STUDY	REPORT
MELE	World Vision	Present	31 ECD Centers	Baseline assessment & project-based monitoring	World Vision Zambia - Learning Roots Standards Dashboard: https://www.meqadata.com/learning-roots-baseline-zambia

Previous administrations of IDELA in Zambia found the tool to have strong internal consistency and inter-rater reliability, enabling valid and reliable conclusions to be drawn and suggesting it was suitable for the Zambian context. The MELE tool had only been administered twice previously in Zambia, and in both circumstances, analysis of the psychometric properties of the tools were not available. However, a pilot study conducted by CAPOLSA and VVOB provided in-depth suggestions for appropriate adaptations for the Zambia ECE classroom. Education Data Activity drew insights from these previous administrations to inform the adaptation, translation and validation process.

INSTRUMENT ADAPTATION

Development of grade-appropriate and context-specific assessment and classroom observation tools involves extensive research, drafting, adaptation, and pre-testing. To facilitate this process, Education Data activity held a series of three workshops in December 2019 with MoGE officials from the Directorates of Teacher Education, ECE, Curriculum Development Center, Planning and Information (Research Coordinating Committee) and ECZ to adapt, translate and validate the IDELA and MELE tools. During the adaptation workshop, participants worked to align both tools with the ECE syllabi, the Early Childhood Education Standard Guidelines and the Zambian educational context.

IDELA ADAPTATION

During the workshop, participants recommended minor adjustments to the IDELA tool to: (1) align the IDELA to Zambian curriculum and/or current ECE classroom standards; (2) align the IDELA to be more culturally appropriate for Zambia; (3) increase clarity in assessor instructions; and (4) include modifications to ensure the tool is inclusive for learners with physical disabilities. Most recommendations were minor and were incorporated if the recommendation did not change the underlying construct being measured or reduce the tool's reliability. The recommendations and corresponding rationales proposed by participants for adopting or not adopting are as follows:

TABLE A5. IDELA ADAPTATION			
TEST ITEM	**WORKSHOP RECOMMENDATION**	**DECISION**	**RATIONALE**
Letter identification	Change letters in letter chart to ensure they are appropriate for Cinyanja and Silozi learners	Recommendation adopted	Adopted because it better aligns to Zambian curriculum, ensuring the measurement is a valid assessment for the LoI learner groups
Empathy/ Perspective Taking	Change the picture of a White girl crying to resemble a Zambian learner	Recommendation adopted	Adopted because it better aligns to the Zambian educational context

TABLE A5. IDELA ADAPTATION

TEST ITEM	WORKSHOP RECOMMENDATION	DECISION	RATIONALE
Drawing a person	Include examples of materials in the event the assessor may require alternative resources	Recommendation adopted	Adopted because it better prepares the assessor for all assessment situations
Hopping	Include an alternative question for physically impaired learners	Recommendation adopted	Adopted because it better ensures no learners are excluded regardless of circumstances
Emergent Writing	In addition to writing names, allow learners to draw symbols as a representation of their name	Recommendation not adopted	Not adopted because pre-writing words is included in the syllabus for 5–6-year-old learners. Adopting this recommendation would result in assessing an entirely different construct, drawing, rather than emergent writing
Oral Comprehension	Revise the story from 115 words to roughly 65 words or less	Recommendation not adopted	Not adopted because Save the Children results indicate that Zambian learners have performed consistently with other neighboring or regional countries on emergent literacy across similar ages. Emergent literacy scores for learners ages 5–6 across Tanzania (45%), Namibia (56%), and Zambia (56%) are within 10 percentage points. In addition, the internal consistency of the emergent literacy subtask was found to be 0.85, and IDELA as a whole was 0.94, both of which are above the global acceptable standard of 0.80. Because the scores are appropriate when regionally compared and IDELA has been utilized in Zambia in 2013, 2015, and 2017, further text revision may reduce the reliability and validity of the results, lead to bias or reporting above learners' skill levels and would reduce the comparability of scores.[13]

MELE ADAPTATION

Building from recommendations from the pilot study conducted by CAPOLSA, workshop participants reviewed and adapted the MELE tool to: (1) align it to Zambian curriculum and/or current ECE classroom standards, (2) align the instrument to be more culturally appropriate for Zambia, (3) increase clarity in assessor instructions and (4) revise the assessment to an appropriate scope. Recommendations were minor and as a result were all incorporated. The recommendations and corresponding rationales for adaptation are as follows:

[13] Comparative IDELA data compiled from www.idela-network.org/data.

TABLE A6. MELE ADAPTATION

TEST ITEM	WORKSHOP RECOMMENDATION	DECISION	RATIONALE
Learning opportunities to support the development of mathematics skills	Use "maths" throughout the instructions instead of "mathematics."	Recommendation adopted	Adopted because it better aligns to Zambian cultural and pedagogical terminology, resulting in likely increased clarity for assessors
Theme	Add "language and literacy" as a theme	Recommendation adopted	Adopted because it better aligns to MoGE materials taught in ECE
Teacher tracks children's development on a regular basis	Add for assessors to check learner books and individual learner records to confirm learning progress	Recommendation adopted	Adopted because it better allows assessor to understand and more accurately rate the item for testing.
Toilet facilities	Revise indicators to better capture all toilet facilities in ECE classrooms	Recommendation adopted	Adopted because it better aligns to current Zambian ECE classroom environments

Following the adaptation workshop, Education Data Activity held a two-day Translation Workshop with language specialists from the Curriculum Development Center. Participants worked together in two language groups to translate the IDELA tool into Silozi and Cinyanja, after which language specialists from the University of Zambia also reviewed the tools and suggested minor adjustments.

PRE-TESTING

In early January 2020, Education Data Activity received permission from the MoGE to pre-test the IDELA and MELE tools in two schools in Lusaka Province. Prior to pre-testing, Education Data Activity staff trained staff from CAPOLSA as well as four research assistants to administer the IDELA and MELE tools. During the pre-testing exercise, a total of 21 girls and 19 boys were assessed using the IDELA tool, with equal representation from ECE and Grade 1 learners to ensure the tool would be appropriate for both grade levels. The pre-test results enabled Education Data Activity to fine-tune the tools, adjust the administration protocols and expand the instructions to ensure clarity and helped to inform the design of materials for the QCO and assessor training.

FINALIZATION AND VALIDATION OF IDELA AND MELE TOOLS

In partnership with the MoGE, ECZ and USAID, Education Data Activity held the Validation Workshop on December 19 and 20, 2019, to ensure the tools were both adapted and accurately translated for the Zambian context. On December 20, participants signed an approval letter validating the IDELA and MELE tools for use by Education Data Activity to conduct the ECE Research Studies. The final versions of the IDELA and MELE tools were programmed into the KoboToolbox application and then loaded onto electronic tablets to be used at baseline.

DATA COLLECTION TEAM RECRUITMENT

In preparation for the QCO and assessor training, CAPOLSA staff recruited and screened candidates to serve as QCOs and assessors based on their academic, research and language backgrounds, in addition to their experience working with children. The criteria for selecting QCOs and assessors for EGRA as outlined in the Quality Assurance Surveillance Plan (QASP) were adapted and used by CAPOLSA to screen and select individuals for the ECE Research Studies. The general requirements for both positions were (1) Zambian citizenship; (2) the ability to read and speak at least one of the local languages of the assessment, Cinyanja or Silozi; (3) proficiency using IT devices such as tablets, smart phones etc.; (4) previous experience conducting field work/data collection; (5) fluency in written and spoken English and; (6) willingness to work in the field in some hard to reach locations. In addition to the general requirements, assessors were required to have a bachelor's degree, and QCOs were required to possess a master's degree or be a registered master's student. Based on the selection process, a total of 34 participants, 19 females and 15 males, were selected to participate in training.

ANNEX 6: COMPLETE SET OF IDELA AND MELE TOOLS

2020 BASELINE IDELA TOOL: CINYANJA

Maiko Osiyana Siyana Yacithukuko Ndi Mayeso Yacimbi Camaphunziro

International Development and Early Learning Assessment

INSTRUCTIONS

Consult the accompanying *Assessment Guide* for full instructions on IDELA administration.

Establish a relaxed, playful rapport with the child through a short conversation. Alongside the teacher or other school personnel, introduce yourself and ask the child a few questions about subjects of interest, such as what the child likes to do for fun or what the child is doing in school. The child should perceive the assessment almost as a game to be enjoyed rather than a test. Use this time to which language the child is most comfortable communicating in. Read aloud slowly and clearly ONLY the sections in boxes.

Find a separate space to sit with the child away from the other children you will be assessing. Conduct the VERBAL CONSENT portion of the survey with every randomly selected child who is between 5 to 7 years of age. Read the below script to the child. Only proceed if the child has provided verbal assent. If the child does not consent, thank the child and move to the next child.

Throughout the assessment, offer neutral encouragement to the child. Say things like, "You are working very hard - keep it up!" Give encouragement in between questions, rather than in the middle of questions. Be patient! Do not give hints to questions or make facial expressions while the child is completing tasks.

Observe how the child is doing and offer breaks as needed throughout. Technically there is no "time limit" to complete the assessment although some questions are timed to help move through the items at a regular pace.

GREETING

INTERVIEWER: **"Uli bwanji , ine dzina langa ndine_____ndipo ndikhala ku-_____. Ndifuna ndikuuze pang'ono za ine."**

"*Hello, my name is _____ and I live in _____. I'd like to tell you a little bit about myself.*

[Include 2-3 facts that may be of interest to the child, such as favorite foods, sports, activities, and/or number of children]

1. **Ukonda kucita ciyani ngati siuli ku sukulu?**
   What do you like to do when you are not in school?
   [Wait for response; if learner is reluctant, ask question 2, but if he or she seems comfortable continue to verbal consent].

2. **Ndi masewero otani omwe ukondesetsa kusewera?**
   What games do you like to play?

VERBAL CONSENT

Ine ndigwira nchito ku kabungwe ka USAID Education Data Activity kapenya panchito yoona pa za maphunziro. Tabwera pano kuti tiphunzire za ana, monga iwe ,momwe muphunzirira zinthu ndipo ngati mudziwa kucita masewera osiyana siyana. Unasankhidwa mwa mwayi. Tifuna kuti iwe utithandize mu nchito yathu iyi. Ndiwe omasuka kusatengako mbali ngati siufuna kutengako mbalii. Tidzasewera masewero ndi zocita-cita pamodzi. Ndidzakuonetsa zinthu zosiyana-siyana zomwe ndiri nazo ndipo ndidzakufusa mafunso osiyana -siyana pankhani, zithunzi-thunzi, malembo, manambala ndi zinthu zina. Ndidzakufunsanso kuti undionetse momwe ucitira zinthu, monga kujambula kapena kudulowinga . Aya simayeso ndipo siyazakhudza momwe ucitira pa sukulu. Sitidzakupatsa kanthu kali konse posiliza masewero ndi zocita-cita, koma pocita masewero awa ndi zocita-cita pamodzi, ungathandize akulu-akulu kuthandiza ana ena monga iwe pa zamaphunzro ya ana asukulu.

I am working with the USAID Education Data activity team. We are here to learn about how children, like you, learn things and if they know how to play some games. You were picked by chance like in a lottery or a raffle. We would like your help in this. But you do not have to take part if you do not want to. We are going to play some games and do activities together. I will show you different materials I have with me and will also ask you some questions about stories, pictures, letters, numbers and other things. I will also ask you to show me how you do some things, like drawing. This is NOT a test and it will not affect your grade at school. You will not get anything from us after the games and activities, but by playing these games and activities together, you can help adults help other kids like you in school.

Zinthu zina zocita-cita zidzakhala zosabvuta kwa iwe ndipo mwina zina nkukhala zobvutako. Osadandaula ngati sungakwanitse kucita zinthu zina.Tifuna cabe kuti iwe uyesere reko .Ungalekeze ndi kupumula ngati ufuna kutero. Ungandidziwitse ngati ufuna kuleka ndi kupumula. Masewero ndi zocita-cita zidzatenga cabe mwina mphindi makumi atatu ndi mphambu zinai (35), koma ungapitirizepo ngati ufuna. Ngati waganiza kuti uleke nthawi ina iriyonse, kapena sufuna kucita cinthu cina, ciri cabe bwino.

Some activities will be easy for you and others may be harder. Don't worry if you cannot do some things. We just want you to try. You can stop and take a break if you need to. Just let me know. The games and activities will probably take around 35 minutes, but you can take as long as you need. If you decide at any point that you'd like to stop, or that you don't want to do a particular activity, that's okay, too.

Ndidzakufunsanso mafunso ena okudza banja lako,monga cilankhulidwe cimene mumagwiritsira nchito pa nyumba ndi zocita-cita zomwe umasewera.Sindidzalemba dzina lako kotero kuti kulibe amene azadziwa kuti awa ndi mayankho ako.Anzanga cabe amene akundithandiza masewera awa ndi zocita-cita azadziwa zina za iwe monga tsiku lako lakudwa, koma sitidzauzako wina aliyense.Tidzaziwitsako cabe ana onse amene acita masewera awa, osati kukamba za iwe wekha ai. Sitikhulupirira kuti kucita masewera awa ndi zocita-cita zidzakhala zoipa kwa iwe. Ndibwerezanso, suyenera kutengako mbali ngati siufuna ndipo awa simayeso apa sukulu----ndi masewera cabe. Tikayamba,ngati siufuna kuyankha funso, ziri bwino cabe.

I will also ask you other questions about your family, like what language your family uses at home and activities you play. I will NOT write down your name so no one will know these are your answers. Only my friends helping me do these games and activities will know some of your information like your birthday, but we will not share that with anyone else. We will only share information about all the children that play these games, and never share information about just you. We do not believe playing these games and activities will be bad for you. Once again, you do not have to participate if you do not wish to and this is NOT a test in school—just some games. Once we begin, if you don't want to answer a question, that's all right.

Kodi uli ndi mafunso ali onse?

Do you have any questions?

Suyenera kucita ici ngati siufuna. Kodi Ungakonde kucita masewera ndi zocita-cita ndi ine?
You do not have to do this if you don't want. Would you like to do games and activities with me?

Learner verbally consents to participate in this research study Y [**Inde**] N [**Ayi**]

Date _____**(Tsiku/mwezi/caka)**

CONSENT CERTIFICATE*

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Individual Consent Form has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____Day/Month/Year

BACKGROUND

BACKGROUND INFORMATION

MATERIALS: None

INSTRUCTIONS: Complete this information before the assessment begins with the child. Please use the class roster to obtain the child's information. These questions should not be asked to the child.

NO.	QUESTION	ANSWER
A	Assessor Name	
B	Assessor code	
C	Province	
D	District	
E	School Name	
F	School EMIS Code	

G	Child sex	Boy: _____ Girl: _____
H	Child's birth date (from class register)	Month: _____ Year: _____
I	Current Class	ECE: _____ Grade 1: _____
J	Did the learner attend ECE at this school last year?	Yes_____ No_____ I don't know _____
K	Date of Assessment (Month, day, year)	
L	Time at start	_____ : _____ AM /PM (tick one)
M	Time at end of the assessment (to fill in at the end of the assessment)	

INTER-RATER RELIABILITY ASSESSMENTS

INSTRUCTIONS: to measure the consistency in ratings among assessors, at least two learners per school will be assessed by two assessors at the same time. One assessor will lead the assessment, while the second will observe and mark the students' answers independently. For the first inter-rater reliability assessment – both the primary assessor and observer will mark Yes for question A - inter-rater reliability assessment 1. For the second inter-rater reliability assessment – both the primary assessor and observer will mark Yes for question B - inter-rater reliability assessment 2. For all other assessments conducted by one assessor only – please mark No for both A and B.		
A	Is this inter-rater reliability assessment 1?	Yes_____ No_____
B	Is this inter-rater reliability assessment 2?	Yes_____ No_____
C	If yes, the primary assessor will lead the assessment and the secondary assessor will observe while also marking the students' answer.	Primary assessor ___ Observer ____

IDELA ASSESSMENT

I	**PERSONAL AWARENESS** **MATERIALS:** None **INSTRUCTIONS:** Ask the child the following questions one at a time and score the answers. DO NOT tell the child if the answer was correct or incorrect.			
	INTERVIEWER: **"Tsopano ndidzakufunsa mafunso yokhudza za iwe.Conde ungayankhe ngati ungakwanitse, koma osada nkhawa ngati sudziwa mayankho onse."**	**CORRECT (1)**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED (999)**

"I am going to ask you some questions about yourself now. Please answer them if you can, but do not worry if you do not know all of the answers."		**(0)**	
A **Conde ndiuze dzina lako ndi ciongo cako.** Please tell me your first name and surname. **Score**: Child's response **INSTRUCTIONS**: Both must be correct to be scored correctly. You can ask the for the child's first name, then follow up with the child's last name.	☐	☐	☐
B **Conde ndiuze kodi uli ndi zaka zingati?** Please tell me how old you are **Score:** Child's response **INSTRUCTIONS:** Child can respond verbally or count on fingers	☐	☐	☐
C **Kodi ndiwe mwamuna kapena mkazi?** Are you a boy or a girl? **Score:** Child's response	☐	☐	☐
D **Conde ndiuze dzina la munthu mmodzi amene akusunga ku nyumba** Please tell me the name of one person who takes care of you at home **Score: Child's response** **INSTRUCTIONS:** If child responds with "mother," "auntie," or other family member, ask: **"Dzina lao ndani? kapena achedwa ndani?"** *"What is her name? or what is she called?"* First name or name caregiver is known by is sufficient. e.g. **amai, amai angóno, agogo, ambuye**	☐	☐	☐
	RECORD RESPONSE		
E **Conde ndiuzeko dzina la pamudzi pomwe ukhala** Please tell me the name of the village that you live in **Score:** Child's response			
F **Conde ndiuzeko dzina la dziko lino lomwe ukhalamo** Please tell me the name of the country that you live in **Score:** If the child says Zambia, please mark it correct. If the student says any other place, mark their response as incorrect.	☐	☐	☐

