



ECCD PILOT REPORT NOVEMBER 2014

*Lauren Pisani, Senior Specialist, Education Research
Hend Torky, ECCD Coordinator*

Overview

I. Research questions

II. Sample

III. Tools

IV. Baseline skill scores

- Motor Development
- Emergent Numeracy
- Emergent Literacy
- Socio-emotional Development

V. Differences between groups

VI. Conclusion

I. Research questions

- What skills do children in center-based, urban (government supported) and home-based, rural (Save the Children supported) ECCD programs have at ages 4 and 5?
 - How do skills and development differ by children's age?
 - Where should future teacher training and community support for these programs focus?
 - Are there differences between the early skills and development of boys and girls?
 - Are there differences between the early skills and development of children in urban center-based and rural home-based ECCD centers?

II. Sample

444 predominantly four and five-year-old children in Assuit, Egypt

- 248 4-year-olds
- 167 5-year-olds
- 29 children aged 3 or 6 years

All children in this study are enrolled in early childhood development centers

- Save the Children's home-based program: 20 centers and 323 children
- Government support school-based program: 4 classrooms (2 schools) and 121 children

20 children were randomly chosen from each classroom

- 20 children were not available at some smaller centers so all children were assessed
- All children were given the opportunity to decline participation without penalty

Boys and girls were sample evenly

- 223 boys
- 221 girls

III. Tools used to measure outcomes

- IDELA (International Development and Early Learning Assessment) has 23 child-reported items covering 4 domains:
 - **Motor development:** 4 items
 - **Early numeracy:** 8 items
 - **Early literacy:** 6 items
 - **Socio-emotional development:** 5 items
- 2 additional items were added to learn more about children's working memory and executive functioning

IV. Motor skills scores, by age

Table I. Baseline Motor Development

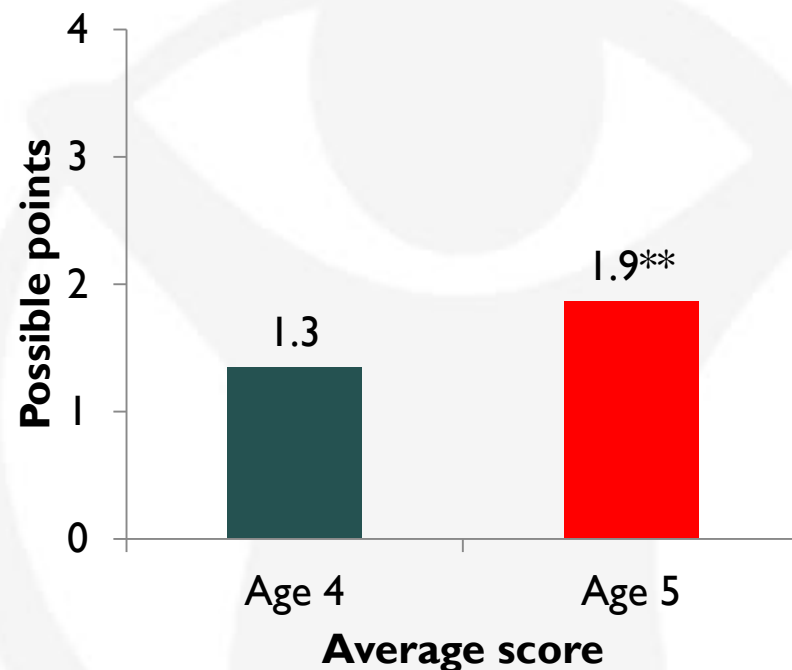
	Range	Age 4 (N=248)	Age 5 (N=167)	Total (N=415)	Significant difference 4 vs. 5-year-olds?
Hopping	0-10	4.6	5.7	5.0	*
Drawing a human	0-7	1.5	2.3	1.8	*
Folding	0-4	1.8	2.1	1.9	*
Copying a shape	0-1	0.2	0.4	0.3	**
Total Motor	0-4	1.3	1.9	1.6	**

