IMPROVING SCHOOL READINESS IN INDONESIA WITH EMERGENT LITERACY AND MATH (ELM) SKILLS

Save the Children (SC) advocates for quality early childhood care and development (ECCD) programs around the world. With a global shift to improve the quality, and not simply the quantity, of education, SC has developed programs that focus on strengthening school readiness skills among 3-5 year old children in order that they may be better prepared for and succeed in the beginning years of school. In Indonesia, 7 programs focusing on improving ECCD have been implemented in 3 regions. This brief report discusses the effectiveness of such programs in the province of Belu.

PROGRAM BACKGROUND

Through the Strengthening Education through Awareness and Reading Achievement (SETARA) project, SC Indonesia has sought to improve pre-literacy attainment and school readiness of 4-6 year old students in Belu. This has been done through collaboration with 20 community-based ECCD centers, 10 within the capital township, Atambua, and 10 in the rural outskirts. SC has supported these centers over the last 3 years through two projects. SETARA began in July 2013 and has provided the centers with structural renovations, in the form of new buildings and playground equipment, and instructional support, through the training for teachers focused on topics like positive behavior management. Recently, one tutor from each center attended an Emergent Literacy and Math (ELM) interactive training led by SC staff, where they learned various strategies of incorporating ELM into daily classroom routines through joyful learning.

While this may vary, most centers operate 5 days a week and, on average, 3 hours per day. Every center is managed by a committee, school head, and at least 2 tutors, depending on the

ECCD Tutors participating in ELM training in Belu. Photo taken by Mei Yee Chew.

size of the center. The centers are also regularly monitored by 10 Master Trainers, who were selected by SC to assist in professional development and ongoing coaching for quality enhancement.

METHODOLOGY

The study involved a target and control group, both containing children who were registered to begin their first year of primary school for the upcoming term. The former included students who graduated from SC-supported ECCD centers and the latter included children who had not attended any ECCD program. A 22-item school readiness assessment called the International Development and Early Learning Assessment (IDELA), was used to document children's development in four domains: motor, literacy, numeracy, and socio-emotional. The Master Trainers conducted the assessment in July 2014 over 10 days, during the first week of school, in 20 ECCD centers and 7 primary schools that were identified based on their proximity to the ECCD centers.
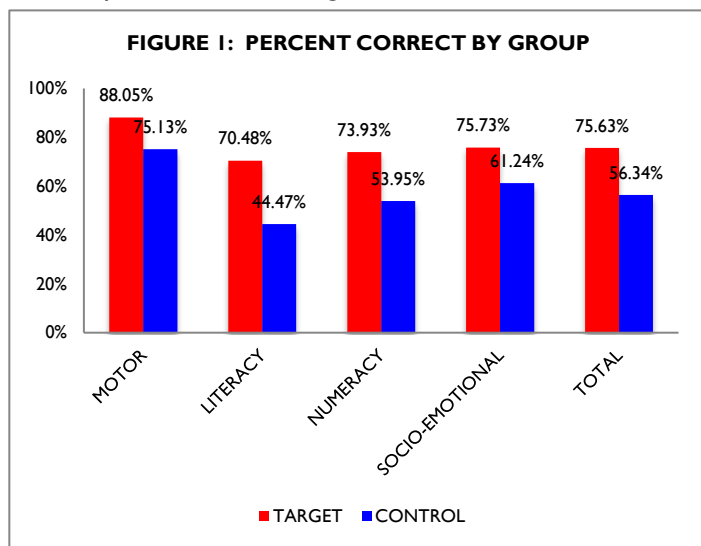
LEARNERS

Given that the total population of students graduating from ECCD centers was 292, the sample population of 148 was obtained based on the research advisors' sample calculator, with a 90% confidence interval and 0.05 margin of error. Also an effort was made to assess an equal number of boys and girls at each center as populations allowed. Based on this sample number, 65 male and 83 female students were randomly selected from the 20 SC-supported ECCD centers, whereby the number of students assessed from each center was based on the proportion of each center's total population. For the control group, primary schools were grouped to represent surrounding ECCD centers and the number students assessed in each school was half of the target group, bringing the total control group to be 83 students (41 male and 42 female). The average ages for the target and control groups were 6 and 7, respectively, and students in the target group received an average of 20 months of ECCD intervention.

RESULTS

1) ECCD Matters for Better School Readiness

The results indicated that the benefits of ECCD intervention are evident in all domains of child development, as seen in Figure 1.

FIGURE 1: PERCENT CORRECT BY GROUP

	TARGET	CONTROL
MOTOR	88.05%	75.13%
LITERACY	70.48%	44.47%
NUMERACY	73.93%	53.95%
SOCIO-EMOTIONAL	75.73%	61.24%
TOTAL	75.63%	56.34%

The largest gaps found were in the literacy and numeracy domains; thus, indicating that attending ECCD programs is most helpful in developing these areas of development. This was somewhat predictable because the results are in line with SC's focus on incorporating ELM instruction in the classrooms it supports.