2	**COMPARISON BY SIZE AND LENGTH** **MATERIALS:** Stick and circles picture cards

	INSTRUCTIONS: Take out the picture cards with circles and sticks. Show only one card at a time. If the child does not clearly point to one item, prompt the child to point to one. If the child clearly points to one item do not probe further even if the response is incorrect.			
	INTERVIEWER: **"Tsopano ndidzakuonetsa zithunzi-thunzi ndikuku funsa mafunso."** *"Now I will show you pictures and ask you some questions."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Yangana apa pa cithunzi-thunzi, ndionetse zungulilo lalikulu kwambiri.** Look at this picture and please show me the biggest circle. **Score:** Child identified the biggest circle	☐	☐	☐
	B **Tsopano conde ndionetse zungulilo laling'ono kwambiri** Now please show me the smallest circle. **Score:** Child identified the smallest circle	☐	☐	☐
	C **Conde ndionetse kamtengo kakatali kwambiri** Please show me the longest stick. **Score:** Child identified the longest stick	☐	☐	☐
	D **Conde ndionetse kamtengo kakafupi kwambiri.** Please show me the shortest stick. **Score:** Child identified the shortest stick	☐	☐	☐

3	**SORTING AND CLASSIFICATION** **MATERIALS:** Colored stars and circles picture cards **INSTRUCTIONS:** Show the picture cards with the stars and circles. Place the cards in front of the child and proceed with the question.			
	INTERVIEWER: **"Tidzacita sewero lomwe tidzaika mu magulu zithunzi-thunzi zolingana pamodzi."** *"We're going to play a game where we group pictures together that are similar."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Yangana pa makhadi awa ndipo yesa kuwaika mu magulu awiri olingana. Gwiritsani nchito makhadi onse ndipo panga gulu limodzi apa ndiinanso apa.** Look at these cards and try to put all of them in two groups with others that are alike. Use all the cards and put one group here and another group here (physically show with the hands). **Score:** Child sorts by first criterion (color or shape)	☐	☐	☐

	INSTRUCTIONS: If the child has difficulty understanding the concept of sorting, you may use two white sheets of paper as "sorting bins" and ask the child to form the two groups on the two white sheets of paper. Any partial sorting is incorrect.	
	INSTRUCTIONS: Once the child has completed sorting by one criterion, do NOT move the piles back together. Be patient and wait as the child tries to examine how to arrange the cards.	
	B **Tsopano yangana pa makhadi kaciwiri, ndipo yesa kupeza njira ina kapena yosiana yoika mu gulu makhadiwa.** Now look at the cards again and try to find another/different way to group these cards. **Score:** Child sorts by second criterion (sort by shape or color)	☐ ☐ ☐

4	**SHAPE IDENTIFICATION** **MATERIALS:** Picture card with 6 white shapes **INSTRUCTIONS:** Place the picture card with shapes in front of the child.			
	INTERVIEWER: **"Ndiri ndi zithunzi-thunzi zoti ndikuonetse. Izi ndi zithunzi za mashepu ndizo siyana siyana."** *"I have some pictures to show you. These are pictures of different shapes."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Seko iri kuti?** Where is the circle? **Score:** Child identifies circle	☐	☐	☐
	B **Lekitango iri kuti?** Where is the rectangle? **Score:** Child identifies rectangle	☐	☐	☐
	C **Thirayango iri kuti?** Where is the triangle? **Score:** Child identifies triangle	☐	☐	☐
	D **Sikweya iri kuti?** Where is the square? **Score:** Child identifies square	☐	☐	☐
	E **Ndiuze ciliconse comwe udziwa cili ndimaonekedwe monga a seko.** *Hide the paper of shapes:* Tell me something that looks like a circle. **Score:** Child identifies any circular object.	☐	☐	☐

	(Example correct responses: wheel, tire, ring, etc.)	

5	**NUMBER IDENTIFICATION** **MATERIALS:** Number card with numbers 1-20 **INSTRUCTIONS:** Show the child a copy of the numbers chart. Using another sheet of paper, cover all rows of the table except Row 1 so that it doesn't distract the child. Point to the first number in the first row and ask the child what number it is. If the child pauses for more than 5 seconds, mark as incorrect, point to the next number and encourage the child to continue. Continue to show the grid number by number, moving your finger across the row until you complete Rows 1 and 2. As the child identifies each number, note those identified correctly and incorrectly in your notebook. Count all of the numbers the child identified correctly in Rows 1 and 2. You can repeat pointing to each number once if the child is not responding or looks confused. No other probes are allowed. Avoid probes such as "what comes after 11?" or "have you studied this in school?"		
	INTERVIEWER: **"Tiyeni tione pa manambala tsopano. Ndizalata nambala ndipo ndifuna kuti undiuze nambalayo. Ziri bwino cabe ngati sudziwa manambala onse. Iyi ndi nambala yanji?"** *"Let's look at numbers now. I will point to a number and I want you to tell me what number it is. It's OK if you don't know all of them.* ***What number is this****?"*	**CORRECT**	**REFUSED/ SKIPPED**
	A **Score:** How many numbers in Rows 1 and 2 did the child identify correctly? **INSTRUCTIONS:** If child refuses the whole task, mark "refused/skipped." If child begins the task, only score correct and incorrect. Mark the responses discreetly if tallying with paper. If the child names the digits in two-digit numbers separately (example 1 and 1 for 11) mark it as incorrect.	☐☐	☐
	INSTRUCTIONS: If the child has identified 3 or fewer numbers correctly, STOP and move on to the next item. If the child identifies 4 or more numbers correctly, move to Rows 3 and 4. Ask the child to continue identifying the numbers as done in Rows 1 and 2 and continue counting correct and incorrect answers. **INTERVIEWER: "Zikomo. Tiye tione pa malembo ocepa tsopano. Sindidziwa yomwe udziwa."** *"Thank you. Let's look at a few more numbers now. I wonder which ones you know."*		
	B How many numbers in Rows 3 and 4 did the child identify correctly?	☐☐	☐

6	**PUZZLE COMPLETION** **MATERIALS:** Jigsaw puzzle and a complete picture of the puzzle for the child to see **INSTRUCTIONS:** Take out the puzzle picture and puzzle pieces. Show the picture of the puzzle to child. While you administer this item observe how concentrated and motivated the child is in trying to answer the questions and score according to the scoring rubric. Use the timer to ensure you score at the 2-minute mark. Press start and tell the child to begin. Once the timer goes off, mark the number of correct responses.	
	INTERVIEWER: **"Tidzasangalatsidwa ndi ici cozunguza mutu. Ici ndi cithunzi-thunzi cimene udzayesa kupanga ndi zidunswa izi. Yesa kuika pamodzi zidunswa kuti upange cithunzi-thunzi ici. Undidziwitseni ukatsiriza."** *"We are going to have some fun with this puzzle. This is a picture of what you are going to try to make with these pieces. Try to join the pieces together to make this picture. Let me know when you are done."*	**NUMBER OF CORRECT RESPONSES**
	A **Score:** Number of puzzle pieces correctly placed (0, 1, 2, 3, 4, 5, 6) **INSTRUCTIONS:** What is important in the scoring is how many pieces are in the right/appropriate place in relation to the whole image.	☐

7	**ADDITION AND SUBTRACTION** **MATERIALS:** 20 small sticks and picture cards with bicycles/mangoes			
	INSTRUCTIONS: Please take out the small sticks and the picture cards with bikes/mangoes. Lay out 3 small sticks and say, **"Tsopano mnzanga andipatsa timitengo tating'ono tuli tu."** "*Now my friend gives me 2 more small sticks."* Lay the 2 additional small sticks near the first 3, leaving a little space between the groups. Ask the questions and wait for the child to count. Self-correcting is acceptable.	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Kodi ndiri ndi timitengo tating'ono tingati pamodzi?** How many small sticks do I have in total? **Score:** Child correctly counts 5 small sticks.	☐	☐	☐
	INSTRUCTIONS: Show the picture with the bikes.			
	B **Pano pali njinga ziwiri, ngati waikapo njinga zina tu pa cithunzi kodi zidzakhalapo zingati?** Here are 2 bicycles, if you put 2 more bicycles in the picture how many would there be? **Score:** Child correctly counts 4 bikes.	☐	☐	☐
	INSTRUCTIONS: Show the picture with the mangoes.			

	C **Pano pali manga atatu. Ngati wacotsapo banga limodzi padzakhala manga zingati?** Here are 3 mangoes. If you took one mango away how many mangoes would be left? **Score:** Child correctly counts 2 mangoes.	☐	☐	☐

8	**ONE-TO-ONE CORRESPONDENCE** **MATERIALS:** Bag of 20 small sticks **INSTRUCTIONS:** Arrange 20 small sticks in front of the child. Be patient with the child during each question. After the child finishes each question, bring the 20 items back together again. While you administer this item observe how concentrated and motivated the child is in trying to answer the questions and score below. If it is unclear if the child has completed counting, you can ask, "have you finished?" Accept whatever final number of sticks the child gives, whether it is right or wrong; do not probe again. Self-correcting is acceptable.			
	INTERVIEWER: **"Tsopano tidzasewera ndi timitengo ting'ono. Pali timitengo tambiri ting'ono pano."** *"Now we are going to play with small sticks. There are a lot of small sticks here."*	**CORRECT**	**INCORRECT / DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Conde ndipatse timitengo tuli fili.** Please give me 3 small sticks. **Score:** Child identifies 3 items	☐	☐	☐
	B **Conde ndipatse timitengo ting'ono tuli eiti.** Please give me 8 small sticks. **Score:** Child identifies 8 items	☐	☐	☐
	INSTRUCTIONS: If the child gives you neither 3 nor 8 objects correctly, STOP and move on to the next question. If they can give you 3 or 8 items, bring the 20 objects together again and say:			
	C **Conde ndipatse timitengo tuli fifitini.** Please give me 15 small sticks. **Score:** Child identifies 15 items	☐	☐	☐

9	**SHORT-TERM MEMORY (EXECUTIVE FUNCTION)** **MATERIALS:** None **INSTRUCTION:** Read the INTERVIEWER prompt first and then do a practice round. The symbol "…" indicates a pause. Pause for one second between each number in the sequence. For example, 5…2 means 5 [pause] 2. If the child makes an error on the practice, provide the correct answer. Read the numbers in English. Practice:

	5…2 6…1…3 Proceed with the questions once the practice round is complete.			
	INTERVIEWER: **"Ndidzachula mndandanda wa manambala, imodzi pambuyo pa ina. Pambuyo pa kumva manambala, ndidzafuna iwe kuwabwereza kwa ine mu mndandanda womwe ndachula. Uza ndiyembekezere kuti poyamba ndi chule manambala onse ukalibe kuwachula mobwereza iwe. Conde umvetsera bwino bwino. Tiye tiyese mobwereza kangapo."** *"This is another game. I am going to say a list of numbers, one after another. After you hear the numbers, I want you to repeat them to me in the same order. Wait for me to say all the numbers before you repeat them. Please listen carefully. Let's try a couple practice rounds."* Practice: 5…2 6…1…3 Proceed with the questions once the practice round is complete	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A 1…6 **Score:** Child repeats 1…6	☐	☐	☐
	B 5…2…9 **Score:** Child repeats 5…2…9	☐	☐	☐
	C 8…3…1…4 **Score:** Child repeats 8…3…1…4	☐	☐	☐
	D 1…2…4…7…3 **Score:** Child repeats 1…2…4…7…3	☐	☐	☐

10	**INHIBITORY CONTROL (EX. FUNCTION)** **MATERIALS:** None **INSTRUCTIONS:** Stand up and prompt the child to touch the body part spoken by the interviewer or the opposite body part depending on the INTERVIEWER prompt below.
	INTERVIEWER: **"Tiye tiimirire. Tsopano tidzacita sewero. Sewero iri ndi mbali ziwiri. umvetsese bwino bwino ndipo uzayeserera kucita zomwe ndidzakamba. Wakonzeka? Gwira mutu wako."** "*Let's stand up. Now we're going to play a game. The game has two parts. Listen carefully and try to do what I say. Ready?*

Gwira mutu wako
Touch your head

Assessor physical touchers his/her head. Wait until the child has put both hands on his head.

Gwira zala za kumiyendo kwako
Touch your toes

Assessor physically touches his/her toes. Wait until the child has put both hands on his feet. Repeat the two commands with motions until the child imitates you correctly.

Score: these items are for practice and are not scored.

INSTRUCTIONS: Provide positive feedback when the child responds correctly to the practice round. If the child responds incorrectly, provide additional explanations up to 3 times before beginning the test portion. If the child does not respond correctly after 3 practice sessions, STOP the child and move on to the next assessment question. If the child correctly responds to the practice round with under 4 explanations, move on to the next questions in this item.

INTERVIEWER:
"Tsopano tidzacita sewero iyi mosiyana ndipo ucite MOSIYANA ndi zomwe ndidzachula. Ndikachula kuti gwira MUTU wako, MUMALO mogwira mutu wako, uzagwira zala zako zaku MIYENDO. Ndikati gwira zala zako zaku MIYENDO, uzagwira MUTU wako. Tero uzayamba kucita cinthu cosiyana ndi comwe ndachula. Tiye tiyese poyamba."
"Now we're going to play this game differently and you do the OPPOSITE of what I say. When I say touch your HEAD, INSTEAD of touching your head, you touch your TOES. When I say touch your TOES, you touch your HEAD. So you do something different from what I say. Let's practice first.

Kodi uzacita ciani ngati nanena kuti, "gwira mutu wako?"
What do you do if I say, "touch your head?" [Interviewer DOES NOT touch head anymore]

Kodi uzacita ciani ngati nanena kuti, "gwira zala za kumiyendo yako?"
What do you do if I say, "touch your toes?" [Interviewer DOES NOT touch toes anymore]

INTERVIEWER: Tsopano tidzapitiliza kusowera masewera, muetsesera mosamala ndi kuchita mosiyana ndi zomwe ndizachula

Now we will keep playing this game, listen carefully and do the OPPOSITE of what I say.

INSTRUCTIONS: DO NOT touch your head/toes and DO NOT provide feedback or extra explanations.

A Child understands the directions (Move on to next items if the child DOES NOT understand directions)	**YES** ☐	**NO** ☐	**REFUSED/SKIPPED** ☐
B **Gwira mutu wako** Touch your head	Correct (touches toes	Self-correct (touches	Incorrect (does not touch toes

	Score: Correct if the Child touches toes immediately. Self-correct if the child touches toes after making a mistake and incorrect (does not touch toes)	immediately) □	toes after making mistake) □	□
C	**Gwira zala za kumiyendo kwako** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □
D	**Gwira zala za kumiyendo kwako** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □
E	**Gwira mutu wako** Touch your head **Score:** Correct if the Child touches toes immediately. Self-correct if the child touches toes after making a mistake and incorrect (does not touch toes)	Correct (touches toes immediately) □	Self-correct (touches toes after making mistake) □	Incorrect (does not touch toes □
F	**Gwira zala za kumiyendo kwako** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □
	PERSISTENCE AND ENGAGEMENT			
		YES		**NO**
G	Child stays concentrated on the task at hand and is not easily distracted	☐		☐
H	Child is motivated to complete task and does not want to stop the task	☐		☐

11	**FRIENDS** **MATERIALS:** None **INSTRUCTION:** Read the INTERVIEWER prompt first. If the child has paused for 5 seconds, prompt ONCE by saying, **"Kodi uli ndi anzako ena amene umakonda kusewera nao?"** "Are there any other friends who you like to play with?" Don't rush into the prompt before the child has fully completed answering as this is the only prompt allowed. Assessor should keep count as the child names people since it is easy to forget. Do this discreetly as a tally on a piece of paper.		
	INTERVIEWER: "Conde ndiuze maina ya anzako amene umakonda kusewera nao." *"Please tell me the names of friends who you like to play with."*	**NUMBER**	**REFUSED/ SKIPPED**
	A **Score:** Number of friends named (0-10) **INSTRUCTIONS:** A child's brothers, sisters, cousins could be peers, and can be counted towards the score. However, adults such as aunties, uncles, parents, and teachers are not considered peers and should not be counted. Animals or imaginary friends/cartoons don't count. If child repeats the same name don't count it twice unless they are clearly referring to two different people	☐☐	☐

12	**EMOTIONAL AWARENESS/REGULATION** **MATERIALS:** None **INSTRUCTIONS:** After asking each question, wait for the child to respond and if the answer is unclear, ask **"Motani/cifukwa…"** "How/why…"			
	INTERVIEWER: **"Tsopano ndiri ndi mafunso okhudza momwe umamverera."** *"Now I have some questions about feelings."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Tangoganizira mwakamphinndi cabe, ndipo undiuze zomwe zimakumvetsa kuti usakhale wokondwera.** Think for a moment and tell me what makes you feel sad. **Score:** Child identifies something that makes them sad. Crying is not an acceptable response but seeing a friend/family member cry is appropriate.	☐	☐	☐
	INSTRUCTIONS: If child cannot name something that makes them sad, skip to D.			
	B **Kodi umacita ciani kuti umvere bwino ngati uli wosakondwera?** What do you do to feel better when you are feeling sad? **Score:** Child gives one response on dealing with sad feelings **INSTRUCTIONS:** Coping responses are correct if they display attempts to self-sooth and if they do not involve harming themselves, other people or animals, or material possessions (e.g., throwing toys). Crying is an acceptable response. The	☐	☐	☐

	response, "nothing," is not correct unless the child also indicates doing nothing is a means of self-soothing, i.e., to relax or diffuse sad emotions.			
	INSTRUCTIONS: If child cannot name something that makes them feel better, skip to D.			
	C **Ndiciani cina comwe umacita kuti umvere bwino ngati uli wosakondwera?** What else do you do to feel better when you are feeling sad? **Score:** Child gives another response on dealing with sad feelings	☐	☐	☐
	D **Tsopano ndiuzeko zinthu zomwe zimakukondweretsa.** Now tell me what makes you feel happy. **Score:** Child identifies something that makes them happy	☐	☐	☐