*p < .05, **p < .01, ***p < .001

IV. Motor skills scores, by age

- On average, children completed an average of 1.6 out of 4 motor items correctly (38% correct)
- 5-year-old children scored significantly higher than 4-year-old children

Figure 1. Baseline motor development, by age



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

IV. Early numeracy skills scores, by age

Table 2. Baseline Early Numeracy

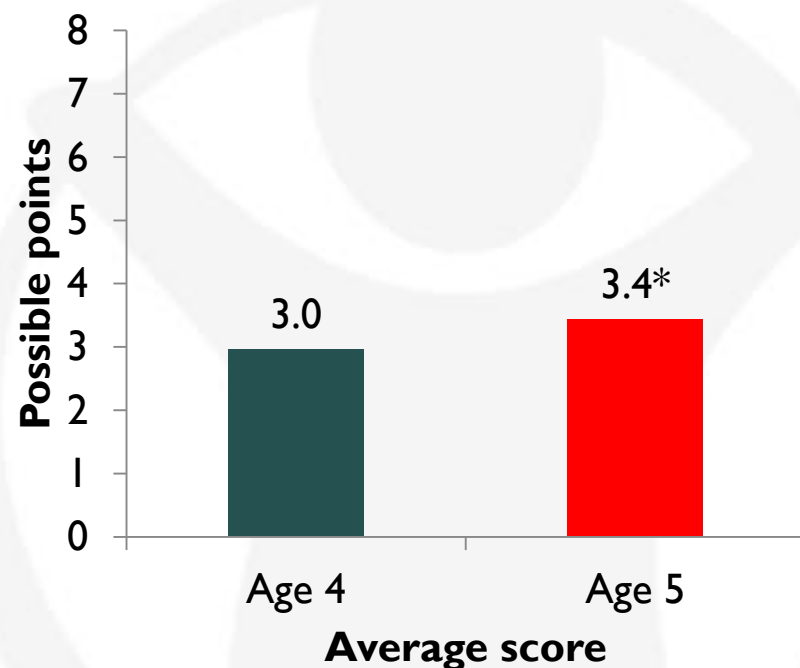
	Range	Age 4 (N=248)	Age 5 (N=167)	Total (N=415)	Significant difference 4 vs. 5-year-olds?
One to one correspondence	0-3	0.8	1.1	0.9	**
Shape ID	0-5	2.2	2.6	2.4	
Sorting	0-2	1.0	1.2	1.1	*
Size/length	0-4	3.4	3.5	3.4	
Simple operations	0-3	1.1	1.6	1.3	**
Number ID	0-20	1.7	2.9	2.2	**
Puzzle	0-3	0.3	0.4	0.3	
Pattern	0-1	0.3	0.3	0.3	
Total Early Numeracy	0-8	3.0	3.4	3.1	*

*p < .05, **p < .01, ***p < .001

IV. Early numeracy skills scores, by age

- On average, children answered an average of 3.1 out of 8 mathematics questions correctly (39% correct)
- 5-year-old children scored significantly higher than 4-year-old children

