


National Early Grade Literacy and Numeracy Intervention Pilot



Performance Monitoring

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Overview

- 2012 National Survey (baseline)
 - EGRA and EGMA
- Intervention
- 2014 Survey (endline)
 - Findings
- Implementation variables
- Performance monitoring
- Lessons learned

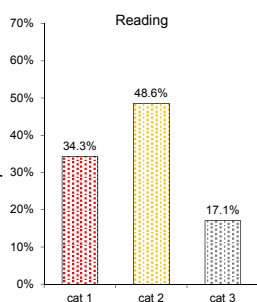


2012 National Survey (Baseline)

2012 Findings - Reading

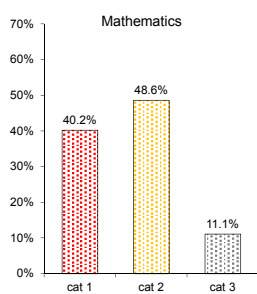
- **Reader**
Reading comprehension of at least 80% (category 3)
- **Emergent reader**
ORF greater than 0 cwpm and reading comprehension greater than 0 but less than 80% (category 2)
- **Non-reader/Beginning reader**
ORF greater than or equal to 0 cwpm and reading comprehension equal to 0% (category 1)



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2012 Findings - Mathematics

- **Mathematician**
Missing number and addition and subtraction level 2 both above 80% (category 3)
- **Emergent mathematician**
Missing number and addition and subtraction level 2 both above 30% (category 2)
- **Non-mathematician/Early mathematician**
Either missing number and/or addition and subtraction level 2 below 30% (category 1)

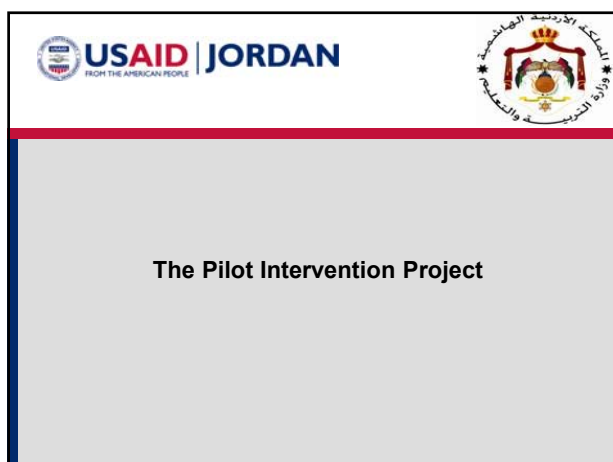


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Findings – Reading and Mathematics

- The majority of students were not reading with fluency and lacked strength in the foundational literacy skills normally taught in grade 1.
- Although students were quite comfortable with some of the more procedural mathematics skills, their conceptual understanding needed to be strengthened.
- Students were not getting sufficient instruction in foundational reading and mathematics skills—in foundational skills that research indicates are predictive of future success in reading and mathematics—with little hope of having this insufficiency addressed by their teachers or the curriculum

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Intervention – Description

- To develop a program that would support teachers in providing deliberate, structured, and developmentally appropriate daily practice in foundational skills for reading and mathematics.

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Mathematics

- Count
- Manipulate numbers
- Solve problems

Reading

- Letter sounds
- Phonemic awareness
- Writing
- Vocabulary
- Comprehension
- Writing

Intervention – Description

- The teacher's guide (teacher notes) for each subject was developed to provide teachers both with a pedagogical rationale for the teaching approach of the intervention and with guidance for how to conduct the activities associated with the different skills.



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Intervention – Description

- A set of daily lesson notes were developed for each grade. On each page, the skills to be included in the 15-minute routine are listed, as well as the activities to be used for each skill. Furthermore, details are provided for each activity with the letters or words, numbers, and problems, etc. to be used during the activity listed.



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Intervention – Description

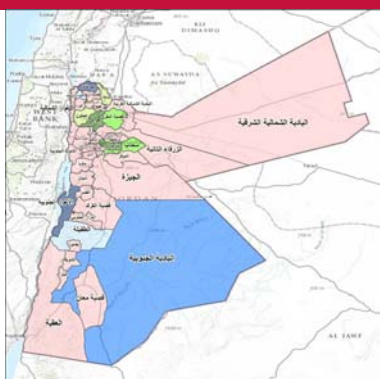
- Student workbooks for each subject and grade were developed. The workbooks engaged students in independent practice of the skills that the teacher had worked on with the class during the 15 minutes at the start of the lesson.