13	**EMPATHY/PERSPECTIVE TAKING** **MATERIALS:** Picture of crying child **PART I: INSTRUCTIONS:** Show the picture of the crying girl.			
	INTERVIEWER: "Tsopano tiye tione pa cinthunzi-thunzi ici." *"Now* let's look at this picture."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Kodi uona ciani? Kodi uganiza mwana uyu amvera bwanji apa?** What do you see? How do you think this child feels right now? **Score:** Child identifies that the girl is feeling certain emotions, such as feeling sad, hurt, upset, in pain, scared or other culturally acceptable answers. Crying is not an acceptable response. Correct examples include: not feeling well, being sick, hungry, getting pushed, etc.	☐	☐	☐
	INSTRUCTIONS: If the child cannot identify that the child is sad, skip questions B and C and go to Section 14, Solving Conflict. For B and C, wait for the child to respond and if the answer is unclear, ask **"Motani/cifukwa…"** "How/why…"			
	B **Kodi ungamuthandize bwanji mtsikanayu kuti amvere bwino?** How would you help this girl feel better? **[If answer is unclear ask: Kodi ungacite ciani kuti mtsikanayu amvere bwino?** What would you do to make this girl feel better?]	☐	☐	☐

	Score: Child gives one response for how to make the girl feel better (e.g. hug her, tell her she will be OK, find out if she needs medicine, find out if s/he needs help, play with her, hold her hand, get an adult to help her or other similar response)	
	INSTRUCTIONS: If child cannot identify one way to make the girl feel better, skip to the next section, Solving Conflict. Wait for the child to respond and if the answer is unclear, ask "How/why does this make her feel better?"	
	C Prompt ONCE by asking: **Kodi pali cinthu cina ciriconse comwe ungacite kuti amvere bwino?** Is there anything else you would do to make her feel better? **Score:** Child gives second response for how to girl feel better	☐ ☐ ☐

14	**SOLVING CONFLICT** **MATERIALS:** None **INSTRUCTIONS:** Read the INTERVIEWER prompt first. If child cannot identify one solution for (A), skip to 15. If the child's response is vague or if you are unsure it is relevant/appropriate, clarify by asking, **"Kodi cifukwa ciani ungacitere cimeneci?"** *"Why would you do that?"*			
	INTERVIEWER: **"Tsopano ndidzakufunsa kuti uganizire kuti uli kusewera ndi kadoli kapena kamotoka kapena ciri conse coseweresa comwe ukonda, koma mzako wina afunanso kusewera ndi coseweretsa comwe uli naco, ndipo cokosoweretsako cikali cabe cimodzi."** *"Now I will ask you to imagine a situation where you are playing with a toy that you like when another child wants to play with that same toy, but there is only one toy."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Kodi ungacite ciani pa cinthu cotere?** What would you do in this situation? **Score:** Child gives one response for how to solve conflict **INSTRUCTIONS:** Correct responses demonstrate an ability to negotiate the situation favorably, in a way that the other child is not hurt or left upset, including: ask the other child to wait, take turns, share, get another toy, play together with the toy, or other acceptable answer. Incorrect responses include: push the child away, tell him he can't have it, and other responses that do not to solve the situation favorably or at all (i.e. child who wants to play is left crying, hurt, or neglected)	☐	☐	☐
	B Prompt ONCE by asking: **Pali cina ciri conse comwe ungacite?** Is there anything else you would do? **Score:** Child gives second response for how to solve conflict	☐	☐	☐

15	**EXPRESSIVE VOCABULARY** **MATERIALS:** None **INSTRUCTIONS:** Record the number of items the child lists until the child has listed 10 items. You can tally on a separate sheet when the child says each object. When the child pauses for 5 seconds or more, PROMPT ONCE by saying, **"Kodi ungaganizirepo zina zache?"** *"Can you think of any others?"* When the child cannot think of more items, move to 16.		
	INTERVIEWER: **"Tsopano tiye tiyese sewero la mau."** *"Now let's try a word game."*	**NUMBER OF ITEMS NAMED**	**REFUSED/ SKIPPED**
	A **Uyelekezele kuti upita ku msika kapena ku famu. Kamba maina a zakudya zomwe ungapeze pa msika kapena pa famu. Yesa kukamba zinthu zambiri zomwe ungaganizire ndipo ndidzaziwerenga.** Imagine you are going to the market or farm. Name some foods you can find at the market or the farm. Try to name as many things as you can think of and I will keep count. **Score:** Number of items named (0-10)	☐☐	☐
	B **Tsopano ndifuna kudziwa nyama zomwe iwe udziwa. Ndiuze maina a nyama zomwe udziwa. Yesa kukamba nyama zambiri zomwe ungaganizire ndipo ndidzaziwerenganso.** Now, I want to know what animals you are familiar with. Tell me the names of animals that you know. Try to name as many animals as you can think of and I will keep count again. **Score:** Number of animals named (0-10)	☐☐	☐

16	**PRINT AWARENESS** **MATERIALS:** Age-appropriate book with pictures and text on each page in the child's language **INSTRUCTIONS:** Hand a book to the child upside down, with the cover facing up towards the child.			
	INTERVIEWER: **"Tidzaona pa buku ndipo ndidzafuna kuti undithandizeko ."** *"We are going to look at a book and I need your help."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Ndionetseko momwe ungalitsekulire buku kuti tiyambe kuwerenge zomwe ziri mkati.** Show me how you would open it so we can read it.	☐	☐	☐

	Score: Child opens the book appropriately (turns book so words or picture are no longer upside down) and opens the book	
	INSTRUCTIONS: If the child has not opened to a page with picture and text, turn to such a page. Give the child a moment or two to look through the book if he/she wants.	
	B **Tsopano ndiwonetse pomwe ndiyenera kuyambira kuwerenga.** Now show me where I should start reading. **Score:** Child points to text on the page (can be the full sentence, the first word, or the whole text). If child point to any non-textual part such as a picture, mark "incorrect."	☐ ☐ ☐
	INSTRUCTIONS: If the child has not pointed to the first word on that page, point to it and read the question.	
	C **Ngati nayamba kuwerenga apa, pa liu loyamba, ndionetse ndi cala cako pomwe ndidzapitiriza kuwerenga.** If I start to read here, on the first word, show me with your finger where I would continue reading. **Score:** If child points to the second word, or indicates direction of text (left to right), or direction of sentences (top to bottom), mark "correct". For any other response, mark "incorrect."	☐ ☐ ☐

17	**LETTER IDENTIFICATION** **MATERIALS:** Letters chart **INSTRUCTIONS:** Show the child the letter chart. Using another sheet of paper cover all rows of the table except Row 1 so that it doesn't distract the child. Point to the first letter in the first row and ask the child what letter it is. If the child pauses for more than 5 seconds, mark as incorrect and point to the next letter and encourage the child to continue. Continue to show the grid letter by letter, moving your finger across the row until you complete Rows 1 and 2. As the child identifies each letter, note those identified correctly and incorrectly in your notebook. Count all of the letters the child identified correctly in Rows 1 and 2. <u>If the child has identified 3 or fewer letters correctly, STOP and move on to 18</u>. If the child identifies 4 or more letters correctly, move to Rows 3 and 4. Ask the child to continue identifying the letters and continue marking answers. If the child does not respond, then ask the child to name the letter again. If the child responds correctly, incorrectly, or does not respond at all, accept the response and move on to the next letter.		
	INTERVIEWER: **"Tidzasewera sewero la mvekero la malembo tsopano. Ndidzalata mvekero ndipo ndidzafuna kuti undiuze mamvekero amalembao. Usade nkhawa ngati siuzidziwa malembo onse,ucite zonse zothekera."** *"We will play a letter game now. I will point to letters and I want you to tell me what letters they are. It's OK if you don't know all of them, just do your best."*	**NUMBER CORRECT**	**REFUSED/ SKIPPED**

	A **Kodi iyi ndi lembo kapena mvekero lanji?** What letter is this? **Score:** How many letters in Rows 1 and 2 did the child identify correctly? **INSTRUCTIONS:** If the child responds with the correct phonetic sound of the alphabet but does not name the alphabet, mark as correct. If a child refuses the whole task, then mark "refused/skipped" on the scoring sheet. If a child begins the task then "refused/skipped" is no longer a scoring option, only correct and incorrect.	☐☐ ☐
	INSTRUCTIONS: If the child correctly identifies 0-3 or fewer letters in A, skip to the next section. If the child identified 4 or more letters in A, ask the child to continue identifying the letters in Rows 3 and 4 and continue marking answers.	
	B **Tiye tione pa lembo kapena mamvekero ena tsopano. Kodi iyi ndi lembo kapena mvekero yanji?** Let's look at a few more letters now. What letter is this? **Score:** How many letters in Rows 3 and 4 did the child identify correctly? **INSTRUCTIONS:** If the child responds with the correct phonetic sound of the alphabet but does not name the alphabet, mark as correct. If a child refuses the whole task, then mark "refused/skipped" on the scoring sheet. If a child begins the task then "refused/skipped" is no longer a scoring option, only correct and incorrect.	☐☐ ☐

18	**FIRST LETTER SOUNDS/ PHONEMIC AWARENESS** **MATERIALS:** None **INTERVIEWER:** ***"Tsopano tidzacita sewero lomvetsera. Ili ndi mvekero loyamba mu mau. Liu la 'manga' liyamba ndi mvekero la /m/" (Chula mvekero osati dzina la lembo). /m/ ndi mvekero loyamba muliu la "manga" mu Cinyanja. Tiye tiyese. Tsopano mvetsera ku mau amene ndidzachula ndipo undiuze omwe ayamba ndi mvekero Lolingana, /m/; kabici, cimanga, macisi.*** *"Now we will play a listening game. This one is about the sounds in words. The word "manga" starts with /m/.* (Say the sound, not the letter name). */m/ is the first sound in manga in Chinyanja. Let's practice. Now listen to the words I say and tell me which one starts with the same sound, the sound /m/: kabici, cimanga, macisi.* **INSTRUCTIONS:** Read the INTERVIEWER prompt with the practice question then proceed to the additional question. If the child gives an incorrect response, say: *"macisi" starts with /m/ just like manga also begins with /m/."* Continue with the assessment. For each question, repeat the list of words only ONCE if needed.			
	INTERVIEWER: **"Tsopano tidzapitiriza kucita sewero ili. Kodi wakonzeka?"** *"Now we are going to continue playing this game. Are you ready?"*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**

	A **Liu "sopo" liyamba ndi mvekero /s/. Tsopano mvetsera ku mau omwe ndizachula ndipo undiuze limene liyamba ndi mvekero lolingana ndi /s/ pensulo, pansi, sukulu** The word **sopo** starts with /s/. Now listen to the words I say and tell me which one starts with the same sound /s/: pensulo, pansi, sukulu **Score:** Child chooses **sukulu**	☐ ☐ ☐
	B **Liu "kamwa" liyamba ndi mvekero /k/. Mvetsera ku mau amene ndidzachula ndipo undiuze liu lomwe liyamba ndi mvekero lolingana ndi /k/ muciNyanja: kapu, buku, mkaka** Kamwa starts with **/k/**. Listen to the words I say and tell me which one starts with the same sound, the sound **/k/**:kapu, buku, mkaka **Score:** Child chooses **kapu**	☐ ☐ ☐
	C **Ika liu la Cinyanja lomwe liyamba ndi /l/. Mvetsera ku mau amene ndidzachula ndipo undiuze liu lomwe liyamba ndi mvekero lolingana, mvekero ndi /l/: galu, lemba, bola** Lomwe starts with /l/ (say the letter sound not the letter name). Listen to the words I say and tell me which one starts with the same sound, the sound /l/: **galu, lemba, bola** **Score:** Child chooses lemba	☐ ☐ ☐

19	**EMERGENT WRITING** **MATERIALS:** Writing tool and writing surface (stick, pencil, crayon, piece of chalk along paper, sand, chalkboard, and/or other materials) **INSTRUCTIONS:** Limit this section to 2 minutes from when the child begins writing. If the child does not write for a minute after your suggestion, move to the next section. If the child is still writing after 2 minutes, score the child's writing at the 2 minute mark, and gently transition the child to the next game. Use the scoring rubric to assess the score.		
	INTERVIEWER: **"Tsopano tizayamba kusewera ndi kulemba. Yesa kulemba dzina lako apa mu njira iriyonse yomwe udziwa. Osada nkhawa ngati sungalembe bwino, yesetsa kucicita zotheka."** *"Now we're going to play and write. Try to write your name here in any way you know. Don't worry of you can't do it well, just try your best."*	**SCORE NUMBER**	**REFUSED / SKIPPED**

	A **Score:** Writing level (0-4) **INSTRUCTIONS:** Score "0" if the child writes nothing; Score "1" if there is random scribbling, not resembling letter-like symbols; Score "2" if there are purposeful, controlled symbols but letters are not legible or recognizable; Score "3" if there are some legible letters and/or numbers; Score "4", if the child's name (or another word because they can't write their name) legibly, even if there are missing letters or some are backwards.	☐ ☐

20 **ORAL COMPREHENSION**

MATERIALS: None

INSTRUCTIONS: Read out the story slowly, clearly and fluently. Tell the story with an active voice but without additional theatrics. While reading the story, do not stop and try to engage the child; read until the end even if you see the child is not paying attention. Make sure the child can hear you – if you are in a very noisy area get closer to the child. The story cannot be repeated. Ask each question slowly and clearly. Each question may be repeated ONCE if needed.

INTERVIEWER:
"Tsopano ndidzakuuza kankhani kabwino ka galu ndi nkhuku. Nditatha kukuuza kankhani aka ndidzakufunsa mafunso. Umvetsere bwino bwino, wamva?"
"Now I am going to tell you an interesting story about a dog and a chicken. After I have told you the story I will ask you some questions. Listen carefully, okay?

Read story:
"Kale kale, panali galu wonenepa. Nthawi zonse anali kukonda kubvala cisote cofuwira.Tsiku lina pamene galu anali cigonere,ka nkhuku kakang'ono kanaba cisote mwacisinsi. Galu pamene anauka anapeza kuti cisote cabedwa ndipo galu anakalipa kwambiri nayamba kupilikitsa ka nkhuku.Patapita kanthawi, ka nkhuku kanagwilidwa munsi mwa tebulo ndipo panalibe njira ina iri yose yothawirapo. Motero ka nkhuku kanati kwa galu,"conde usandidye ine iwe galu. Ngati siuzandidya ndizakubwezera cisote cako. Pamene apo, galu anatenga cisote cake nanena kwa ka nkhuku nati, "Conde usagwirenso cisote canga"ndipo galu anabwerera kukagona mokodwera."

"Once upon a time there was a fat dog. He always wore a red hat. One day when he was sleeping, a small chicken came silently and stole the hat. The dog woke up to find his hat gone. He got very angry and started chasing the chicken. After a while, the chicken was trapped under a straw table and could not find any way to escape. So the chicken said to the dog, 'Please don't eat me, dog. If you spare my life I will return your hat.' After the dog got his hat back he said, 'Please don't touch my hat again' and he went back to sleep in a happy mood."

	INTERVIEWER: **"Tsopano ndidzakufunsa mafunso okhudza nkhaniyi."** *"Now I am going to ask you some questions about the story."*	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Ndani anaba cisote ca galu?** Who stole the dog's hat? **Score:** Child answers **'kankhuku'** 'the chicken'	☐	☐	☐

	B **Kodi cisote cinali ca mtundu wanji?** What color was the hat? **Score:** Child answers **'cofiwira'** 'red'	☐	☐	☐
	C **Kodi cifukwa ciani galu anapitikitsa kankhuku?** Why did the dog chase the chicken? **Score:** Child answers **'cifukwa kankhuku kanatenga/kanaba cisote'** 'because the chicken took/stole its hat'	☐	☐	☐
	D **Kodi kankhuku kanamvera bwanji pamene kanapitikitsidwa?** How did the chicken feel when it was chased? **Score:** Child answers **' kakhuku kanamvera mantha'** 'scared' or 'frightened'	☐	☐	☐
	E **Ncifukwa ciani galu anaganiza zosadya kankhuku?** Why did the dog decide not to eat the chicken? **Score:** Child answers **'kankhuku kanabwezera galu cisote'** 'because the chicken gave back the hat'	☐	☐	☐

21	**DRAWING A SHAPE (COPYING)** **MATERIALS:** Picture card with a triangle **INSTRUCTIONS:** Show child the picture of the triangle shape. Do not demonstrate drawing the figure yourself. Instructions can be repeated once. Use the scoring rubric to assess the score.			
	INTERVIEWER: **"Tiye tijambule zithunzi. Munthu wina anajambula cithunzi ici. Uzayeserera kujambula cithunzi cimeneci pa pepala lako."** *"Let's do some drawing. Someone drew this picture. Try to draw the same picture on your piece of paper."*	**NUMBER CORRECT**		**REFUSED / SKIPPED**
	A **Score:** Number of closed corners in the triangle with no gaps (0, 1, 2, 3) **INSTRUCTIONS:** If the corners are a bit rounded, there is a tiny little space between the two lines making the corner or the line extends/overshoots past the corners, this can still be marked as correct	☐		☐
		Yes	**No**	**REFUSED/ SKIPPED**
	B **Score:** Closely resembles the picture (diagonals, relatively straight lines) **INSTRUCTIONS:** If child draws a square or other figure with multiple corners, mark correct for 3 corners but incorrect for resembling a triangle.	☐	☐	☐