Figure 2. Baseline early numeracy, by age



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

IV. Early literacy skills scores, by age

Table 3. Baseline Early Literacy Skills

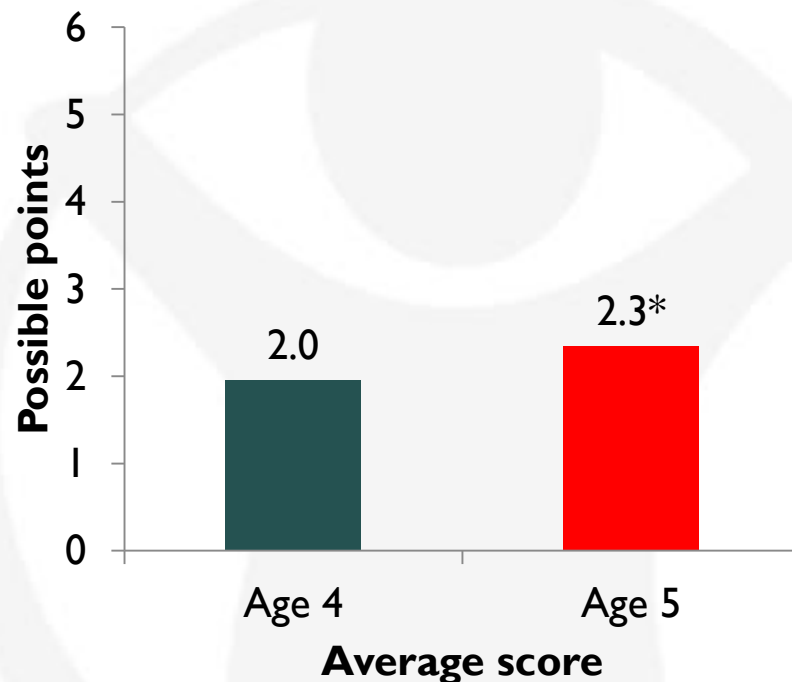
	Range	Age 4 (N=248)	Age 5 (N=167)	Total (N=415)	Significant difference 4 vs. 5-year-olds?
Phonemic awareness	0-3	1.0	1.1	1.0	
Oral comprehension	0-5	2.9	3.0	2.9	
Expressive vocabulary	0-16	4.8	5.6	5.1	
Letter ID	0-20	2.0	3.8	2.7	***
Print awareness	0-3	1.4	1.7	1.5	*
Writing level	0-4	0.8	1.1	0.9	**
Total Early Literacy	0-6	2.0	2.3	2.1	*

*p < .05, **p < .01, ***p < .001

IV. Early literacy skills scores, by age

- On average children had an average emergent literacy score of 2.1 out of 6 possible points (35 percent correct)
- 5-year-old children scored significantly higher than 4-year-old children

Figure 3. Baseline early literacy, by age



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

IV. Socio-emotional skills scores, by age

Table 4. Baseline Socio-emotional Development Skills

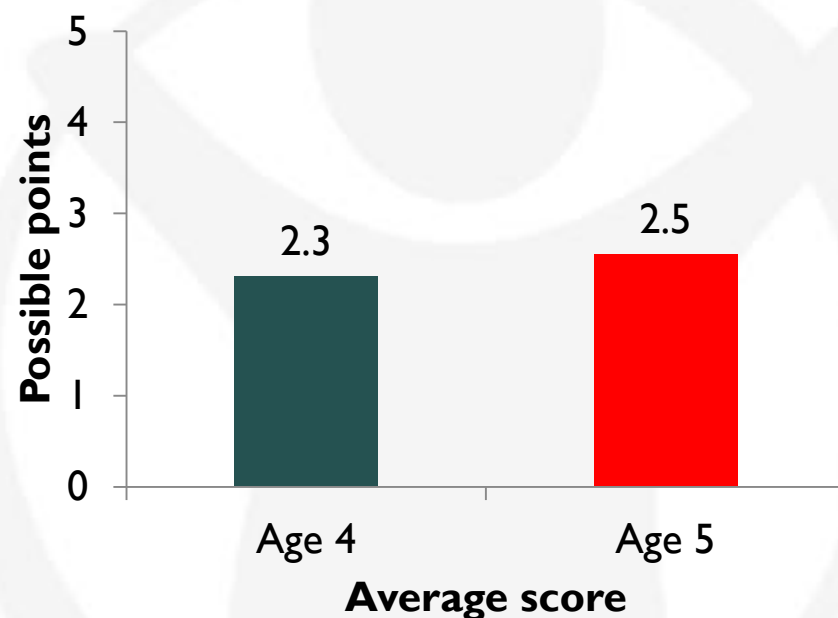
	Range	Age 4 (N=248)	Age 5 (N=167)	Total (N=415)	Significant difference 4 vs. 5-year-olds?
Empathy	0-3	1.4	1.7	1.5	*
Conflict resolution/ sharing	0-2	1.0	1.0	1.0	
Recognizing emotions	0-2	1.0	1.0	1.0	
Information about self	0-6	3.2	3.3	3.3	
Friends	0-8	2.6	3.3	2.9	**
Total Socio-emotional development	0-5	2.3	2.5	2.4	