Moreover, two-tailed T-Tests between the target and control groups showed significant differences for all items except those related to hopping, size and volume, addition and subtraction, and emotions (*p*<0.01). Such significance testing allows us to be confident that these differences exist in the larger population. This finding is promising and should be used to further advocate the benefits of structured ECCD programs.

ECCD Student during her graduation ceremony. Photo taken by Mei Yee Chew.

2) Programs have Room for Improvement

While the differences between groups were encouraging, the total averages for the literacy and numeracy domains sat rather low at the 70% mark. This indicates that there is room for improvement among the ECCD programs to further strengthen these areas. Additionally, the results indicated that the target group of students struggled especially in the following items, stated in Table 1.

Table 1: Items in which Target Scored Below 50%

Literacy		Numeracy	
Item	Average (%)	Item	Average (%)
Letters	53.92	Pattern	53.38
Vocabulary	57.85	Puzzle	52.84

For a better understanding of these averages, only 20% of the target group students were able to identify all 20 letters and only 16% were able to name 8 edible items that they saw at the market and 8 animals visible around their home. Additionally, 33% of the target group students were not able to connect any pieces of the 5-piece puzzle. Given that one of the purposes of the assessment was to gather useful information for better programming, these results will serve as a catalyst for program action going forward. Thus, SC should closely monitor the implementation of the recently dissemenated ELM strategies to ensure that students attending ECCD centers can be even more ready for school.

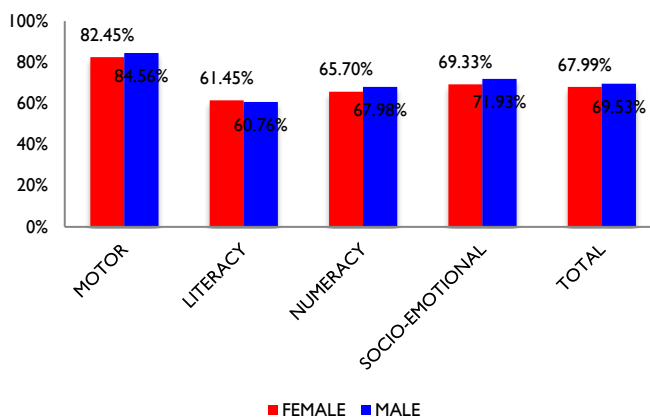*ECCD Students with new stationary. Photo taken by Mei Yee Chew.*

3) Gender Equity

When looking at the comparison between genders, the results indicated that gender equity exists in both the target and control groups. As seen in Figure 2, none of the differences between genders exceed 3%. Additionally, two-tailed T-Tests between genders showed no significance for any skill. This implied that children of both genders are receiving equal treatment and instruction in the ECCD centers and at home.
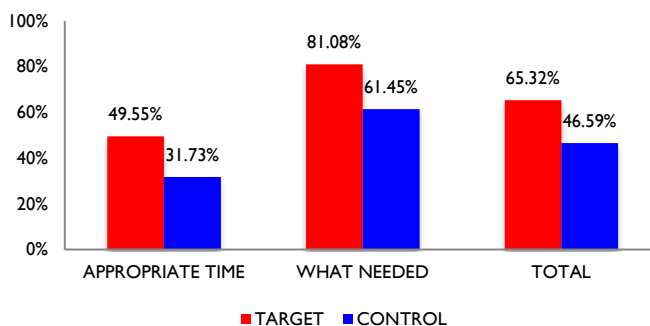

FIGURE 2: PERCENT CORRECT BY GENDER

4) Need to Improve Hand Washing Awareness

An additional component of the assessment involved children's awareness of the appropriate times and items needed to wash their hands. The results indicated that less than half of the target group and only 32% of the control group students were able to identify appropriate times to wash hands, as seen in Figure 3. While more students were able to identify that soap and water are essential to hand washing, ECCD centers should better emphasize proper hand washing practices.

FIGURE 3: HAND WASHING BY GROUP

CONCLUSION

Fundamentally, this study demonstrated the importance of emphasizing ECCD intervention in the early years of child development. It also showed that students struggle more in the literacy and numeracy domains. Consequently, SC should ensure that ECCD tutors are equipped with effective strategies that further develop students' ELM skills. While gender equity has clearly been achieved, greater emphasis should be placed on School Health and Nutrition programs to ensure good health and sanitation among students. Most importantly, the results showed that structured ECCD programs play a significant role in increasing school readiness in all domains.

FOR MORE INFORMATION

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