22	**FOLDING A SHAPE (COPYING)** **MATERIALS:** 20cm X 20cm square piece of paper **INTERVIEWER:** **"Tsopano tiye ticite sewero lopeteka pepala. Pamodzi tidzapanga cinthu coseketsa. Ndidzakupatsa pepala ndipo nainenso ndidzatenga pepala. Undiyanganisitse kwambiri comwe ndiri kucita bwino bwino ndipo uza yesa kupeteka pepala lako momwe ndiri kucitira ine, sitepi ndi sitepi. Utsatire ndi kulondola zomwe ndikucita ine sitepi ndi sitepi ndipo uyese kucita bwino bwino mosamala."** *"Now let's play a folding game! Together we will make a fun shape. I will give you a sheet of paper and I will take one piece too. Watch what I am doing closely and try to fold your piece of paper just as I do, step by step. Please follow me step by step and try to do it carefully."* **INSTRUCTIONS:** Follow the steps below as you demonstrate but <u>DO NOT verbally explain</u> what you are doing. Be patient and give the child time to follow each step. One prompt for each step is allowed - undo one fold and re-show the child how to fold without verbal instructions if the child appears confused or hesitates. If the child stops or gives up in the middle, move to the next question group. Do not correct the child; continue demonstrating the subsequent folds. To be correct there should be no more than a 1cm difference. Step 1: Fold down the middle (vertically) Step 2: Fold down the middle again (horizontally) Step 3: Fold in half diagonally Step 4: Fold in half diagonally again		
	A **Score:** Number of steps child folded precisely /correctly (within 1 cm) (0-4) **INSTRUCTIONS:** For each correct fold (within 1 cm), give a point. If one side of the fold is 1.2 cm away from the correct line and the other side of the fold is 0.6 cm within the correct line, it should be counted as 0. It is possible for a child to make one inaccurate fold but to follow with an accurate next fold. It is important to finish administering the whole item; do not stop if the child makes a mistake.	**NUMBER CORRECT** ☐	**REFUSED/ SKIPPED** ☐

23	**DRAWING A PERSON** **MATERIALS:** Drawing tool (crayon, paper, pencil, etc.) and material to draw on (sand, paper, cardboard, chalkboard, etc.) **INSTRUCTIONS:** Limit this section to 2 minutes from when the child begins drawing. The instructions can be repeated once. If the child does not draw for a minute after your suggestion, stop and say: **"Tsopano tidzacita sewero lina lotsatira."** *'We're going to move on to our next activity now.'* Do not interrupt the child while they are drawing to ask questions about the picture. Avoid asking the child if something is missing, or in any way hinting that they can draw more parts of the body. If things are very unclear, you can ask the child about the picture after they have finished their drawing.			
	INTERVIEWER:	**CORRECT**	**INCORRECT/**	**REFUSED/**

	"Ndiri ndi sewero lina lakuti ujambule cithunzi. Conde jambula cithunzi ca mtsikana kapena mnyamata ali woimilira." *"I have another drawing game for you. Please draw a picture of a girl or a boy standing up."*		**DON'T KNOW**	**SKIPPED**
	A **Score:** Child draws a head	☐	☐	☐
	B **Score:** Child draws a body/trunk	☐	☐	☐
	C **Score:** Child draws arms	☐	☐	☐
	D **Score:** Child draws legs	☐	☐	☐
	E **Score:** Child draws 1 facial feature **INSTRUCTIONS:** Hair counts as facial feature. Decorations, such as earrings or necklaces, don't count as points.	☐	☐	☐
	F **Score:** Child draws 2 facial features **INSTRUCTIONS:** Hair counts as facial feature. Decorations, such as earrings or necklaces, don't count as points.	☐	☐	☐
	G **Score:** Child draws hands **INSTRUCTIONS:** It is sufficient that there is a clear indication of the separation of the arm and hand, hand does not need to show digits. One hand (instead of two) counts as a point.	☐	☐	☐
	H **Score:** Child draws feet **INSTRUCTIONS:** It is sufficient that there is a clear indication of the separation of the leg and foot, foot does not need to show digits. One foot (instead of two) counts as a point.	☐	☐	☐

24	**HOPPING** **MATERIALS:** None **INSTRUCTIONS:** Demonstrate hopping 10 steps in a straight line (must be done by enumerator). Count the number of steps hopped by the child continuously in one go. Instructions can be repeated once. Adaptation for children with physical impairments: If child is not able to hop due to clear physical impairments, conduct this item with clapping over the head instead.		
	INTERVIEWER: **"Tidzacita sewero lina limodzi. Ndifuna kuti uyimilire pa phazi limodzi, lirilonse lomwe udzasankha, ndipo ulumphe kutsogolo,**	**NUMBER CORRECT**	**REFUSED/ SKIPPED**

	ndi kulumphanso kutsogolo, motere - Perekani citsanzo. Yesani kulumpha masitepi angapo." *"We are going to play one more game. I want you to stand on one foot, whichever foot you prefer, and hop forward, and hop forward again, like this –* (Demonstrate). *Try to hop as many steps as you can."* Note: Learners with physical impairments [alternate]: **"Tizasowera sowero lina limodzi. Ndifuna kuti uwombe mmanja pamwamba pamuthu wako; bwelezanso kaciwiri motele."** *"We are going to play one more game. I want you to clap your hands over your head, then do it again, like this – (*Demonstrate). *Try to clap your hands above your head as many as you can.*		
A	**Score:** Number of steps hopped (0-10) OR Number of claps (0-10) **INSTRUCTIONS:** Count the number of <u>continuous</u> hops or claps (hops during which the child doesn't put his foot down or hold onto something) the child makes and record the number up to 10. If the child hops equal to or more than 10 steps, score 10.	☐	☐

25	**LEARNER QUESTIONNAIRE** **MATERIALS:** None **INSTRUCTIONS:** Ask the child the following questions one at a time and score the answers. The Child Questionnaire is unscored. If the child does not know the answer, skip to the question.		
	INTERVIEWER: ***"Ndidzakufunsa mafunso ena okhudza iwe tsopano. Conde uwayankhe ngati ungakwanitse, koma palibe bvuto ngati sudziwa mayankho onse."*** *"I am going to ask you some questions about yourself now. Please answer them if you can, but do not worry if you do not know all of the answers."*		
A	**Kodi ndi cilankhulidwe canji comwe umalankhula kwambiri ku nyumba?** What language do you most often speak at home?	SILOZI	☐
		CINYANJA	☐
		CHITONGA	☐
		ICIBEMBA	☐
		KIKAONDE	☐

	LUNDA	☐
	LUVALE	☐
	ENGLISH	☐
	OTHER	☐
	If other, specify	

	Inde YES	**Ayi** NO	**Sinidziwa** I DON'T KNOW
B **Kodi aphunzitsi ako anakuwerengera mabuku ku sukulu dzulo (kapena kwa tsopano apa)?** Did your teacher read books to you during school yesterday (or on the most recent school day)?	☐	☐	☐
C **Kodi wadya cakudya ukalibe kubwera ku sukulu?** Did you eat food before you came to school?	☐	☐	☐
D **Kodi uwerenga mabuku ku nyumba?** Do you read books at home?	☐	☐	☐

	Ayi Never	**Nthawi ziina** Sometimes	**Masiku onse** Everyday	**Sinidziwa** Don't know/ no response
E **Kodi ndikangati komwe wina amakuwerenga ku nyumba?** How often does someone read to you at home? Never, sometimes, or every day?	☐	☐	☐	☐

	Inde YES	**Ayi** NO	**Sinidziwa** I DON'T KNOW
F **Kodi unaphunzira pa sukulu pano caka catha?** Did you attend this school last year?	☐	☐	☐

	ECE	**Grade 1**	**Sinidizwia** Don't know/ no response
G **Ngati unali pano pasukulu, unali mu kalasi lanji caka catha?** If yes, in what class were you last year?	☐	☐	☐

INSTRUCTIONS: If the learner is in **grade 1**, and **DID NOT** attend ECE last year, please ask them these additional questions

H	**Kodi caka catha, iwe kapena makolo ako anayesa kukulembetsa ku sukulu ya ana la ECE?** Last year, did you or your parents ever try to enroll you in an ECE program?	**YES** ☐	**NO** ☐	**I DON'T KNOW** ☐
I	**Kodi cifukwa ceni ceni cacikulu cimene sunayambe sukulu la ana la ECE caka catha ndi ciani?** What is the main/primary reason you did not attend ECE last year? **Instructions:** read the question to the learner, then all the answer choices and then re-read the question to them. Mark the answer they choose that is the primary reason.	1. **Sukulu linali kutali ndi ku nyumba kwathu** The school was very far from my house	☐	
		2. **Munalibe malo mu kalasi la ana ECE** There was no space in the ECE class	☐	
		3. k**usukulu anandiuza kuti siningayambe sukulu la ana la ECE** The school told me I could not enroll in ECE	☐	
		4. **Ndimafuikira kuthandiza amai andi atate ku nyumba** I had to help my mom and dad at home	☐	
		5 **Sindinafune kupita ku ECE/ku sukulu** I did not want to go to ECE/school	☐	
		6. **Amai ndi atate analibe ndalama zondiperekera ku sukulu** My mom and dad did not have money to send me to school	☐	
		7. **Sindidziwa / palibe yankho** Don't know/ no response	☐	
		8. **Zina** Other	☐	
		If other, specify	_____	

Zikomo kwambiri pa thandizo lako. Tsopano ungapite ku kalasi.
Thank you very much for your help. You may now return to class.

Time assessment ended:

H	H	M	M	AM/PM	

2020 BASELINE IDELA TOOL: SILOZI

Tatubonyana Ya Zwelopili Ni Makalelo A Kuituta Mwa Lifasi

International Development and Early Learning Assessment

INSTRUCTIONS

Consult the accompanying Assessment Guide for full instructions on IDELA administration.

Establish a relaxed, playful rapport with the child through a short conversation. Alongside the teacher or other school personnel, introduce yourself and ask the child a few questions about subjects of interest, such as what the child likes to do for fun or what the child is doing in school. The child should perceive the assessment almost as a game to be enjoyed rather than a test. Use this time to which language the child is most comfortable communicating in. Read aloud slowly and clearly ONLY the sections in boxes.

Find a separate space to sit with the child away from the other children you will be assessing. Conduct the VERBAL CONSENT portion of the survey with every randomly selected child who is between 5 to 7 years of age. Read the below script to the child. Only proceed if the child has provided verbal assent. If the child does not consent, thank the child and move to the next child.

Throughout the assessment, offer neutral encouragement to the child. Say things like, "You are working very hard - keep it up!" Give encouragement in between questions, rather than in the middle of questions. Be patient! Do not give hints to questions or make facial expressions while the child is completing tasks.

Observe how the child is doing and offer breaks as needed throughout. Technically there is no "time limit" to complete the assessment although some questions are timed to help move through the items at a regular pace.

GREETING

INTERVIEWER:
"Lumela, na ki na _____mi nizwa kwa _____ Nibata kuitibahaza hanyinyani kuwena."
"Hello, my name is _____ and I live in _____. I'd like to tell you a little bit about myself."
[Include 2-3 facts that may be of interest to the child, such as favorite foods, sports, activities, and/or number of children]

2. **Utabela kuezanga ñi hausiyo kwa sikolo?**
   What do you like to do when you are not in school?
   [Wait for response; if learner is reluctant, ask question 2, but if he or she seems comfortable continue to verbal consent].

2. **Ki lipapali mañi zotabela kubapala?**
   What games do you like to play?

VERBAL CONSENT

Nibeleka ni sikwata sesibizwa Kezo ya Lukumbu lwa Tuto kapa Education Data Activity ka Sikuwa ka swalisano ni ba USAID. Lutezi kuto ituta za banana sina wena. Kuli kanti baituta cwañi lika ni

kuli haiba baziba kubapala lipapali zeñwi. Neuketilwe ka kunomiwa feela. Lukabapala lipapali zeñwi ni kueza tukaaka hamoho. Nikakubonisa lika zeñata zenilwezi mi nikana ni kubuza lipuzo zezwa mwa tukandekande, maswaniso, litaku, lipalo ni lika zeñwi cwalo. Hape nika kubuza kuli unibonise moukona kuezeza lika, sina kuswamisa. Ye haki tatubo mi hai zwi kwa baluti ba sikolo sahao. Hauna kulifiwaa ka kueza musebezi wo wa lipapali ni likezo zeñwi, kono kasamulaho wazona, ukabe utusize bashemi kuli bakone kutusanga banana baba kena sikolo.

I am working with the USAID Education Data activity team. We are here to learn about how children, like you, learn things and if they know how to play some games. You were picked by chance like in a lottery or a raffle. We would like your help in this. But you do not have to take part if you do not want to. We are going to play some games and do activities together. I will show you different materials I have with me and will also ask you some questions about stories, pictures, letters, numbers and other things. I will also ask you to show me how you do some things, like drawing. This is NOT a test and it will not affect your grade at school. You will not get anything from us after the games and activities, but by playing these games and activities together, you can help adults help other kids like you in school.

Misebezi yemiñiwi ikaba yebunolo kono yemiñwi mwendi itaatanyana kuwena. Usike wabilaela haiba upalelwa zeñwi. Lubata feela kuli uitike. Wakona kupumula haiba ubata kuishuhumusa. Kono haubata kupumula unizibise. Lipapali ni likezo ze likona kuunga mizuzu ye 35, kono wena uikete kuya ka nako yeukona kuunga fa kezo ni kezo, hakuna taba.
Some activities will be easy for you and others may be harder. Don't worry if you cannot do some things. We just want you to try. You can stop and take a break if you need to. Just let me know. The games and activities will probably take around 35 minutes, but you can take as long as you need. If you decide at any point that you'd like to stop, or that you don't want to do a particular activity, that's okay, too.

Hape ni ka kubuza lipuzo zeama lubasi lwahao, sina puwo yemuitusisa mwa Ndu yamina ni lika zeuezanga. Hanina kuñola libizo lahao mi kacwalo hakuna yakaziba kuli likalabo zelizwa kuwena. Ki bao ni sebeza ni bona feela babakaziba zeñwi zahao sina foupepezwi, kono haluna kuzibisa batu babañwi litabo zeo. Luka fitisa feela litaba ze ka kuama banana kaufela baba kaeza lipapali ze, isiñi wena unosi. Haluboni bumaswe bwa kueza likezo ni lipapali ze kwaneku lahao. Hape nikutela kukuzibisa kuli hakuna kapelezo fakuli ube mwa sikwata sa banana babaeza lipapali ni likezo ze haiba USALATI mi ye haki tatubo ya sikolo – ki lipapali feela. Haluka kalisa wakona kutuhela haiba usalati kualaba lipuzo ze, ki hande.
I will also ask you other questions about your family, like what language your family uses at home and activities you play. I will NOT write down your name so no one will know these are your answers. Only my friends helping me do these games and activities will know some of your information like your birthday, but we will not share that with anyone else. We will only share information about all the children that play these games, and never share information about just you. We do not believe playing these games and activities will be bad for you. Once again, you do not have to participate if you do not wish to and this is NOT a test in school—just some games. Once we begin, if you don't want to answer a question, that's all right.

Kana ki kuli una ni lipuzo zeñwi?
Do you have any questions?

Kana ki kuli walata kubapala ni kueza lika zeñwi ni na nji? Haiba usalati kueza ze wakona kutuhela.
You do not have to do this if you don't want. Would you like to do games and activities with me?

Learner verbally consents to participate in this research study Y [**Eeni**] N [**Batili**]

Date _____(day/month/year)

CONSENT CERTIFICATE*

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Individual Consent Form has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____Day/Month/Year

BACKGROUND

BACKGROUND INFORMATION

MATERIALS: None

INSTRUCTIONS: Complete this information before the assessment begins with the child. Please use the class roster to obtain the child's information. These questions should not be asked to the child.