*p < .05, **p < .01, ***p < .001

IV. Socio-emotional skills scores, by age

- On average children had an average emergent literacy score of 2.8 out of 5 possible points (48 percent correct)
- There were no differences between the overall scores of 4 and 5-year-olds

Figure 4. Baseline socio-emotional development, by age

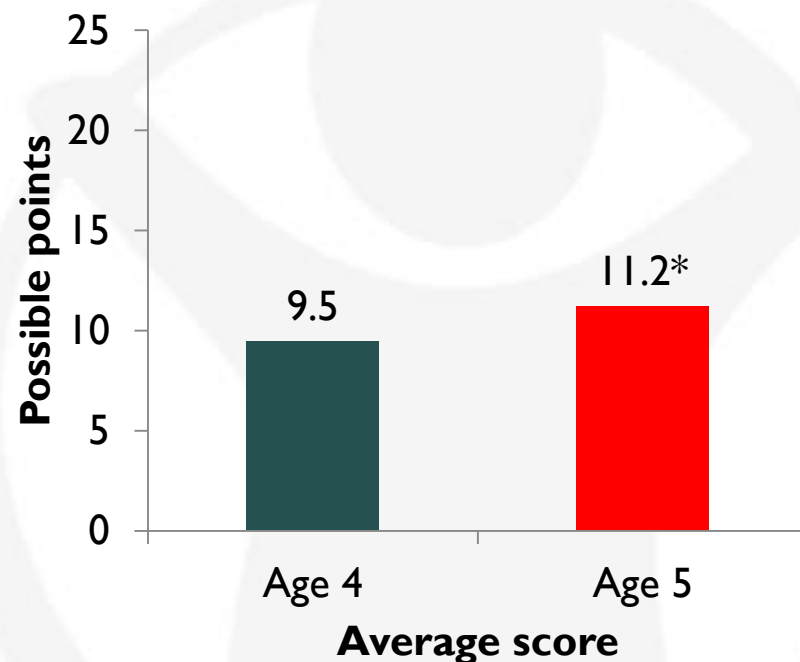


Note: * $p < .05$, ** $p < .01$, *** $p < .001$

IV. Overall IDELA score, by age

- On average children had an average IDELA score of 10 out of 25 possible points (40 percent correct)
- 5-year-old children scored significantly higher than 4-year-old children