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Intervention – Description

- 12 Districts
- 20 Supervisors
- 45 Schools
- 347 Teachers
- 12,000 Students



Intervention – Description

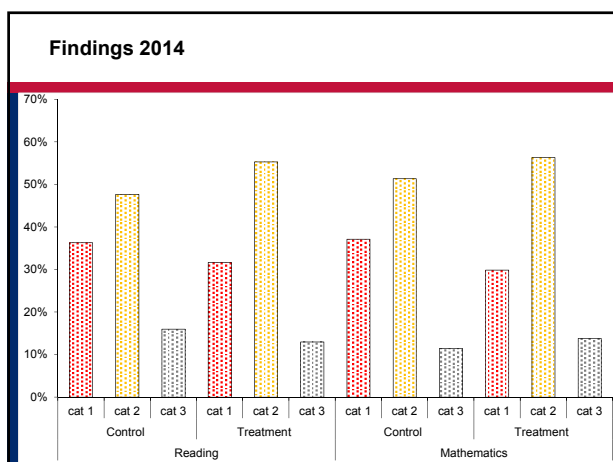
- Does daily practice of foundational skills through deliberate, structured, and developmentally appropriate activities support children to be able to read with comprehension and do mathematics with understanding?
- What are the conditions that help teachers to implement the daily routine and the associated activities with fidelity and confidence?

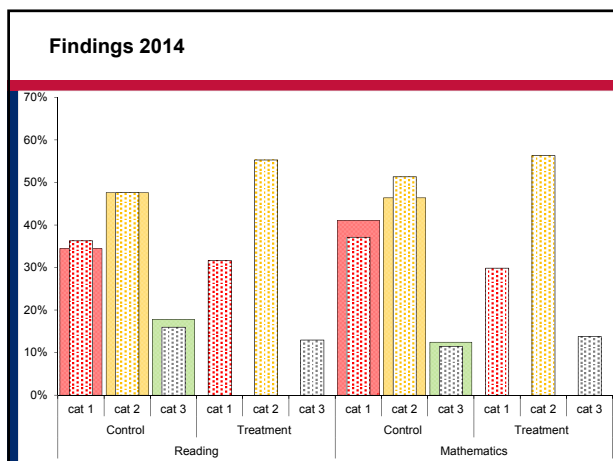


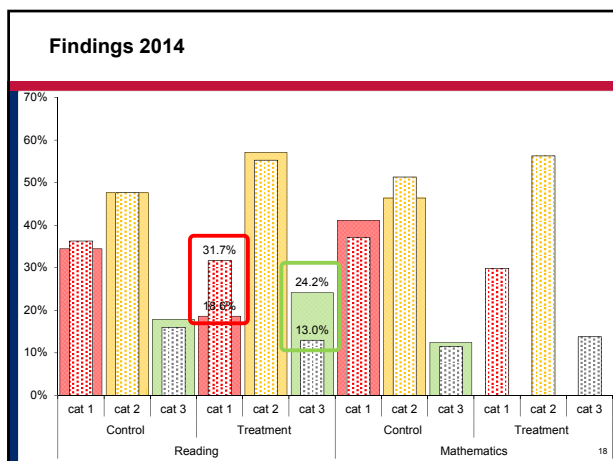
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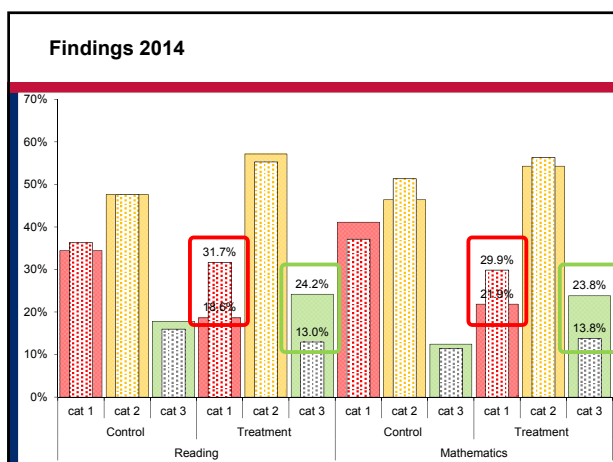


2014 National Survey (Endline)









Findings 2014

The intervention did exactly what it was intended to do:

While there were virtually no gains in control schools from 2012 to 2014, there were significant gains across treatment schools in terms of reducing the proportion of the lowest performers and increasing the proportion of the highest performers.