NO.	QUESTION	ANSWER
A	Assessor Name	
B	Assessor code	
C	Province	
D	District	
E	School Name	
F	School EMIS Code	
G	Child sex	Boy: _____ Girl: _____
H	Child's birth date (from class register)	Month: _____ Year: _____
I	Current Class	ECE: _____ Grade 1: _____

J	Did the learner attend ECE at this school last year?	Yes_____ No_____
K	Date of Assessment (Month, day, year)	
L	Time at start	_____ : _____ AM /PM (tick one)
M	Time at end of the assessment (to fill in at the end of the assessment)	

INTER-RATER RELIABILITY ASSESSMENTS

INSTRUCTIONS: to measure the consistency in ratings among assessors, at least two learners per school will be assessed by two assessors at the same time. One assessor will lead the assessment, while the second will observe and mark the students' answers independently. For the first inter-rater reliability assessment – both the primary and secondary assessor will mark Yes for question A - inter-rater reliability assessment 1. For the second inter-rater reliability assessment – both the primary and secondary assessor will mark Yes for question B - inter-rater reliability assessment 2. For all other assessments conducted by one assessor only – please mark No for both A and B.		
A	Is this inter-rater reliability assessment 1?	Yes_____ No_____
B	Is this inter-rater reliability assessment 2?	Yes_____ No_____
C	If yes, the primary assessor will lead the assessment and the secondary assessor will observe while also marking the students' answer.	Primary assessor ___ Observer ____

IDELA ASSESSMENT

I	**PERSONAL AWARENESS** **MATERIALS:** None **INSTRUCTIONS:** Ask the child the following questions one at a time and score the answers. DO NOT tell the child if the answer was correct or incorrect.			
	INTERVIEWER: "Cwale nika kubuza lipuzo zekuama. Ulialabe kaufelaa zona haiba ukona, ,kono usike wabilaela haiba usakoni kulialaba kaufelaa zona." "I am going to ask you some questions about yourself now. Please answer them if you can, but do not worry if you do not know all of the answers."	**CORRECT (1)**	**INCORRECT/ DON'T KNOW (0)**	**REFUSED/ SKIPPED (99)**
	A **Mulikani, unibulelele libizo lahao la sipepo ni la bo ndataho.** Please tell me your first name and surname.	☐	☐	☐

	Score: Child's response **INSTRUCTIONS**: Both must be correct to be scored correctly. You can ask the for the child's first name, then follow up with the child's last name.	
B	**Nibulele lilimo zeuna ni zona.** Please tell me how old you are. **Score:** Child's response **INSTRUCTIONS:** Child can respond verbally or count on fingers	☐ ☐ ☐
C	**Kana ki kuli umushimani kapa umusizana?** Are you a boy or a girl? **Score:** Child's response	☐ ☐ ☐
D	**Kana ki kuli umushimani kapa umusizana?** Please tell me the name of one person who takes care of you at home **Score: Child's response** **INSTRUCTIONS:** If child responds with "mother," "auntie," or other family member, ask: **"Ki bomañi libizo labona?"** "What is her name? or what is she called?" First name or name caregiver is known by is sufficient. e.g. **bo Ma-Mundia kapa bo Ma-Mwendende**	☐ ☐ ☐
		RECORD RESPONSE
E	**Uina kai?** Where do you stay? **Score:** Child's response	
F	**Uina mwa naha mañi?** Please tell me the name of the country that you live in. **Score:** If the child says Zambia, please mark it correct. If the students says any other place, mark their response as incorrect	☐ ☐ ☐

2	**COMPARISON BY SIZE AND LENGTH** **MATERIALS:** Stick and circles picture cards **INSTRUCTIONS:** Take out the picture cards with circles and sticks. Show only one card at a time. If the child does not clearly point to one item, prompt the child to point to one. If the child clearly points to one item do not probe further even if the response is incorrect.			
	INTERVIEWER: **"Cwale nikakubonisa maswaniso mi nika kubuza lipuzonyana."** "Now I will show you pictures and ask you some questions**."**	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**

	A **Talima siswaniso se mi unibulelele kuli sesituna ka kufitisisa ki sifi?** Look at this picture and please show me the biggest circle. **Score:** Child identified the biggest circle	☐	☐	☐
	B **Nibonise siswaniso sesinyinyani ka kufitisisa.** Now please show me the smallest circle. **Score:** Child identified the smallest circle	☐	☐	☐
	C **Mulikani, nisupeze kakota kakatelele ka kufitisisa.** Please show me the longest stick. **Score:** Child identified the longest stick	☐	☐	☐
	D **Mulikani, ni supeze kakota kaka kuswani hahulu.** Please show me the shortest stick. **Score:** Child identified the shortest stick	☐	☐	☐

3	**SORTING AND CLASSIFICATION** **MATERIALS:** Colored stars and circles picture cards **INSTRUCTIONS:** Show the picture cards with the stars and circles. Place the cards in front of the child and proceed with the question.			
	INTERVIEWER: **"Lukaeza papali ya kukubukanya maswaniso aswana hamoho."** "We're going to play a game where we group pictures together that are similar."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Talima makaadi a mi uabeye mwa likwata zepeli kuya ka mwaswanela haua talima. Uitusize makaadi kaufela ka kuakauhanya sikwata se fa sesiñwi faani.** Look at these cards and try to put all of them in two groups with others that are alike. Use all the cards and put one group here and another group here (physically show with the hands). **Score:** Child sorts by first criterion **INSTRUCTIONS:** If the child has difficulty understanding the concept of sorting, you may use two white sheets of paper as "sorting bins" and ask the child to form the two groups on the two white sheets of paper. Any partial sorting is incorrect.	☐	☐	☐
	INSTRUCTIONS: Once the child has completed sorting by one criterion, do NOT move the piles back together. Be patient and wait as the child tries to examine how to arrange the cards.			
	B **Talima makaadi ao hape mi cwale uabeye mwa likwata ka mukwa usili.**	☐	☐	☐

	Now look at the cards again and try to find another/different way to group these cards. **Score:** Child sorts by second criterion (sort by color)	

4	**SHAPE IDENTIFICATION** **MATERIALS:** Picture card with 6 white shapes **INSTRUCTIONS:** Place the picture card with shapes in front of the child.			
	INTERVIEWER: **"Nina ni maswaniso anibata kukubonisa. A ki maswaniso a masheepu a shutana-shutana."** "I have some pictures to show you. These are pictures of different shapes."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Kanti sikwenda sikai?** Where is the circle? **Score:** Child identifies circle	☐	☐	☐
	B **Kanti lekitangulu ikai?** Where is the rectangle? **Score:** Child identifies rectangle	☐	☐	☐
	C **Kanti tilaengulu ikai?** Where is the triangle? **Score:** Child identifies triangle	☐	☐	☐
	D **Kanti sikweya sikai?** Where is the square? **Score:** Child identifies square	☐	☐	☐
	E **Ki ñi sesiswana ni sikwenda kuya ka lika zeuziba?** Separate from the page of shapes: What else do you know that is shaped like a circle? **Score:** Child identifies anything else that looks like a circle. (Example correct responses: wheel, tire, ring, etc.)	☐	☐	☐

5	**NUMBER IDENTIFICATION** **MATERIALS:** Number card with numbers 1-20 **INSTRUCTIONS:** Show the child a copy of the numbers chart. Using another sheet of paper, cover all rows of the table except Row 1 so that it doesn't distract the child. Point to the first number in the first row and ask the child what number it is. If the child pauses for more than 5 seconds, mark as incorrect, point to the next number and encourage the child to continue. Continue to show the grid number by

number, moving your finger across the row until you complete Rows 1 and 2. As the child identifies each number, note those identified correctly and incorrectly in your notebook. Count all of the numbers the child identified correctly in Rows 1 and 2.

You can repeat pointing to each number once if the child is not responding or looks confused. No other probes are allowed. Avoid probes such as "what comes after 11?" or "have you studied this in school?"

	CORRECT	REFUSED/ SKIPPED
INTERVIEWER: **"Cwale halutalime fa lipalo. Nikasupe palo mi wena ubulelele kuli ki palo mañi? Ki hande nihaiba usazibi kaufelaa zona. Ki palo mañi ye?"** "Let's look at numbers now. I will point to a number and I want you to tell me what number it is. It's OK if you don't know all of them. **What number is this**?"		
A **Score:** How many numbers in Rows 1 and 2 did the child identify correctly? **INSTRUCTIONS:** If child refuses the whole task, mark "refused/skipped." If child begins the task, only score correct and incorrect. Mark the responses discreetly if tallying with paper. If the child names the digits in two-digit numbers separately (example 1 and 1 for 11) mark it as incorrect.	☐☐	☐

INSTRUCTIONS: If the child has identified 3 or fewer numbers correctly, STOP and move on to the next item. If the child identifies 4 or more numbers correctly, move to Rows 3 and 4. Ask the child to continue identifying the numbers as done in Rows 1 and 2 and continue counting correct and incorrect answers.

INTERVIEWER:
"Niitumezi. Halutalime fa lipalo zeñwi hape. Ki lifi zeuziba kuzeo."
"Thank you. Let's look at a few more numbers now. I wonder which ones you know."

B How many numbers in Rows 3 and 4 did the child identify correctly?	☐☐	☐

6 PUZZLE COMPLETION

MATERIALS: Jigsaw puzzle and a complete picture of the puzzle for the child to see

INSTRUCTIONS: Take out the puzzle picture and puzzle pieces. Show the picture of the puzzle to child. While you administer this item observe how concentrated and motivated the child is in trying to answer the questions and score according to the scoring rubric. Use the timer to ensure you score at the 2-minute mark. Press start and tell the child to begin. Once the timer goes off, mark the number of correct responses.

INTERVIEWER: **"Lukaikola kueza papali ya kakwaci. Se ki sona siswaniso saulukela kungungeka ka likalulo zeufilwe zeo. Unizibise hauka feza."** "We are going to have some fun with this puzzle. This is a picture of what you are going to try to make with these pieces. Try to join the pieces together to make this picture. Let me know when you are done."	**NUMBER OF CORRECT RESPONSES**

	A **Score:** Number of puzzle pieces correctly placed (0, 1, 2, 3, 4, 5, 6) **INSTRUCTIONS:** What is important in the scoring is how many pieces are in the right/appropriate place in relation to the whole image.	☐

7	**ADDITION AND SUBTRACTION** **MATERIALS:** 20 small sticks and picture cards with bicycles/mangoes			
	INSTRUCTIONS: Please take out the small sticks out and the picture cards with bikes/mangoes. Lay out 3 small sticks and say, **"Mulikani, cwale nife tukota totuñwi totubeli."** "Now my friend gives me 2 more small sticks." Lay the 2 additional small sticks near the first 3, leaving a little space between the groups. Ask the questions and wait for the child to count. Self-correcting is acceptable.	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Cwale nina ni tukota totukai hamoho?** How many small sticks do I have in total? **Score:** Child correctly counts 5 small sticks.	☐	☐	☐
	INSTRUCTIONS: Show the picture with the bikes.			
	B **Cwale ki zeo linjinga zepeli, haiba uekeza zeñwi zepeli nwa siswaniso seo likaba zekai?** Here are 2 bicycles, if you put 2 more bicycles in the picture how many would there be? **Score:** Child correctly counts 4 bikes.	☐	☐	☐
	INSTRUCTIONS: Show the picture with the mangoes.			
	C **Ki zeo limango zetaalu. Haiba uzwisa fateñi mango iliñwi kukasiyala zekai?** Here are 3 mangoes. If you took one mango away how many mangoes would be left? **Score:** Child correctly counts 2 mangoes.	☐	☐	☐

8	**ONE-TO-ONE CORRESPONDENCE** **MATERIALS:** Bag of 20 small sticks **INSTRUCTIONS:** Arrange 20 small sticks in front of the child. Be patient with the child during each question. After the child finishes each question, bring the 20 items back together again. While you administer this item observe how concentrated and motivated the child is in trying to answer the questions and score below. If it is unclear if the child has completed counting, you can ask, "**kana ki kuli ufelize"** "have you finished?" Accept whatever final number of sticks the child gives, whether it is right or wrong; do not probe again. Self-correcting is acceptable.

	INTERVIEWER: **"Cwale lukaeza papali ya tukota. Kuna ni tukota totuñata fa"** "Now we are going to play with small sticks. There are a lot of small sticks here."	**CORRECT**	**INCORRECT / DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Mulikani, nife tukota totulaalu.** Please give me 3 small sticks. **Score:** Child identifies 3 items	☐	☐	☐
	B **Mulikani, nife tukota totu 8.** Please give me 8 small sticks. **Score:** Child identifies 8 items	☐	☐	☐
	INSTRUCTIONS: If the child gives you neither 3 nor 8 objects correctly, STOP and move on to the next question. If they can give you 3 or 8 items, bring the 20 objects together again and say:			
	C **Mulikani, nife tukota totu 15.** Please give me 15 small sticks. **Score:** Child identifies 15 items	☐	☐	☐

9	**SHORT-TERM MEMORY (EXECUTIVE FUNCTION)** **MATERIALS:** None **INSTRUCTION:** Read the INTERVIEWER prompt first and then do a practice round. The symbol "…" indicates a pause. Pause for one second between each number in the sequence. For example, 5…2 means 5 [pause] 2. If the child makes an error on the practice, provide the correct answer. Read the numbers in English.			
	INTERVIEWER: **"Ye ki papali yeñwi. Nikabulela mukoloko wa lipalo, ka kutatamana. Hanikafeza nibata kuli wena ulikutele sina na monenilibalela. Cwale ulitele pili na nifeze kubala lipalo kaufela ki hona ukalilundulula. Mulikani uteeleze ka tokomelo. Halulike kueze mutala feela pili lusika kalisa kale."** "This is another game. I am going to say a list of numbers, one after another. After you hear the numbers, I want you to repeat them to me in the same order. Wait for me to say all the numbers before you repeat them. Please listen carefully. Let's try a couple practice rounds." Practice: 5…2 6…1…3 Proceed with the questions once the practice round is complete.	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A 1…6 **Score:** Child repeats 1…6	☐	☐	☐

	B 5…2…9 **Score:** Child repeats 5…2…9	☐	☐	☐
	C 8…3…1…4 **Score:** Child repeats 8…3…1…4	☐	☐	☐
	D 1…2…4…7…3 **Score:** Child repeats 1…2…4…7…3	☐	☐	☐

10	**INHIBITORY CONTROL (EX. FUNCTION)** **MATERIALS:** None **INSTRUCTIONS:** Stand up and prompt the child to touch the body part spoken by the interviewer or the opposite body part depending on the INTERVIEWER prompt.
	INTERVIEWER: **"Haluyeme. Cwale lukaeza papali: papali ye ina ni likalulo zepeli: uteeleze hande mi ulike kueza zeni bulela. Ki kale uitukisa nji?** "Let's stand up. Now we're going to play a game. The game has two parts. Listen carefully and try to do what I say. Ready?"
	Swala toho yahao Touch your head Assessor physical touchers his/her head. Wait until the child has put both hands on his head. **Swala minwana yakwa mahutu ahao** Touch your toes Assessor physically touches his/her toes. Wait until the child has put both hands on his feet. Repeat the two commands with motions until the child imitates you correctly. **Score:** these items are for practice and are not scored.
	INSTRUCTIONS: Provide positive feedback when the child responds correctly to the practice round. If the child responds incorrectly, provide additional explanations up to 3 times before beginning the test portion. If the child does not respond correctly after 3 practice sessions, STOP the child and move on to the next assessment question. If the child correctly responds to the practice round with under 4 explanations, move on to the next questions in this item. **INTERVIEWER:** **"Cwale lukaeza papali ye ka kushutana mi wena ueze ZELWANISANA ni zenikabulela. Hanikali swala TOHO yahao, USIKE waswala toho, wena uswale MINWAWA YAKWA MAHUTU ahao, wena usale TOHO. Kona kuli ueze kezo yelwanisana ni seni bulela. Halulike pili kueza mutala feela."**

"Now we're going to play this game differently and you do the OPPOSITE of what I say. When I say touch your HEAD, INSTEAD of touching your head, you touch your TOES. When I say touch your TOES, you touch your HEAD. So you do something different from what I say. Let's practice first."

Wena ueza ñi hani, " swala toho yahao?"
What do you do if I say, "touch your head?" [Interviewer DOES NOT touch head anymore]

Wena ueza ñi hanili, " swala minwana yakwa mahutu ahao."
What do you do if I say, "touch your toes?" [Interviewer DOES NOT touch toes anymore]

A	Child understands the directions (Move on to next items if the child DOES NOT understand directions)	**YES** ☐	**NO** ☐	**REFUSED/ SKIPPED** ☐
B	**Swala toho yahao.** Touch your head **Score:** Correct if the Child touches toes immediately. Self-correct if the child touches toes after making a mistake and incorrect (does not touch toes	Correct (touches toes immediately) □	Self-correct (touches toes after making mistake) □	Incorrect (does not touch toes □
C	**Swala minwana yakwa mahutu ahao** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □
D	**Swala minwana yakwa mahutu ahao** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □
E	**Swala toho yahao** Touch your head **Score:** Correct if the Child touches toes immediately. Self-correct if the child touches toes after making a mistake and incorrect (does not touch toes	Correct (touches toes immediately) □	Self-correct (touches toes after making mistake) □	Incorrect (does not touch toes □
F	**Swala minwana yakwa mahutu ahao** Touch your toes **Score:** Correct if the Child touches head immediately. Self-correct if the child touches head after making a mistake and incorrect (does not touch head)	Correct (touches head immediately) □	Self-correct (touches head after making mistake) □	Incorrect (does not touch head □

	PERSISTENCE AND ENGAGEMENT		
		YES	**NO**
	G Child stays concentrated on the task at hand and is not easily distracted	☐	☐
	H Child is motivated to complete task and does not want to stop the task	☐	☐

11	**FRIENDS** **MATERIALS:** None **INSTRUCTION:** Read the INTERVIEWER prompt first. If the child has paused for 5 seconds, prompt ONCE by saying, **"kana una ni balikani babañwi bolata kubapala ni bona?"** "are there any other friends who you like to play with?" Don't rush into the prompt before the child has fully completed answering as this is the only prompt allowed. Assessor should keep count as the child names people since it is easy to forget. Do this discreetly as a tally on a piece of paper.		
	INTERVIEWER: **Mulikani, nife mabizo abalikani bahao bulata kubapalanga ni bona.** "Please tell me the names of friends who you like to play with."	**NUMBER**	**REFUSED/ SKIPPED**
	A **Score:** Number of friends named (0-10) **INSTRUCTIONS:** A child's brothers, sisters, cousins could be peers, and can be counted towards the score. However, adults such as aunties, uncles, parents, and teachers are not considered peers and should not be counted. Animals or imaginary friends/cartoons don't count. If child repeats the same name don't count it twice unless they are clearly referring to two different people	☐☐	☐

12	**EMOTIONAL AWARENESS/REGULATION** **MATERIALS:** None **INSTRUCTIONS:** After asking each question, wait for the child to respond and if the answer is unclear, ask "How/why…" **"Cwañi / Ki ñi…?"**			
	INTERVIEWER: **Cwale nina ni lipuzo zeama maikuto.** "Now I have some questions about feelings."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Nahana hanyinyani mi unibulelele nto ye kubilaezanga.** Think for a moment and tell me what makes you feel sad	☐	☐	☐

	Score: Child identifies something that makes them sad. Crying is not an acceptable response, but seeing a friend/family member cry is appropriate.			
	INSTRUCTIONS: If child cannot name something that makes them sad, skip to D.			
	B **Uezanga ñi kuli ube ni tabo kasamulaho wa kubilaela?** What do you do to feel better when you are feeling sad? **Score:** Child gives one response on dealing with sad feelings **INSTRUCTIONS:** Coping responses are correct if they display attempts to self-sooth and if they do not involve harming themselves, other people or animals, or material possessions (e.g., throwing toys). Crying is an acceptable response. The response, "nothing," is not correct unless the child also indicates doing nothing is a means of self-soothing, i.e., to relax or diffuse sad emotions.	☐	☐	☐
	INSTRUCTIONS: If child cannot name something that makes them feel better, skip to D.			
	C **Ki ñi zeñwi zeuzanga kuli ube ni tabo kasamulaho wa kubilaelanga?** What else do you do to feel better when you are feeling sad? **Score:** Child gives another response on dealing with sad feelings	☐	☐	☐
	D **Cwale nibulelele nto yekutabisanga.** Now tell me what makes you feel happy. **Score:** Child identifies something that makes them happy	☐	☐	☐