Figure 5. Average overall IDELA score, by age



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

IV. Cognition items, by age and location

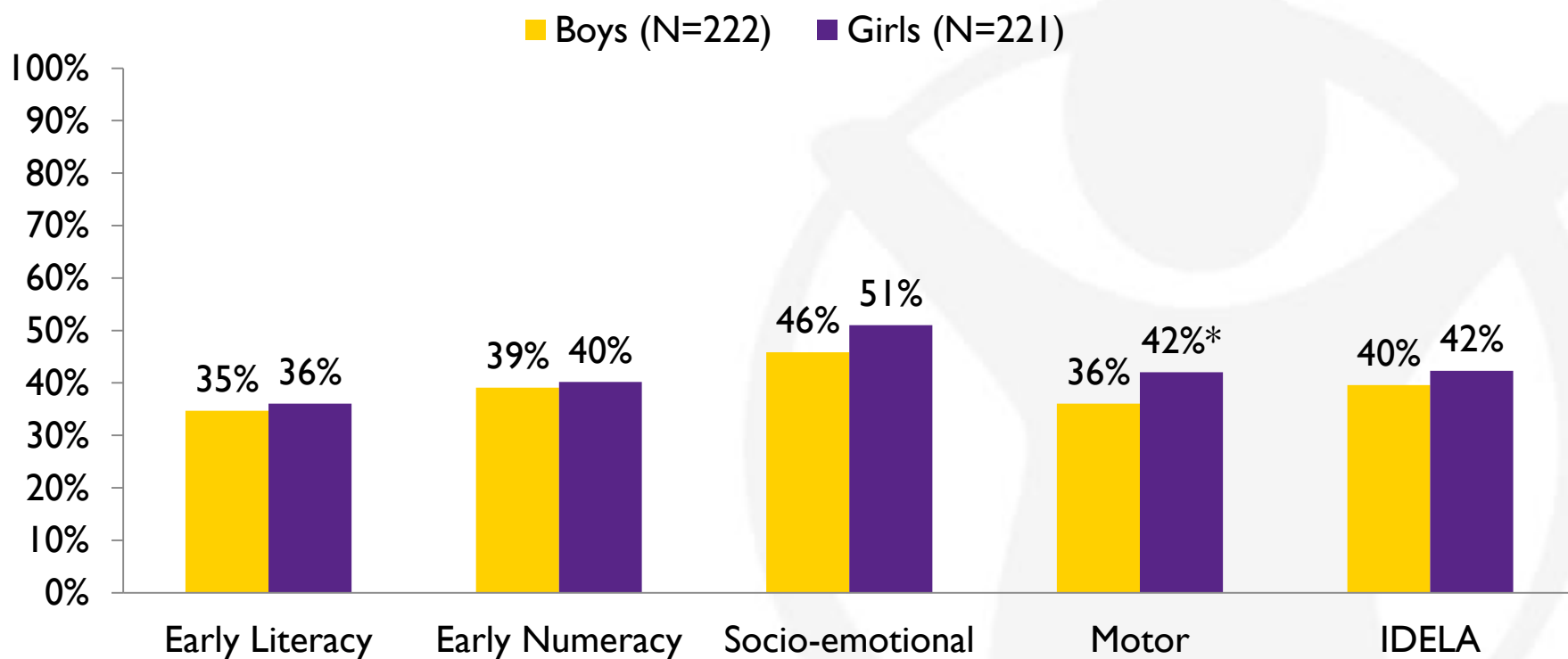
	Range	Age 4	Age 5	Difference	Rural	Urban	Difference	Boys	Girls	Difference
Working memory	0-4	2.2	2.5	*	2.2	2.6	***	2.3	2.4	
Attention/Regulation	0-10	3.2	4.2		3.4	4.6	***	3.7	3.7	

*p < .05, **p < .01, ***p < .001

- Skills like memory and attention lay the foundation for children to learn in school
- Both items significantly predict all subdomain scores as well as overall IDELA score (effect sizes .26 - .57)