These results are extremely promising, particularly because the intervention was implemented for only one school year.

One of the districts in the South was among the top four performing intervention districts, both for reading and for mathematics, demonstrating that the intervention was also successful here.

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Implementation Variables

Implementation variables

- Factors that are associated with the top performing classrooms and districts.
 - Frequent supervisor visits
 - 93% of teachers with frequent supervisor visits were in top performing classrooms
 - Teacher use of the intervention materials
 - 69% of the teachers who followed the lesson notes and routines were in the top performing classrooms
 - Marking of student workbooks by teachers
 - 84% of teachers who marked all of the work in the student workbooks were in the top performing classrooms. None of the teachers who marked less than half or none of the work in the workbooks were in the top performing classrooms
 - Teachers following the participatory pedagogy of the intervention
 - 80% of teachers who monitored student understanding by asking for explanations were in the top performing classrooms. None of the teachers who asked no questions were in the top performing classrooms²²



Performance Monitoring

Classroom visit observation tool

National Reading and Mathematics Improvement – Supervisor Visit Report		المشرف على الزيارة: (الاسم واللقب) : _____	
INFORMATION TO SUPERVISOR			
<p>1. Complete the supervisor form once you arrive. You will have 30 minutes observed by each teacher. (30/3) Pages</p> <p>2. Supervise a classroom (30/3) reading and mathematics lesson from the classroom teacher. (30/3) Pages</p> <p>3. Note down the teacher notes after the report at the end of each visit.</p> <p>4. Please use the report to keep track of the progress of the school. Report the final report of the school and submit it to the principal.</p>			
Observation Schedule			
Question	Site response		
1. Supervisor visit?	Yes () No ()		
2. School ID# number	_____		
3. School type	_____		
4. Which grade did you observe to visit?	Grade 1: _____ Grade 2: _____ Grade 3: _____		
5. Which teacher did you observe to visit?	Teacher code: _____ Name: _____ Yes _____ No _____		
6. Did the visit take place as planned?	Yes _____ No _____		
7. If it was not, reason for the change and submit it to the principal (30/3)	_____		
Start time of the observation			
8. Start time of the observation (30/3)	Minutes: _____		
9. End time of the observation (30/3)	Minutes: _____		
What lesson did you observe?			
10. Complete a classroom lesson for reading and mathematics (30/3)	Reading: _____ Mathematics: _____		
11. How many boys and how many girls were present?	Boys: _____ Girls: _____		
12. How many boys and how many girls were absent?	Boys: _____ Girls: _____		
<p>13. Determine this from your plan sheet and class observation (30/3)</p> <p>14. _____</p>			

Classroom visit observation tool

11. What page from the lesson notes did the teacher follow? Page number: _____

12. How well did the teacher follow the lesson notes?

13. How well did the teacher monitor the students' understanding?
Teacher does not ask the students any questions. ☐ L
Teacher asks students questions, but questions are not used to check for the students' understanding (e.g. recall or repetition questions only). ☐ M
Teacher asks students questions to check for student understanding, but does not use the questions to check for student understanding. ☐ H

19. What proportion of the student's work in the workbooks has been marked by the teacher?
Base your response on your analysis of the same random sample of 4 to 8 workbooks used in question 18.

None (0%): ☐ H
Less than half (<50%): ☐ I
More than half (>50%): ☐ J
All (100%): ☐ K

15. Student participation: ☐ V
Students do not engage in discussions: ☐ W
Student engagement in discussion is limited to responding to questions asked by the teacher: ☐ X
Student engagement in discussion is limited to some students initiating questions: ☐ Y
Students make their own questions and defend them. Students use appropriate discussion patterns to agree or disagree: ☐ Z

Supervisor's signature: _____
Teacher's signature: _____
Date of observation: _____

Capturing the data

Step 1:
Complete
reportStep 2:
Submit report
by SMSStep 3:
SMS rerouted using
Pomegranate software
to Google Docs