13	**EMPATHY/PERSPECTIVE TAKING** **MATERIALS:** Picture of crying child **PART I: INSTRUCTIONS:** Show the picture of the crying girl.			
	INTERVIEWER: **"Cwale halutalime siswaniso se"** "Now let's look at this picture"	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Ubona ñi? Uhupula kuli mwanana yo uikutwa cwañi hona fa?** What do you see? How do you think this child feels right now? **Score:** Child identifies that the girl is feeling certain emotions, such as feeling sad, hurt, upset, in pain, scared or other culturally acceptable answers. Crying is not an acceptable response. Correct examples include: not feeling well, being sick, hungry, getting pushed, etc.	☐	☐	☐

	INSTRUCTIONS: If the child cannot identify that the child is sad, skip questions B and C and go to Section 14 Solving Conflict. For B and C, wait for the child to respond and if the answer is unclear, ask "How/why…"			
	B **Ukona kutusa cwañi musizana yo kuli aikutwe kuba ni tabo?** How would you help this girl feel better? [**If answer is unclear ask**: **Ukona kueza ñi kutusa musizana yo kuli aikutwe hande?** What would you do to make this girl feel better?] **Score:** Child gives one response for how to make the girl feel better (e.g. hug her, tell her she will be OK, find out if she needs medicine, find out if s/he needs help, play with her, hold her hand, get an adult to help her or other similar response)	☐	☐	☐
	INSTRUCTIONS: If child cannot identify one way to make the girl feel better, skip to the next section, Solving Conflict. Wait for the child to respond and if the answer is unclear, ask "How/why does this make her feel better?"			
	C <u>Prompt ONCE by asking</u>: **Kana kuna ni nto yeñwi yeo ukona kueza kuli utuse musizana yo kuli aikutwe kuba ni tabo?** Is there anything else you would do to make her feel better? **Score:** Child gives second response for how to girl feel better	☐	☐	☐

14	**SOLVING CONFLICT** **MATERIALS:** None **INSTRUCTIONS:** Read the INTERVIEWER prompt first. If child cannot identify one solution for (A), skip to 15. If the child's response is vague or if you are unsure it is relevant/appropriate, clarify by asking, **"Ki ñi sesitisa kuli ueze cwalo?"** *"Why would you do that?"*			
	INTERVIEWER: **Cwale nikakubuza puzo yeama nako yeo una ni sipupe silisiñwi kapa sibapaliso silisiñwi feela mi mwanana yomuñwi ni yena ubata kuli asibapalise, kono hakuna sesiñwi hape.** "Now I will ask you to imagine a situation where you are playing with a toy that you like when another child wants to play with that same toy, but there is only one toy."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Ne ukaeza ñi hane ukaba mwa kezahalo yecwalo?** What would you do in this situation? **Score:** Child gives one response for how to solve conflict	☐	☐	☐

	INSTRUCTIONS: Correct responses demonstrate an ability to negotiate the situation favorably, in a way that the other child is not hurt or left upset, including: ask the other child to wait, take turns, share, get another toy, play together with the toy, or other acceptable answer. Incorrect responses include: push the child away, tell him he can't have it, and other responses that do not to solve the situation favorably or at all (i.e. child who wants to play is left crying, hurt, or neglected)	
	B Prompt ONCE by asking: **Kina kuna ni nto yeñwi yeo ne ukaeza?** Is there anything else you would do? **Score:** Child gives second response for how to solve conflict	☐ ☐ ☐

15	**EXPRESSIVE VOCABULARY** **MATERIALS:** None **INSTRUCTIONS:** Record the number of items the child lists until the child has listed 10 items. You can tally on a separate sheet when the child says each object. When the child pauses for 5 seconds or more, PROMPT ONCE by saying, **"Nahanisisa lika zeñwi hape mi ki lifi?"** "Can you think of any others?" When the child cannot think of more items, move to 16.		
	INTERVIEWER: **Cwale halulike papali ya manzwi?** "Now let's try a word game."	**NUMBER OF ITEMS NAMED**	**REFUSED/ SKIPPED**
	A **Nahana kuli uya kwa musika kapa kwa faamu. Bulela mabizo a mifuta ya lico zene ukafumana mwa musika kapa kwa faamu. Lika kubulela mabizo alike zeo ka buñana bwazona mi na nikalibalanga.** Imagine you are going to the market or farm. Name some foods you can find at the market or the farm. Try to name as many things as you can think of and I will keep count. **Score:** Number of items named (0-10)	☐☐	☐
	B **Cwale nibata kuziba lifolofolo zeuziba. Nife mabizo mabizo azona ka buñata kuya ka moulizibela mi na nikalibalanga.** Now, I want to know what animals you are familiar with. Tell me the names of animals that you know. Try to name as many animals as you can think of and I will keep count again. **Score:** Number of animals named (0-10)	☐☐	☐

16	**PRINT AWARENESS** **MATERIALS:** Age-appropriate book with pictures and text on each page in the child's language

INSTRUCTIONS: Hand a book to the child upside down, with the cover facing up towards the child.

	CORRECT	INCORRECT/ DON'T KNOW	REFUSED/ SKIPPED
INTERVIEWER: **"Cwale luka talima mwa buka mi nibata kuli unituse"** "We are going to look at a book and I need your help."			
A **Cwale ni bonise moikwalulelwa kuli lukale kuibala.** Show me how you would open it so we can read it. **Score:** Child opens the book appropriately (turns book so words or picture are no longer upside down) and opens the book	☐	☐	☐

INSTRUCTIONS: If the child has not opened to a page with picture and text, turn to such a page. Give the child a moment or two to look through the book if he/she wants.

B **Cwale nibonise fonilukela kukalela kubala.** Now show me where I should start reading. **Score:** Child points to text on the page (can be the full sentence, the first word, or the whole text). If child point to any non-textual part such as a picture, mark "incorrect."	☐	☐	☐

INSTRUCTIONS: If the child has not pointed to the first word on that page, point to it and read the question.

C **Haiba nikalela fa, fa linzwi lapili, ka kuitusisa munwana nibonise zetatama hanibala.** If I start to read here, on the first word, show me with your finger where I would continue reading. **Score:** If child points to the second word, or indicates direction of text (left to right), or direction of sentences (top to bottom), mark "correct". For any other response, mark "incorrect."	☐	☐	☐

17 LETTER IDENTIFICATION

MATERIALS: Letters chart

INSTRUCTIONS: Show the child the letter chart. Using another sheet of paper cover all rows of the table except Row 1 so that it doesn't distract the child. Point to the first letter in the first row and ask the child what letter it is. If the child pauses for more than 5 seconds, mark as incorrect and point to the next letter and encourage the child to continue. Continue to show the grid letter by letter, moving your finger across the row until you complete Rows 1 and 2. As the child identifies eachletter, note those identified correctly and incorrectly in your notebook.

Count all of the letters the child identified correctly in Rows 1 and 2. If the child has identified 3 or fewer letters correctly, STOP and move on to 18. If the child identifies 4 or more letters correctly, move to Rows 3 and 4. Ask the child to continue identifying the letters and continue marking answers. If the child does not respond, then ask the child to name the letter again. If the child responds correctly, incorrectly, or does not respond at all, accept the response and move on to the next letter.

	INTERVIEWER: **Cwale lukaeza papali ya milumo ya litaku. Ni kasupanga litaku mi nibata kuli wena unibulelele kuli lieza milumo mañi. Ki hande nihaiba usazibi lika zeo kaufela, kono uitike hahulu."** "We will play a letter game now. I will point to letters and I want you to tell me what letters they are. It's OK if you don't know all of them, just do your best."	**NUMBER CORRECT**	**REFUSED/ SKIPPED**
	A **Ki taku ya mulumo mañi ye?** What letter is this? **Score:** How many letters in Rows 1 and 2 did the child identify correctly? **INSTRUCTIONS:** If the child responds with the correct phonetic sound of the alphabet but does not name the alphabet, mark as correct. If a child refuses the whole task, then mark "refused/skipped" on the scoring sheet. If a child begins the task then "refused/skipped" is no longer a scoring option, only correct and incorrect.	☐☐	☐
	INSTRUCTIONS: If the child correctly identifies 0-3 or fewer letters in A, skip to the next section. If the child identified 4 or more letters in A, ask the child to continue identifying the letters in Rows 3 and 4 and continue marking answers.		
	B **Cwale halutalime fa milumo ya litaku zeñwi hape. Ye ki taku ya mulumo mañi?** Let's look at a few more letters now. What letter is this? **Score:** How many letters in Rows 3 and 4 did the child identify correctly? **INSTRUCTIONS:** If the child responds with the correct phonetic sound of the alphabet but does not name the alphabet, mark as correct. If a child refuses the whole task, then mark "refused/skipped" on the scoring sheet. If a child begins the task then "refused/skipped" is no longer a scoring option, only correct and incorrect.	☐☐	☐

18	**FIRST LETTER SOUNDS/ PHONEMIC AWARENESS** **MATERIALS:** None **INTERVIEWER:** **Cwale lukaeza papali ya kutelleza. Ye ki ya milumo yemwa manzwi. Linzwi la 'cika' likala ka mulumo wa /c/. (say the letter sound, not the letter name) "/c/ ki mulumo okala linzwi la "cika." Cwale teeleza manzwi enikabulelele kuli ki afa akala ka mulumo oswana wa /c/: cala, tekeseli, nako.** "Now we will play a listening game. This one is about the sounds in words. The word "cika" starts with /c/. (Say the sound, not the letter name). /c/ is the first sound in "cika". Let's practice. Now listen to the words I say and tell me which one starts with the same sound, the sound /c/: cala, tekeseli, nako. **INSTRUCTIONS:** Read the INTERVIEWER prompt with the practice question then proceed to the additional question. If the child gives an incorrect response, say: "**Cala likala ka mulumo wa /c/ mi**

	cika" likala ka mulumo wa /c/" Continue with the assessment. For each question, repeat the list of words only ONCE if needed.			
	INTERVIEWER: **"Cwale lukazwelapili kueza papali ye. Kana ki kuli uitukisize nji?** "Now we are going to continue playing this game. Are you ready?"	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Linzwi la ' soka' likala ka mulumo wa /s/. Cwale teeleza manzwi anibulela mi unibulela kuli ki lifi lelikala ka mulumo wa /s/: loka , seto, sela, paka.** The word "soka" starts with /s/. Now listen to the words I say and tell me which one starts with the same sound /s/: loka, seto, paka **Score:** Child chooses **seto**	☐	☐	☐
	B **'Komu' ki linzwi lelikala ka mulumo wa /k/. Teeleza manzwi enibulelela mi uni bulelele lelikale ka /k/: capu, kota, sila, kena.** "Koma" starts with /k/. Listen to the words I say and tell me which one starts with the same sound, the sound /k/: capu, sila, kena. **Score:** Child chooses **kena**	☐	☐	☐
	C **'Lema, ki linzwi lelika ka /l/. Cwale teeleza manzwi enibulela mi ukete lelikala ka /l/: tona, sepa, leka, laha.** "Lema" starts with /l/. Listen to the words I say and tell me which one starts with the same sound, the sound /k/: laha, tona, sepa **Score:** Child chooses **laha**	☐	☐	☐

19	**EMERGENT WRITING** **MATERIALS:** Writing tool and writing surface (stick, pencil, crayon, piece of chalk along paper, sand, chalkboard, and/or other materials) **INSTRUCTIONS:** Limit this section to 2 minutes from when the child begins writing. If the child does not write for a minute after your suggestion, move to the next section. If the child is still writing after 2 minutes, score the child's writing at the 2 minute mark, and gently transition the child to the next game. Use the scoring rubric to assess the score.		
	INTERVIEWER: **"Cwale lukabapala ni kuñola. Lika kuñola libizo lahao ka kuya moulatela. Usike wabilaela haiba usa likoni hande, uitike feela."** "Now we're going to play and write. Try to write your name here in any way you know. Don't worry of you can't do it well, just try your best."	**SCORE NUMBER**	**REFUSED / SKIPPED**

	A **Score:** Writing level (0-4) **INSTRUCTIONS:** Score "0" if the child writes nothing; Score "1" if there is random scribbling, not resembling letter-like symbols; Score "2" if there are purposeful, controlled symbols but letters are not legible or recognizable; Score "3" if there are some legible letters and/or numbers; Score "4", if the child's name (or another word because they can't write their name) legibly, even if there are missing letters or some are backwards.	☐

20 ORAL COMPREHENSION

MATERIALS: None

INSTRUCTIONS: Read out the story slowly, clearly and fluently. Tell the story with an active voice but without additional theatrics. While reading the story, do not stop and try to engage the child; read until the end even if you see the child is not paying attention. Make sure the child can hear you – if you are in a very noisy area get closer to the child. The story cannot be repeated. Ask each question slowly and clearly. Each question may be repeated ONCE if needed.

INTERVIEWER:
"Cwale nika kubulelela likande lelimunati la nja ni kulu. Hanikafeza kukukandekela ni kakubuza lipuzo. Liteeleze hande luli, wautwa nji?"
"Now I am going to tell you an interesting story about a dog and a chicken. After I have told you the story, I will ask you some questions. Listen carefully, okay?

Read story:

"Hona foo, nekuna ni nja ye neilata hahulu kutinanga kuwani yefubelu. Zazi leliñwi nja inge ilobezi kwataha kakuhu kuto uzwa kuwani ya nja. Nja haiyo pasumuka yafumana kuli kakuhu ka uzwize kuwani. Nja yanyema hahulu ni kukala kumatisa kakuhu kao. Kutokwa ni sibaka kakuhu kaswaseha kwatasaa tafule ya makenge mi kapalelwa kupicuka. Cwale kakuhu kali kwa nja, 'musike mwanica, sha, haiba munipilisa nikakutisa kuwami yamina.' Cwale nja hase ifilwe kuwani yayona yali, " mwai usike walika hape kuswala kuwani yaka' mi yakuta kuyolobala inge itabile."
"Once upon a time there was a fat dog. He always wore a red hat. One day when he was sleeping, a small chicken came silently and stole the hat. The dog woke up to find his hat gone. He got very angry and started chasing the chicken. After a while, the chicken was trapped under a straw table and could not find any way to escape. So the chicken said to the dog, 'Please don't eat me, dog. If you spare my life I will return your hat.' After the dog got his hat back he said, 'Please don't touch my hat again' and he went back to sleep in a happy mood."

	INTERVIEWER: **"Cwale nika kubuza lipuzo kuama likande le."** "Now I am going to ask you some questions about the story."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Ki mañi yana uzwize kuwani ya nja?** Who stole the dog's hat?	☐	☐	☐

	Score: Child answers **kuhu'** 'the chicken'	
	B **Kuwani neeli ya mubala ocwañi?** What color was the hat? **Score:** Child answers' **yefubelu'** 'red'	☐ ☐ ☐
	C **Ki ñi nja haneimatisize kuh**u? Why did the dog chase the chicken? **Score:** Child answers '**kakuli kuhu neizwizwe kuwani ya nja.'** 'because the chicken use took/stole its hat'	☐ ☐ ☐
	D **Kanti kuhu nei ikutwile cwañi hane imatisiwa?** How did the chicken feel when it was chased? **Score:** Child answers '**neisabile neiikalezwi'** 'scared' or 'frightened'	☐ ☐ ☐
	E **Ki ñi nja hane isika ca kuhu?** Why did the dog decide not to eat the chicken? **Score:** Child answers **Kakuli kuhu neikutisize kuwani yeo** 'because the chicken gave back the hat'	☐ ☐ ☐

21	**DRAWING A SHAPE (COPYING)** **MATERIALS:** Picture card with a triangle **INSTRUCTIONS:** Show child the picture of the triangle shape. Do not demonstrate drawing the figure yourself. Instructions can be repeated once. Use the scoring rubric to assess the score.			
	INTERVIEWER: **"Cwale haluswanise. Kuna ni mutu yana swanisize siswaniso se. Lika kuswanisa hape siswaniso se fa pepa yahao."** "Let's do some drawing. Someone drew this picture. Try to draw the same picture on your piece of paper."	**NUMBER CORRECT**		**REFUSED / SKIPPED**
	A **Score:** Number of closed corners in the triangle with no gaps (0, 1, 2, 3) **INSTRUCTIONS:** If the corners are a bit rounded, there is a tiny little space between the two lines making the corner or the line extends/overshoots past the corners, this can still be marked as correct	☐		☐
		Yes	**No**	**REFUSED/ SKIPPED**
	B **Score:** Closely resembles the picture (diagonals, relatively straight lines) **INSTRUCTIONS:** If child draws a square or other figure with multiple corners, mark correct for 3 corners but incorrect for resembling a triangle.	☐	☐	☐

22	**FOLDING A SHAPE (COPYING)** **MATERIALS:** 20cm X 20cm square piece of paper **INTERVIEWER:** **Haluezeñi papali ya kuputaputa. Kaufelaaluna lukaikola kueza sheepu. Nika kufa pepa mi ni na nikanga iliñwi. Utalime handende mi ni wena unilikanyise ka kulatela handende kuya ka mihato yeo. Mulikani, unilatelele muhato ka muhato.** "Now let's play a folding game! Together we will make a fun shape. I will give you a sheet of paper and I will take one piece too. Watch what I am doing closely and try to fold your piece of paper just as I do, step by step. Please follow me step by step and try to do it carefully." **INSTRUCTIONS:** Follow the steps below as you demonstrate but DO NOT verbally explain what you are doing. Be patient and give the child time to follow each step. One prompt for each step is allowed - undo one fold and re-show the child how to fold without verbal instructions if the child appears confused or hesitates. If the child stops or gives up in the middle, move to the next question group. Do not correct the child; continue demonstrating the subsequent folds. To be correct there should be no more than a 1cm difference. Step 1: Fold down the middle (vertically) Step 2: Fold down the middle again (horizontally) Step 3: Fold in half diagonally Step 4: Fold in half diagonally again		
	A **Score:** Number of steps child folded precisely /correctly (within 1 cm) (0-4) **INSTRUCTIONS:** For each correct fold (within 1 cm), give a point. If one side of the fold is 1.2 cm away from the correct line and the other side of the fold is 0.6 cm within the correct line, it should be counted as 0. It is possible for a child to make one inaccurate fold but to follow with an accurate next fold. It is important to finish administering the whole item; do not stop if the child makes a mistake.	**NUMBER CORRECT** ☐	**REFUSED/ SKIPPED** ☐

23	**DRAWING A PERSON** **MATERIALS:** Drawing tool (crayon, paper, pencil, etc.) and material to draw on (sand, paper, cardboard, chalkboard, etc.) **INSTRUCTIONS:** Limit this section to 2 minutes from when the child begins drawing. The instructions can be repeated once. If the child does not draw for a minute after your suggestion, stop and say: "**Cwale lwaya fa kezo yaluna yetatama."** ['We're going to move on to our next activity now..'] Do not interrupt the child while they are drawing to ask questions about the picture. Avoid asking the child if something is missing, or in any way hinting that they can draw more parts of the body. If things are very unclear, you can ask the child about the picture after they have finished their drawing.