V. IDELA scores, by gender

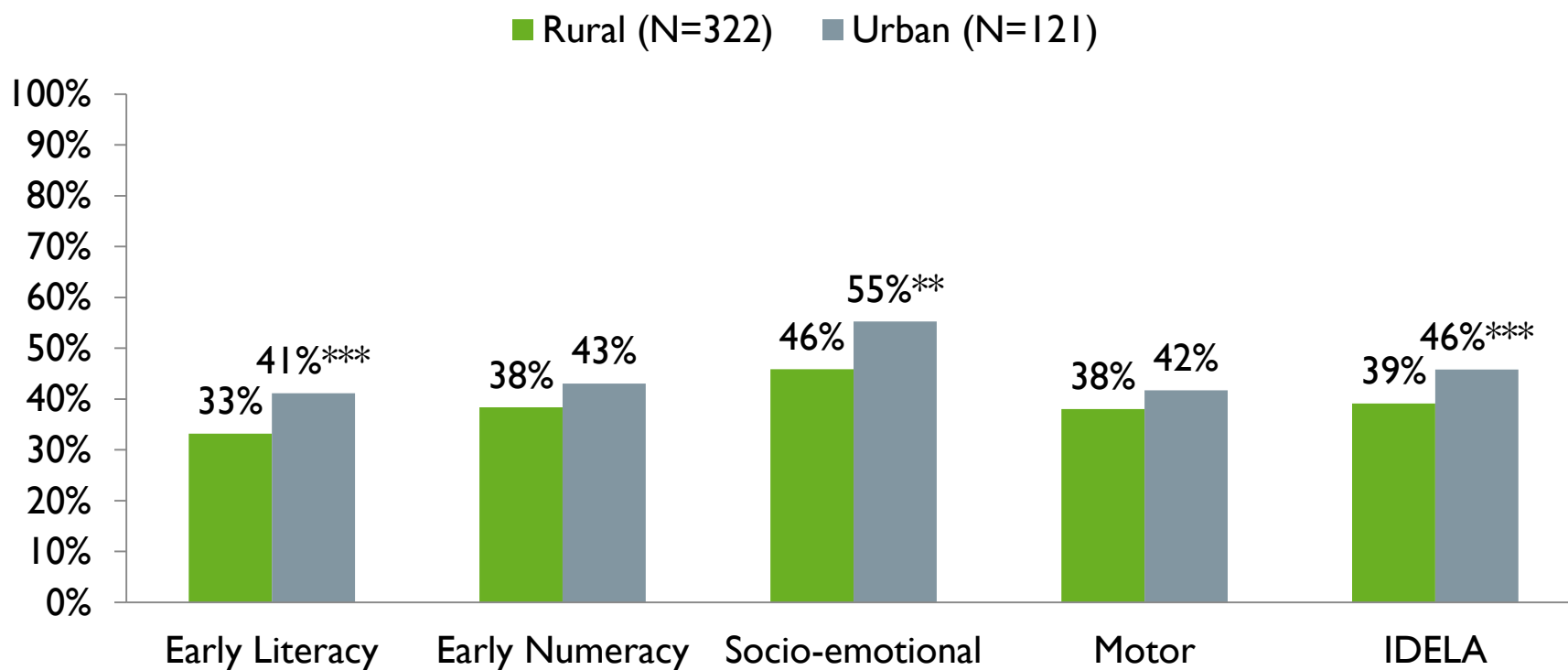
Figure 6. Average IDELA scores, by gender



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

V. IDELA scores, by location

Figure 7. Average IDELA scores, by location



Note: * $p < .05$, ** $p < .01$, *** $p < .001$

V. Conclusion and next steps

Conclusion

- In general, children are gaining skills with age as expected with the exception of socio-emotional development
 - Team could consider putting more emphasis on this development area in teacher training or community development work going forward
- Girls and boys have very similar early skills
- Children in urban school-based centers have more advanced early skills than children in rural home-based programs on 3 of 5 subtests
 - Discussion of expectations for programs in different areas, and implications for advocacy is warranted

Next steps

- Follow-up assessment with the same children will occur in April 2015 to investigate skill growth over the school year

Appendix A. Inter-rater reliability

Literacy Skill Sub-Test	Inter-rater Reliability	Rating
Hopping	0.99	Excellent
Print awareness	0.89	Excellent
Expressive vocabulary	0.94	Excellent
One to one correspondence	0.91	Excellent
Phonemic awareness (word pairs)	0.89	Excellent
Oral comprehension	0.94	Excellent
Drawing human figure	0.92	Excellent
Shape ID	0.91	Excellent
Sorting	0.85	Excellent
Size distinction	0.95	Excellent
Simple operations	0.93	Excellent
Puzzle	0.95	Excellent
Pattern	0.75	Good
Writing level	0.8	Excellent
Fold	0.95	Excellent
Copy triangle	0.84	Excellent
Friends	0.94	Excellent
Empathy for others	0.9	Excellent
Solving conflict	0.95	Excellent
Mixed instructions	0.96	Excellent
HSKT stop	0.33	Poor
Memory	0.97	Excellent
Recognizing self emotions	0.88	Excellent
Personal information	0.81	Excellent
Letter ID	0.82	Excellent
Number ID	0.7	Good
Persistence	0.63	Good
Observation	0.85	Excellent



www.savethechildren.org

Lauren Pisani

lpisani@savechildren.org