Data is captured in a Google Docs spreadsheet

Jordan Supervisor Classroom Observations (Responses)

	A	B	C	D
	Timestamp	50940Q230	text	sent_or_received
1090	19/11/2014 08:42:55	+962788804171	09 114021 A 10 E H 34 M 1 05 01 15 Q U W A E I	received
1091	19/11/2014 09:54:05	+962795787019	03 112551 B 23 E H 30 M 1 06 05 15 R V Z D K	received
1092	19/11/2014 11:24:22	+962776389569	13 111864 B 24 E H RKG 07 06 15 R U W A E L	received
1093	19/11/2014 11:28:15	+962776389569	13 111864 B 25 E H RKG 07 07 15 R U W A E L	received
1094	19/11/2014 13:22:42	+962799520280	02 110529 C 30 E H 30 C 1 03 06 20 V R Z C K	received
1095	19/11/2014 13:24:46	+962799520280	02 110529 C 32 E H 34 F 1 02 04 25 P R Z D G I	received
1096	19/11/2014 13:25:20	+962799520280	02 110529 C 31 E H 34 F 1 02 04 25 P R Z D G I	received
1097	19/11/2014 13:27:01	+962799520280	02 110529 C 32 E H 30 F 1 03 05 25 V R Z C K	received
1098	19/11/2014 13:43:20	+962797636807	19 112844 C 31 E H 25 M 1 03 06 20 V R Z C K	received
1099	19/11/2014 13:48:10	+962797636807	19 112844 C 32 E H 27 M 04 06 15 V R Z C K	received
1100	19/11/2014 14:14:13	+96277256302	08 111194 B 20 E H 35 R 1 05 06 15 Q T X B E I	received
1101	19/11/2014 14:24:11	+962772262447	20 113987 A 11 E H 20 RKG 06 01 17 P T W A E I	received
1102	19/11/2014 14:56:42	+962772262447	20 113987 A 12 E H 21 RKG 04 01 16 R U W A E I	received
1103	19/11/2014 15:01:20	+962772262447	20 113987 A 12 E H 20 RKG 04 01 16 R U W A E I	received
1104	19/11/2014 15:25:43	+962777813740	04 110995 C 30 E H 30 M 1 05 04 16 R V Z D E L	received
1105	19/11/2014 15:36:50	+962795787019	03 112551 A 12 E H 27 M 1 06 01 15 R U W A E I	received
1106	19/11/2014 15:46:12	+962796602506	18 111553 A 10 E H 39 M 4 1 14 Q T Z D E I	received
1107	19/11/2014 15:48:38	+962796602506	18 111553 A 12 E H 43 M 3 1 19 R V Z C K	received
1108	19/11/2014 17:31:42	+962775387681	17 113944 C 32 E H 33 M 2 05 05 15 R V Z C E K	received
1109	19/11/2014 17:33:25	+962775387681	17 113944 C 31 E H 40 M 1 03 04 15 R V Y C E K	received
1110	19/11/2014 17:36:11	+962775387681	17 113944 B 23 E H 36 M 1 07 05 15 R V Z D E K	received
1111	19/11/2014 17:57:16	+962772262447	20 113987 A 10 E H 20 M 1 02 01 15 R U Z D E K	received
1112	19/11/2014 20:16:36	+962790895576	14 113943 A 14 E H 20 M 1 02 01 15 R U Z D E K	received
1113	19/11/2014 20:36:43	+962790895576	14 113943 A 15 E H 20 M 1 02 01 15 R U Z D E K	received