	INTERVIEWER: **Nina ni papali yeñwi yenibata kuli ueze. Mulikani swanisa musizana kapa mushimani yayemi.** "I have another drawing game for you. Please draw a picture of a girl or a boy standing up."	**CORRECT**	**INCORRECT/ DON'T KNOW**	**REFUSED/ SKIPPED**
	A **Score:** Child draws a head	☐	☐	☐
	B **Score:** Child draws a body/trunk	☐	☐	☐
	C **Score:** Child draws arms	☐	☐	☐
	D **Score:** Child draws legs	☐	☐	☐
	E **Score:** Child draws 1 facial feature **INSTRUCTIONS:** Hair counts as facial feature. Decorations, such as earrings or necklaces, don't count as points.	☐	☐	☐
	F **Score:** Child draws 2 facial features **INSTRUCTIONS:** Hair counts as facial feature. Decorations, such as earrings or necklaces, don't count as points.	☐	☐	☐
	G **Score:** Child draws hands **INSTRUCTIONS:** It is sufficient that there is a clear indication of the separation of the arm and hand, hand does not need to show digits. One hand (instead of two) counts as a point.	☐	☐	☐
	H **Score:** Child draws feet **INSTRUCTIONS:** It is sufficient that there is a clear indication of the separation of the leg and foot, foot does not need to show digits. One foot (instead of two) counts as a point.	☐	☐	☐

24	**HOPPING** **MATERIALS:** None **INSTRUCTIONS:** Demonstrate hopping 10 steps in a straight line (must be done by enumerator). Count the number of steps hopped by the child continuously in one go. Instructions can be repeated once. Adaptation for children with physical impairments: If child is not able to hop due to clear physical impairments, conduct this item with clapping over the head instead.		
	INTERVIEWER: **"Lukaeza papali iliñwi hape. Nibata kuli uyeme fa lihutu lililiñwi leutabela, mi ueze kaca mukata kuya fapili habeli sina cwana; ulike kueza kacamukata hañata moukonela."**	**NUMBER CORRECT**	**REFUSED/ SKIPPED**

	"We are going to play one more game. I want you to stand on one foot, whichever foot you prefer, and hop forward, and hop forward again, like this – (Demonstrate). Try to hop as many steps as you can." Note: Learners with physical impairments [alternate]: **" Lukaeza papali iliñwi hape. Nibata kuli ukambele fahalimu a toho yahao, mi hape ukutele kuezxa cwalo, sina cwana (mufe mutala) Lika kukambela hape fahalimu a toho yahao hañata ka moo ukonela."** "We are going to play one more game. I want you to clap your hands over your head, then do it again, like this – (Demonstrate). Try to clap your hands above your head as many as you can.		
	A **Score:** Number of steps hopped (0-10) OR Number of claps (0-10) **INSTRUCTIONS:** Count the number of <u>continuous</u> hops or claps (hops during which the child doesn't put his foot down or hold onto something) the child makes and record the number up to 10. If the child hops equal to or more than 10 steps, score 10.	☐	☐

25	**LEARNER QUESTIONNAIRE** **MATERIALS:** None **INSTRUCTIONS:** Ask the child the following questions one at a time and score the answers. The Child Questionnaire is unscored. If the child does not know the answer, skip to the question.		
	INTERVIEWER: **"Cwale ni kakubuza lipuzo zekuama. Mulikani, wakona kulikq kulialaba haiba waziba, kono usike wabilala haiba usazibi zeñwi za likalabo."** "I am going to ask you some questions about yourself now. Please answer them if you can, but do not worry if you do not know all of the answers."		
	A **Ki puwo mañi yemuitusisa hahulu mwa lapa lahenu?** What language do you most often speak at home?	SILOZI	☐
		CINYANJA	☐
		CHITONGA	☐
		ICIBEMBA	☐
		KIKAONDE	☐
		LUNDA	☐

	LUVALE	☐
	SIKUWA	☐
	ENGLISH	☐
	Mabaka amañwi. OTHER	☐
	Haiba ki ka mabaka amañwi, ki mabaka mañi? If other, specify	

	Eeni YES	**Batili** NO	**Hanizibi** I DON'T KNOW/NO RESPONSE
B **Kana ki kuli bo muluti bahao maabani nebakubalezi libuka hanemunze muituta (kapa mwa mazazi a sikolo asazo fela fa) ?** Did your teacher read books to you during school yesterday (or on the most recent school day)?	☐	☐	☐
C **Kana ki kuli neucile sico usika taha kale kwa sikolo?** Did you eat food before you came to school?	☐	☐	☐
D **Kana ki kuli wabalanga libuka hauli kwa ndu kapa kwa hae?** Do you read books at home?	☐	☐	☐

E **Ki hakai foo kubanga ni mutu yakubalenga buka kwa hae? Hakuna, fokuñwi kapa zazi ni zazi?** How often does someone read to you at home? Never, sometimes, or every day?	**Hakuna** Never	**Fokuñwi** Sometimes	**Zazi ni zazi** Everyday	**Hanizibi/ hakuna kalabo** Don't know/ no response
	☐	☐	☐	☐

F **Kana ki kuli neukena fa sikolo se ñohola?** Did you attend this school last year?	**Eeni** YES	**Batili** NO	**Hanizibi** I DON'T KNOW/NO RESPONSE
	☐	☐	☐

G **Haiba ulumezi, neukena ma sitopa mañi?** If yes, in what class were you last year?	**Makalelo a Tuto ya**	**Giledi 1** Grade 1	**Hanizibi/ hakuna kalabo**

	Bwanana yona ECE ECE		Don't know/ no response
	☐	☐	☐

INSTRUCTIONS: If the learner is in **grade 1**, and **DID NOT** attend ECE last year, please ask them these additional questions

H	**Ñohola, kana ki kuli wena kapa bashemi bahao nemulikile kuli wena ukale kukena ma mungendenge wa lituto za Makalelo a Tuto ya Banana yona ECE ka Sikuwa?** Last year, did you or your parents ever try to enroll you in an ECE program?	**Eeni** YES	**Batili** NO	**Hanizibi** I DON'T KNOW/NO RESPONSE

I	**Ki libaka lifi lelituna leo neupalezwi kukena mwa likolo za Makalelol a Tuto ya Banana kapa ECE?** What is the main/primary reason you did not attend ECE last year? **Instructions:** read the question to the learner, then all the answer choices and then re-read the question to them. Mark the answer they choose that is the primary reason.	1. **Sikolo nesili kwahule hahulu ni ndu yahesu.** The school was very far from my house	☐
		2. **Nekusina sibaka mwa sitopa sa Makalelo a Tuto ya Banana.** There was no space in the ECE class	☐
		3. **Ba sikolo nebanihasize kukalisa sikolo sa Makalelo a Tuto ya Banana yona ECE.** The school told me I could not enroll in ECE	☐
		4. **Nenina ni kutusa bashemi baka mwa misebezi ya ndu yaluna** I had to help my mom and dad at home	☐
		5 **Nenisaliti kukena mwa sikolo sa Makalelo a Tuto ya Banana.** I did not want to go to ECE/school	☐
		6. **Bo ma ni bo ndale nebasina mali akunilifela kwa sikolo.**	☐

		My mom and dad did not have money to send me to school	
		7. **Hanizibi / hanina kalabo** Don't know/ no response	☐
		8. **Mabaka amañwi.** Other	☐
		Haiba ki ka mabaka amañwi, ki mabaka mañi? If other, specify	List answer: _____

Ni itumezi hahulu ka tuso yahao. Cwale wakoma kukutela mwa sitopa sahao.
Thank you very much for your help. You may now return to class.

2020 BASELINE MELE TOOL

INSTRUCTIONS

Consult the accompanying *Assessment Guide* for full instructions on MELE administration. Note that all instructions and guidance for the assessor are **marked in bold letters.**

TEACHER CONSENT

- **Hello, my name is _____.**
- **My colleagues and I are working with the Ministry of General Education, specifically the Directorate of Early Childhood Education (ECE) to conduct assessments of the abilities of ECE and Grade 1 learners that have and have not received the USAID Let's Read intervention and attended ECE. This includes an assessment of learners' emergent numeracy, emergent literacy, fine motor, and social and emotional skills, as well as an observation of ECE classrooms. We are also gathering additional information about ECE classroom environment that may influence children learning.**
- **This school was randomly selected for participation in this research. You are being invited to participate because your experience as an ECE classroom teacher can help inform the Ministry of General Education support early childhood education. Your participation is very important, but you do not have to participate if you do not wish to.**
- **If you agree to participate, I will ask you some questions regarding your normal activities at school. My questions for you will take approximately 5-10 minutes. In addition, I will observe your classroom for one day, taking note of a normal day of classes. I will not ask the learners questions but rather will observe the environment quietly with your consent. There is a minimal risk that you may share some somewhat sensitive information about your experience as a teacher. We encourage you to be honest since your experience can help inform early childhood education in Zambia; however, we will not share any of your personal information nor ask for your name. You can always skip questions that you feel uncomfortable with and do not have to give any reason for skipping.**
- **Your name will NOT be recorded on this form, nor mentioned anywhere in the survey data. The combined results of the classroom observations conducted in many schools will be shared with MoGE and other education stakeholders. They will use the results to identify areas where additional support may be needed to improve early childhood education and the early grades. Information provided in teacher interviews will be anonymous and will not be reported by school but will be combined with the survey results from many other schools.**
- **You will not personally benefit from participating in this interview or observation. However, your responses will be used to help support improvements in primary education in Zambia.**
- **If you have any questions regarding this research, please ask me or contact the Principal Investigator.**
- **Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right. Do you have any questions? Are you willing to participate?**

Participant consents to take part in the research study Y [ ] N [ ]

Date _____day/month/year

CONSENT CERTIFICATE

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Individual Consent Form has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____Day/Month/Year

If consent is refused, complete 1. School & Observation Information, A-L, thank the teacher, and end the interview.

1. SCHOOL & OBSERVATION INFORMATION

A	Assessor name	
B	Assessor code	
C	Province	
D	District	
E	School Name	
F	School EMIS Number	
G	Teacher's Sex	Male ____ Female___
H	Grade	ECE___ Other__ If other, specify: _____
I	Date of Visit (DD/MM/YYYY)	DD/MM/YYYY
J	School Day Start Time (Observed or Teacher Report. Use 24 hour time)	HH: MM
K	School Day End Time	HH:MM
L	Observation start time	HH:MM

M	Observation end time	HH:MM

INTER-RATER RELIABILITY ASSESSMENTS

INSTRUCTIONS: to measure the consistency in ratings among assessors, two assessors per school will observe the ECE classroom. One assessor will be the lead assessor – and will mark Yes for "Lead assessor," while the secondary assessor will mark Yes for "Second assessor."		
N	Inter-rater reliability Assessment	Lead assessor ____ Second assessor_____

II. BASIC CLASSROOM INFORMATION

A. Questions to Ask the Teacher in Advance of the Observation				
1	Total enrollment in the entire ECE program	Total	Reception (5 -6 years old)	Nursery (3-4 years old)
2	Grade of class	ECE___ Other__ If other, please specify: _____		
3	Total number of children enrolled in class	Total: ___ Boys: _____ Girls:_____		
4	Are there children that have been diagnosed special needs in the classroom? (Special needs conditions include but are not limited to autism, deaf/mute, poor vision/visually impaired/bind, mentally impairment, physical impairment, or other permanent health conditions that may affect children's learning)	Yes ..... 1 No ..... 0 Don't know 999		
5	If there are children diagnosed by a medical professional with special needs, how many children are there?	M [ ] F [ ] Total:		
6	Does your lesson plan and daily program cover the following learning areas daily? Check all that apply. **Ask the teacher for a lesson plan and daily program and collect a copy. Or ask the teacher if you can copy the lesson or take a picture if there is no copy he or she can give you.**	Language and literacy Pre-mathematics Expressive arts Environmental Science Social Studies Other If "Other," list _____		
7	Is a curriculum or syllabi used?	Yes No Don't know		
8	If "Yes", What are the sources of curriculum or syllabi? (check all that apply.)	Ministry of General Education Private Non-profit organisation Other If "Other," list _____		
9	Does your curriculum use any of the following Ministry of General Education, ECE Directorate resources? (check all that apply)	Early Childhood Education Standard Guidelines Early Childhood Education Syllabi Early Learning and Development Standards for Zambia		
10	Is there a feeding program for learners?	Yes No		

		I don't know Other If "Other," specify: _____
11	Based on your [the teacher's] perceptions, do the majority of learners eat breakfast prior to coming to school?	Yes No I don't know
12	Based on your [the teacher's] perceptions, please indicate how often there is parental involvement in the school or classroom.	Daily Weekly Biweekly (every 2 weeks) Monthly Quarterly Other If Other, specify: _____

B. Children & Teachers Present: To be Counted at the Beginning of the Observation		
13	Number of boys present **Have all the boys stand and count them**	M ____
14	Number of girls present **Have all the girls stand and count them**	F ____
15	Total number of children present **Confirm total matches total boys & girls**	M ____ + F ____ = TOTAL _____
16	Number of adults present in the classroom and working with the children **Enter the number of each**	Teachers Assistants Other If Other, list role(s) _____

III. LEARNING ACTIVITIES

		Does not occur	Taught using repetition only	Taught using ONE element of	Taught using TWO OR MORE elements of
I 7	**Learning opportunities to support the development of <u>mathematics skills</u>, Examples include: number sense, time, shapes, colours, sequence**	1	2	3	4
		No mathematics activities are observed	Mathematics concepts are taught by ONLY: Repetitive activities Examples include: choral response to close-ended question; individual children using a pointer to name numbers; and writing or copying numbers	Mathematics concepts are taught by using ONE of the following strategies: Allowing children some choice in how to use materials or carry out an activity **OR** Teacher engages children in discussion, uses	Mathematics concepts are taught by also using BOTH of the following strategies: Allowing children some choice in how to use materials or carry out an activity **AND** Teacher engages children in
I 8	**Learning opportunities to support development of literacy skills. Examples include:** • **Recite short rhymes** • **Matching sounds** • **Sound cards** • **Initial**	1	2	3	4
		No literacy activities are observed	Literacy concepts are taught by ONLY: Repetitive activities Examples include: choral response to close-ended questions (such as singing the alphabet and repeating letter sounds); individual children using a pointer to name letters; and	Literacy concepts are taught by using ONE of the following strategies: Allowing children some choice in how to use materials or carry out an activity **OR** Teacher engages children in discussion, uses open-ended	Literacy concepts are taught by also using BOTH of the following strategies: Allowing children some choice in how to use materials or carry out an activity **AND** Teacher engages child in discussion, uses open-ended questions and
I	**Learning**	1	2	3	4

9	**opportunities to develop <u>expressive language skills</u>**	Children are never invited to tell a story, describe events or objects, or answer any questions	Expressive language skills are taught by ONLY: Repetitive activities Examples include: choral response to close-ended questions; and individual children using a pointer to repeat words or sentences	Expressive language skills are taught by also using: • ONE verbal exchange that promotes discussion and learning. • Examples include: teacher asking the majority of children to describe objects or pictures (e.g., colour, shape,	Expressive language skills are taught by also using: TWO OR MORE verbal exchange that promotes discussion and learning
20A	**Teacher reads an age-appropriate storybook with text and pictures to support listening and speaking skills** **Storybook means a book that has pictures and/or text, is physically in the classroom,**	**1** Teacher does not read to children **OR** reads a book that is not age-appropriate (i.e., text or school books for older children or adults; religious text for adults; books with no pictures; and books for younger children).	**2** Teacher reads to the class: Without discussion **OR** questions about the story.	**3** Teacher reads to the class, using ONE of the following strategies: Asks children basic or close-ended questions about what happened in the story **OR** Encourages children to discuss the story through open-ended questions **OR** Talks about	**4** Teacher reads to the class, using TWO OR MORE of the following strategies: Encourages children to discuss the story through open-ended questions **OR** Talks about vocabulary learned in the books **OR** Connects the story to the children's own experiences
20–	**Teacher tells children an**	**1** Teacher does not engage children in oral storytelling OR tells the children an oral story that is not age-appropriate (i.e., oral story with mature, graphic, or explicit context	**2** Teacher tells the children an oral story Without discussion **OR** questions about the story	**3** Teacher tells the children one oral story, using ONE of the following strategies: Asks children basic or close-ended questions about what happened in the story **OR**	**4** Teacher tells the children a story, using TWO OR MORE of the following strategies: Encourages children to discuss the story through open-ended questions **OR**

		suitable for adults or older children)		Encourages children to discuss the story through open-ended questions **OR** Talks about	Talks about vocabulary learned in the story **OR** Connects the story
21	**Learning opportunities to promote <u>fine motor skills</u>** Examples include: • Writing • Drawing/painting • Gathering small objects • Ordering small objects	**1** No fine motor activity is observed	**2** Fine motor skills are taught by **ONLY**: • Teacher-directed activities focused on the result and not the process • Examples include: writing as directed by teacher; stringing beads; and	**3** Fine motor skills are also taught by using **ONE** of the following strategies: • Allowing children some choice in how to use materials or carry out an activity OR • Learners engage in the activity on their own	**4** Fine motor skills are also taught by **TWO OR MORE** of the following strategies: • Allowing children some choice in how to use materials or carry out an activity OR • Learners engage in the activity on their own
22	**Learning activities that promote <u>free play or open choice</u>** Examples include: • Explore activity centers in	**1** No free choice/open play activity is observed before or during the observation.	**2** • Teacher chooses where or how children play with materials OR • Teacher provides limited choices for	**3** • Children have ONE opportunity to choose their own activity, where and how they play with materials	**4** • Children have ONE or more opportunities to choose their own activity and where and how they play with
2	**Learning**	**1**	**2**	**3**	**4**

3	**opportunities that allow children to engage in <u>music/movement</u> activities** Examples include: • Singing songs • Dancing • Acting and role-play • Group songs/dances all	No music/movement activity is observed	Teacher promotes engagement in music or movement by: • Requiring all children to participate and complete the activity in the same way • Examples include: asking children to dance in a prescribed	Teacher promotes engagement in music or movement by: • ONE opportunity to express themselves individually. For example, encouraging children to freely dance to a song as they like (i.e., no	Teacher promotes engagement in music or movement by: • TWO OR MORE opportunities to express themselves individually (i.e.,, children may move as they wish; make up words to a
24	**Learning opportunities that allow children to engage in <u>gross motor activities</u>** Examples include: • Running	**1** No gross motor activity is observed	**2** Less than 10 minutes of the gross motor activity is observed or only a few children participate [Even activities not supervised or organised by school	**3** Less than 20 minutes of gross motor activity is observed **OR** less than half of children participate [Even activities not supervised or organised by school	**4** Most children engage in at least 20 minutes of gross motor activity [Even activities not supervised or organised by school staff can be scored or

IV. CLASSROOM INTERACTIONS AND APPROACHES TO LEARNING

25	**<u>Teacher engagement</u> throughout the observation**	1 Teacher has clear negative emotions and is: Irritated towards children **OR** Reluctant to be there **OR** Doing something without making much effort to do it well **OR** Ignoring children or leaves the room often	2 Teacher has neutral or disengaged emotions and is: Distracted **OR** Uninterested in children **OR** Shows no emotion – not positive or negative – when interacting with children	3 Teacher appears: To enjoy children and teaching sometimes (e.g., sometimes smiles, laughs, touches children in a positive way) **BUT** Other times teacher shows behaviours at levels 1 or 2 with some children or during some activities	4 Teacher appears: • To genuinely enjoy teaching; and shows physical and verbal affection most of the time • To smile, clap, comfort children, praise efforts, encourages
26	**Teacher**	1	2	3	4

	disciplinary strategies	Teacher uses: • Negative physical interactions with children to control child behavior (such as yelling, humiliating, purposely ignoring, or threatening)	Teacher uses: • Negative verbal interactions (threats, humiliation, shouting) with children to control child behavior **OR** • Does nothing to control behavior problems	Teacher: • Redirects children to using more appropriate behavior (for example, "sit down" or "use a quiet voice") **BUT** • Is inconsistent with redirection techniques (e.g., only uses with some situations or some	Teacher uses: • Positive techniques for guiding children's behavior consistently (explains reasons for rules, consistently applies rules) **AND** • Teacher consistently addresses
27	**Frequency of negative verbal or physical interactions. Teacher's use of negative physical or verbal interactions with a child(ren) during the observation**	1	2	3	4
		Frequently (5 or more times) Assessor may note which negative interactions were observed	Sometimes (3-4 times) Assessor may note which negative interactions were observed	Rarely (1-2 times) Assessor may note which negative interactions were observed	Never
28	**Child engagement** (a) Children are engaged	1	2	3	4
		Few children are engaged for most of the observation (e.g., paying attention, looking at the teacher, or focused on lesson	Some children are engaged for most of the observation (e.g., paying attention, looking at the teacher, or focused on the work)	Most of the children are engaged for most of the observation (e.g., paying attention, looking at the teacher, or focused on the	All children are engaged for most of the observation (e.g., paying attention, looking at the teacher, or focused on the
29	**Child engagement** (b) Children wait 10 minut				
		YES	NO		
30	**Groups**	1	2	3	4

	Grouping types include: • Whole group (entire class) • Small group	All learning activities are done in a whole group (entire class)	Two grouping types are used during the observation	Three grouping types are used during the observation	All four groupings are used throughout the observation
31	**Children are supervised (at least one adult is present in the room or**	1	2	3	4
		Children are left without an adult present in the classroom for more than 10 minutes	Children are left without an adult present for 5-10 minutes	Children are left without an adult present in the classroom for less than 5 minutes	Children are never left alone without an adult present
32	**Theme (i.e., within the topics of Social Studies, Environmental Science, Pre-Mathematics, Language and Literacy, and Expressive Arts)**	1	2	3	4
		Teacher: • Does not say anything about a theme and there are no materials reflecting a specific theme	Teacher: • Mentions information about the "theme" (examples: families, the market, body parts, animals, and plants) BUT • Does not talk with the children about the theme; and/or does not draw the children's attention to the theme during the activities observed	Teacher: • Engages children in the theme and provides ONE related activity (such as a book or art activity) OR • Makes connections to the theme for the children	Teacher: • Engages children in one activity related to the theme. Examples include: materials to make pictures of animals or to pretend to be an animal, book, or art activity related to a theme. AND • Encourages children to reflect on the theme and how the activities are connected to each other AND
3	**Individuali**	**1**	**2**	**3**	**4**

3	zed instruction	Teacher: • Shows NO awareness that some children have different needs and abilities Examples include: uses approach where all children do the same work and receive the same instruction and support; ignores child who struggles; and	Teacher: • Occasionally shows awareness of individual needs of children by checking for understanding of concepts and providing minimal individualized support	Teacher: • Notices when some children are having difficulty and gives help to some children (with or without specific requests for help) **OR** • Notices when some children are bored and engages them in other activities	Teacher: • Knows which children have difficulty and gives extra attention with enough help to support their participation and success (scaffolding) **AND** • Provides more challenging activities or questions to
3 4	**Teacher encourages equal participation of girls and boys**	1	2	3	4
		Teacher: • Encourages stereotypic activities For example: has only the girls weave and the	Teacher: • Calls upon or interacts with one gender more than another • Delegates certain activities for boys	Teacher: • Calls upon and interacts with some girls and boys equally	Teacher: • Encourages active participation of all children across all activities
3 5	**Diversity**	1	2	3	4
		Teacher provides: • Stereotypic materials or ideas about ethnic or religious groups OR • Negative information about ethnic or	Teacher provides: • No materials or discussion about community or religious groups	Teacher provides: • Some materials, such as books and music, or discussion so that children appreciate different community	Teacher provides: • Modeling respect for different people (by showing how they talk, celebrate, or worship) through

V. CLASSROOM ARRANGEMENT, SPACE, AND MATERIALS

		Yes	No
36	Each child has his/her own book/piece of paper for writing		
37	Teacher tracks children's development on a regular basis (ask for books and individual records to confirm children's learning progress)		
38	Classroom space is adequate for all attending children to do all indoor activities		
39	Lessons are conducted outside with no coverings (no roof or enclosure)		
40	All children have access to a writing surface (tables, desks, etc.)		
41	Children access materials that are organised into learning corners (book area, fantasy play, discovery area, educational toys, blocks, art area, etc.)		
42	School premises has adequate space for play and some equipment, such as locally-made equipment, for gross motor activities (see-saws, ladders, swings, etc.)		
43	Teacher uses local materials, pictures, or additional visuals to support the teaching and		

Do the children <u>engage</u> with the following materials? The list of materials for each type are examples only. Any materials used for activities, regardless of whether listed here, or whether purchased/made/found, can be counted)		No materials present	Materials present but children do not use them	Children use them
44	Writing tools (e.g.: pencils, pens, crayons, chalk)			
45	Art (e.g.: paper, crayons, markers, chalk, pencils, paints, clay, sand, scissors, tape, glue, stamps, sticks, grasses, natural materials)			
46A	Fantasy play or pretend corner (e.g.: dolls, stuffed animals, dress up clothes, masks, pretend foods, pots, and spoons)			
46B	Mattress for a resting area			
47	Blocks (e.g.: wooden or plastic blocks, interlocking pieces, construction blocks)			
48	Educational toys or math materials (e.g.: bottle tops, dice, water, large beads, stones, abacus, materials used for counting or sorting puzzles, or games)			
49	Storybooks (books with pictures and/or text, including those made by the teacher)			
50	Number of complete storybooks in the room by language For this question, storybook means a book that has pictures and/or text, is physically in the classroom, and is in the language of instruction and/or English.	Books in local language • None • 1-14 • 15-24	Books in English • None • 1-14 • 15-24 • 25+	

		• 25+	

VI. FACILITIES AND SAFETY

51	**Drinking water [ ] Check if water source is functional today**	1	2	3	4
		No water available in school. Water, if present, is brought in by parents or staff	Water available is: unprotected or unmaintained well/spring/pump, rain or surface water, such as streams, rivers, or ponds	Water available is: a water stand or water cart, water tanker truck, protected spring, working water pump, or bore hole	Sanitary water source: piped water, public tap, protected dug well, bore hole, working and maintained water pump, or bottled water
52	**Handwashing facilities**	1	2	3	4
		No handwashing station in school	Shared basin or bucket with no soap (handwashing is done in the water, water is not running or poured)	Hand poured water system with used water separate from water to clean hands **OR** running water or hand poured system **BUT** • No soap **OR** • Infrequent use of soap	Running water or hand poured system **AND** • Soap is available **OR** • Soap is used most times
53	**Handwashing practices**	1	2	3	4
		Children do not wash their hands	Some children wash their hands while others do not	Most of the children wash their hands with soap	All children wash their hands with soap. The teacher supervises and/or encourages handwashing
54	**Toilet facilities**	1	2	3	4
		No toilet facilities available	Toilet facilities are pit latrines	Toilets in the facilities can neutralize human waste or compact it to minimize bacteria and	Toilet facilities are flush- or pour-flush toilets
55	**Toilet**	1	2	3	4

	conditions • Toilets are clean and age-appropriate • Toilets are	No toilet facilities are present or no conditions are met	One condition is met	Two conditions are met	Three or four conditions are met
56	**Safety conditions** • Broken or uneven floors • Broken chairs or furniture • Sharp or rusting materials • Exposed nails	1 Five or more harmful conditions exist on the school grounds or in the classroom	2 Three or four harmful conditions exist on the school grounds or in the classroom	3 One or two harmful conditions exist on the school grounds or in the classroom	4 No harmful conditions exist on the school grounds or in the classroom

STOP

I	Have you completed Section II, Part A?	Yes / No If Yes, continue to VII. Teacher Questionnaire (Unscored)

VII. TEACHER QUESTIONNAIRE (UNSCORED)

- Ask the teacher to answer each question orally, as in an interview.
- DO NOT READ THE ANSWER OPTIONS TO THE TEACHER UNLESS THE INSTRUCTIONS INDICATE TO DO SO.
- Wait for the teacher to respond to each question, then select the answer that corresponds to his or her response.
- For most questions, only one response is permitted. The instructions indicate the exceptions.
- Note that all instructions to interviewer are in **bold letters.**

Read to teacher: This is a questionnaire that you are not required to answer. This is an unscored section and we will not collect nor report your personal information, such as your name. We will only report aggregate results and your responses will be kept confidential. Although your responses are not required, your responses can help us better understand ECE and inform ECE policy in Zambia.

•

	Date completed:_____/_____/ _____(month/day/year)	__/__/__(month/day/year)
1	What is your gender?	____ Female Male___ Refused/Skipped
2	What is your current age?	___ Years Refused/Skipped
3	How many years have you worked in this ECE class?	___Years Refused/Skipped
4	How many years have you been a teacher overall (for any grade)?	___Years Refused/Skipped
5	How many of those years have you taught pre-primary classes?	___Years Refused/Skipped
6	What is the highest educational level you have completed? (mark one)	• Grade 12 • Grade 9 • Certificate • Diploma • Bachelor's degree • Postgraduate diploma • Masters degree • Doctorate • Other (specify) • Refused/Skipped ___
7	If you have a degree, what was your degree in? (If you have multiple degrees – report on the degree most relevant for ECE).	• NA (no degree) • Pre-primary education/ECE • Primary education • Secondary Education • Other, specify: _____ • Refused/Skipped ___
8	Do you have a certification in early childhood education?	• No • Normal certificate • Grade A certificate • Diploma • Bachelor's Degree • Other, specify: _____ • Refused/Skipped ___
9	If NO, do you have any training in early childhood education?	• Yes (specify) • No • Refused/Skipped ___
10	What is your professional status?	• Professional teacher teaching only pre-primary/ECE • Professional teacher teaching pre-primary/ECE and a higher grade • Paraprofessional or assistant teacher

		(includes volunteer) • Other, specify: _____ • Refused/Skipped ___
11	Why did you become a pre-primary/ECE teacher? (Mark all that apply)	• Earn money • Help children • So my child could attend preschool • I like teaching young children • Nothing else to do • Teaching young children because it is simple and everybody can teach • Learn skills • Was teacher at other level, re-assigned to pre-primary • Other, specify: _____ • Refused/Skipped ___

		How strongly do you agree or disagree with the following statements:					
		Refused/Skipped	strongly disagree 1	Disagree 2	Neutral 3	Agree 4	strongly agree 5
12	I am satisfied with my						
13	I receive adequate support from my						
14	I am overwhelmed with the amount of work I						
15	I have adequate support and						
16	I feel the role of pre-						
17	I feel I have the training I need						
18	What do you plan for the next 1-5 years? (check all that apply) Plan to stay as pre-primary/ECE teacher Plan to work as teacher at other level Plan to go study pre-primary education Plan to go study something else Plan to do something else, specify: _____						
19	Overall, in your opinion, how well do you think the preprimary system is doing to help children learn and prepare for primary school? (check one) System does not prepare children System somewhat prepares children, but could be better System prepares children very well Refused/Skipped ___						

20	In the past 12 months, have you attended any in-service training?	• No • 4 days or less of training/workshops • 5 days or more of training/workshops • Other (specify) • Refused/Skipped ___
21	If YES, what were the main topics of these in-service training session(s)?	List here: Refused/Skipped ___
22	If YES, who conducted this training? (check all that apply)	• Ministry of General Education • USAID Let's Read project • VVOB • American Institutes for Research (AIR) • Save the Children • World Vision • University • Other (specify) • Don't know • Refused/Skipped ___
23	In which of the areas would you like more help in teaching advice or suggestions? (check all that apply)	• Classroom management • Record keeping • Teaching young children • Using curriculum • Assessing children's development • Other (specify): _____ • Refused/Skipped ___
24	Do you have a copy of the national curriculum?	• Yes • No
25	What is the main language of instruction in your classroom?	• Icibemba 1 • Cinyanja 2 • Chitonga 3 • Kiikaonde 4 • Luvale 5 • Silozi 6 • Lunda 7 • English 8 • Other (specify) 9 • Don't know/Refused 999 • Refused/Skipped ___
26	In the typical school day, estimate the number of hours you spend on the following:	• ___Teaching learners • ___ Involving children in playing activities • ___Preparing for lessons (including marking learners' work) • ___ Administrative work in school • ___ Other • Refused/Skipped ___
27	What kind of punishment do children	• Physical punishment

	receive when they misbehave? (select all that apply)	• Verbal reprimand • Removed from the class/time out • Redirected to an appropriate activity • Other (specify) • Refused/Skipped ___
28	Have you attended a workshop or training on child protection (for example, signs of neglect and abuse, teacher's code of conduct, etc.) in the last 12 months?	• Yes, a specific training on child protection • Yes, another training I attended covered this topic • No, I have not received any workshop or training on child protection • Other (specify) • Don't know • Refused/Skipped ___
29	How would you describe ECE enrollment in your class this year?	• There are too few ECE learners, we can accept more • There are the right amount of ECE learners in my class • There are too many learners in my ECE class and we cannot accept any more • Other (specify) • Refused/Skipped ___
30	How has the enrollment in ECE this year been compared to previous years?	• Less learners enrolled this year • About the same number of learners enrolled this year • Slightly more learners enrolled this year • Many more learners enrolled this year • Don't know • Other (specify) • Refused/Skipped ___
31a	Last year, did your school turn away any learners who wished to enroll in ECE due to over enrollment?	• Yes • No • Don't know/ no response • Other • If other, please specify • Refused/Skipped ___
31b	If yes, who in your school decides which learners can enroll in ECE and who cannot? (select one)	• Headteacher • Deputy headteacher • District-level MoGE staff • ECE teacher • Don't know • Other • If other, please specify • Refused/Skipped ___
31c	If yes (31a), how does your school decide which ECE learners to allow to enroll in the ECE class? (select one)	• The first children to show up are enrolled • Children whose parents are able to pay fees are allowed to enroll first • Children whose older siblings are in the school are allowed to enroll first • The school randomly chooses among all learners who can enroll • Other • If other, please specify

		• Refused/Skipped ___
32	In your school – what are the primary reasons some learners do not attend ECE prior to starting primary school? Please select the top 3.	• The school is very far from learners' homes • The ECE classroom was overcrowded • The learner was turned away by the school • Learners have to help their mom and dad at home • Learners do not want to go to school • Families do not have money to send their children to ECE • Don't know/ no response • Other • If other, specify • Refused/Skipped ___

GPS LOCATION

After finishing the classroom observation and teacher interview– please capture the GPS location of the school. In order to capture this, you must be outside of the school building. After collecting the GPS location, please make sure you press, "Save Geopoint.