Data is transferred and cleaned

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
				C = 3 B = 2 A = 1		E = Yes D = No		G = Maths F = Read								H = K L = O P = R S = U			
id time	tel number	Supervisor code	School EMIS number	Grade	Teacher code	Did visit take place	Start time - hours	Start time - minutes	What lesson?	Days present	Days absent	Days on leave	Days with sick leave	Page number of workbooks	Lesson notes	How well teacher knows content	How well teacher understands	How well teacher monitors	How well teacher understands
29 00 11	9.627725+11	5	111446	A	102	E	8	50	G	21	0	0	0	18	147	K	N	R	U
29 00 13	9.627725+11	5	111446	A	103	E	9	10	F	20	0	1	0	19	146	K	N	R	U
29 00 16	9.627725+11	5	111446	B	201	E	8	40	G	20	0	3	0	20	145	K	O	R	T
29 00 18	9.627725+11	5	111446	B	202	E	9	0	G	22	0	1	0	19	149	J	N	R	U
29 00 20	9.627725+11	5	111446	B	203	E	9	20	F	20	0	2	0	20	148	K	N	R	U
29 00 22	9.627725+11	5	111446	C	301	E	9	30	G	16	0	1	0	15	143	K	N	R	T
29 00 24	9.627725+11	5	111446	C	302	E	9	50	F	22	0	1	0	20	142	K	O	R	U
29 00 26	9.627725+11	5	111430	A	101	E	13	5	G	0	37	0	6	35	151	K	O	Q	U
29 00 29	9.627725+11	5	111430	A	102	E	13	30	F	0	34	0	7	34	150	K	N	R	U
11 14 00	9.627995+11	20	112768	A	102	E	8	30	F	28	0	2	0	26	28	I	M	Q	S
11 14 01	9.627995+11	20	113766	A	102	E	8	30	F	28	0	2	0	26	28	I	M	Q	S
11 14 02	9.627995+11	20	113766	A	106	E	9	0	G	0	31	0	3	28	31	I	M	P	S
11 14 03	9.627995+11	20	113766	A	106	E	9	0	G	0	31	0	3	28	31	I	M	P	S
11 14 04	9.627995+11	20	113766	B	204	E	9	30	G	0	32	0	2	30	31	I	M	Q	S

Data is summarised and analyzed

Supervisor Number	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
1	1	10	5	4	9	8			10					9
2	9	4	7	15	9				9	6	9	8	1	10
3		10		10						20	10		20	
4			10	8					2	12			10	8
5	9				9				9	9			10	
6	6	7	3	5	8		4		5			3	11	6
7	15			14			10	4	19			1		
8	8	10		11	11		11	9		8	11			
9	8	6	9		10		5	4	8	4	4	4	8	
10		12	5		2		8		10				14	
11	7	6	8		5		8		10	6	14			1
12	18			8	4	3	5		5					
13		24	2	4			9	9		2	5			
14	9	7	8				10	7	10	24	7			
15	15	2	3	4	1		6	2	1	4	5	4		
16		2	3	3	7		5	5	3	4	4	3		
17				1										
18	14	10	6				16			5	8	4		
19	4		1	37				1						
20	29	12	8	5	5	5		8	11	2	3	2	2	
21														
22														
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24														
25														
26														
27														
28														
29														
30														
31														
Totals	9	120	131	95	104	73	15	108	114	55	64	111	81	

Possible uses of data

- Identifying supervisor visit frequency patterns for action:
 - Supervisors not visiting as frequently as expected
 - Schools and teachers not being visited as frequently as they should be
- Identify teachers in need of additional visits or support:
 - Teachers who are not on the expected page (i.e. not implementing with fidelity)
 - Teachers who are not marking the student workbooks
 - Teachers who are not using the pedagogical approaches of the project



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Lessons learned

Lessons Learned

- Data was less clean than we expected it to be and it involved a great deal of manual cleaning
 - Possible solution: Using USSD (Unstructured Supplementary Service Data)
 - USSD is a Global System for Mobile(GSM) communication technology that is used to send text between a mobile phone and an application program in the network

Lessons Learned

- Data was less clean than we expected it to be and it involved a great deal of manual cleaning
 - Possible solution: Using USSD (Unstructured Supplementary Service Data)

User types
*121*RAMP#
and sends

→

First screen
appears

Welcome to
RAMP cell
service.

Please enter
your user
number:

User enters
user number
and sends

→

Next screen
appears

What would
you like to do?

1) Report
test data

2) Report
visit data

User enters
response
and sends

→

Next screen
appears

Lessons Learned

- Data took longer to process than we expected and hence did not actually serve the purpose that it could have as fully as we may have liked
 - Possible solutions:
 1. Collect less data – easier to filter and analyse
 2. Develop automated data mining procedures to “automate” the analysis and report production (dashboards)

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Lessons Learned

- Everybody has a cellular telephone, so using this technology to collect data is fast, cost-effective and dynamic.
- USSD technology would also allow for customized responses based on the inputs of the user.

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