

MORPHOLOGICAL  
AWARENESS PILOT  
**FEASIBILITY STUDY  
QUALITATIVE REPORT-  
MIDLINE AND ENDLINE**



QUEEN RANIA  
FOUNDATION  
مؤسسة الملكة رانيا

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<b>DG</b>	Discussion Guide
<b>EGRA</b>	Early Grade Reading Assessment
<b>EMIS</b>	Education Management Information System
<b>FGD</b>	Focus Group Discussion
<b>HRD</b>	Human Resources and Development
<b>IEM</b>	Impact Evaluation and Monitoring
<b>KII</b>	Key Informant Interviews
<b>MoE</b>	Ministry of Education
<b>PISA</b>	Program for International Student Assessment
<b>QRF</b>	Queen Rania Foundation
<b>QRTA</b>	Queen Rania Teacher Academy
<b>RCT</b>	Randomized Control Trail
<b>ToC</b>	Theory of Change



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# EXECUTIVE SUMMARY

This report presents the qualitative midline and endline findings of the feasibility study for the Morphological Awareness pilot that was designed, implemented and evaluated by the Queen Rania Foundation (QRF), in partnership with the Queen Rania Teacher Academy (QRTA) and the Jordanian Ministry of Education (MoE). A team from QRTA and the MoE worked together to develop the content of the supplementary curriculum used in the pilot.

The main goal of this pilot was to improve students' Arabic language outcomes; mainly comprehension, through the explicit instruction of morphemes. The intervention trained teachers on how to explicitly teach their students on morphological rules in the Arabic language.

To evaluate the pilot, a mixed-methods approach consisting of assessments at baseline and endline, perception surveys, technical surveys, focus groups and class observations, was used. Two randomized control trials were conducted in 20 schools, and the pilot was implemented in 10 of those schools for one academic year (September 2017–May 2018).

The qualitative findings suggest that the hypotheses derived from the theory of change (ToC) do hold. Those hypotheses were:

- Deliver a successful training that would introduce and familiarize teachers with the pilot supplementary material and teaching approach.
- Teachers are comfortable to teach morphemes in class, because they are able to use explicit instruction of morphemes while leveraging the pilot content and material
- Students are more engaged in Arabic classes because the teacher is using the pilot teaching method and supplementary material to deliver explicit instructions of morphemes.
- Students being engaged in the class and able to solve the activities in the supplementary textbook would result in improving their morphological awareness.

While the final hypothesis assumed that improved awareness in morphemes rules among students would result in better text comprehension skills, which in return would improve their overall Arabic literacy level, the quantitative results showed that the pilot did not in fact improve the literacy outcomes of the students.<sup>[1]</sup>

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[1] The quantitative results are discussed in detail in a separate report titled *Morphological Awareness – Feasibility Study Quantitative Report*. Published by QRF in December 2019.



# INTRODUCTION

The Queen Rania Foundation for Education and Development (QRF) is running a series of pilots to explore what works to improve the literacy, numeracy and socioemotional learning outcomes of students in Jordan. One such pilot is the Morphological Awareness pilot, which was tested across a sample of 2<sup>nd</sup> to 5<sup>th</sup> grade classrooms, with an aim to increase literacy outcomes.

Two randomized control trials were conducted, each of which targeted ten schools. The first RCT targeted 2<sup>nd</sup> and 3<sup>rd</sup> grade students in low-fee private schools and the second RCT targeted 4<sup>th</sup> and 5<sup>th</sup> grade student in public schools. A mixed method approach was used to evaluate the impact of the pilot.



# *RATIONALE FOR THE* **MORPHOLOGICAL AWARENESS PILOT**

International assessments such as the Programme for International Student Assessment (PISA), Early Grade Reading Assessment (EGRA), and the Trends in International Mathematics and Science Study (TIMSS) have highlighted the low and declining achievement in reading and literacy for students in Jordan.

In response to the EGRA 2012 results that showed low levels of literacy achievement, the Ministry of Education moved towards a phonetic approach to teaching language in 2014 (i.e., the teaching of letter sounds). As such, the Jordanian education system became focused on teaching the Arabic language phonetically for the early grades.

However, research has shown that such an approach may not be the most effective for developing literacy; such that teaching phonemes (units of sound in a language) alone is not sufficient (Whitehurst & Lonigan, 1999). Teaching language phonetically can be effective in children's reading but not comprehension skills. A more effective approach to teaching language could be including explicit references to morphemes in instruction. Morphemes are the shortest components of language that have a meaning. Extensive international research investigating the influence of morphological awareness on literacy has reflected its importance in reading, vocabulary and comprehension skills in languages. Bowers et al. (2010) reviewed 22 such studies in their meta-analysis. The selected studies examined reading, spelling and vocabulary outcomes as a function of morphological awareness. The findings showed that morphological awareness and instruction positively influenced learners, young and old, and is highly beneficial for less able readers. Additionally, Kirby et al. (2012) found morphological awareness to be a significant predictor of several aspects of literacy, such as text reading speed and reading comprehension. Increases in vocabulary, spelling abilities, reading abilities, and comprehension have been found as a result of morphological instruction (Bowers et al., 2010; Carlisle, 2010; Kirk & Gillon, 2009).



Few studies have examined the influence of morphological awareness on language development in Arabic. Of those studies, Shalhoub-Awwad and Leikin (2016) have found that students' knowledge of root words was a predictor of children's vocabulary. Taha and Saiegh-Haddad (2016) additionally investigated the influence of two interventions, a phonological awareness intervention, and a morphological awareness intervention, on word spelling, in comparison to a control group. Results showed the interventions were both successful in promoting correct spelling and linguistic awareness. Additionally, the skills children use in reading Arabic were examined in a literature review (Al-Ghanem & Kearns, 2014). Morphological skills were examined in only three studies; but it was found that there was some evidence of association with word reading, especially for skilled readers.

Considering that Arabic is a morphologically rich language, and a reader can come across several unfamiliar words in a text due to the extensive inventory of affixes and clitics, introducing explicit morphological instruction in teaching could be greatly beneficial for comprehension. Currently, morphemes in the Arabic language are taught through pattern-recognition. Through this teaching approach, children are expected to deduce rules and grammar through sentences and sentence completion; such as, "The child runs > the child ran," "The child drinks > the child?" In that example, the student is expected to deduce the past tense of "drinks" and complete the sentence. No explicit reference is made to the meaning of the word "drinks". However, introducing explicit instruction of morphemes into teaching (i.e. making explicit reference to the meaning of root words, suffixes, and prefixes) may have extensive benefits towards improving children's literacy and comprehension skills in the Arabic language.

The Morphological Awareness pilot was designed to feed into the 'Modernization of the Basic and Secondary Curriculum' project, which is part of the National Human Resources and Development strategy (HRD) 2016 - 2025. The HRD strategy outlined the need to develop new curricula in line with international best practice. This pilot was intended to address the issue of low achievement in Arabic language literacy in the country, by creating supplementary textbooks that support the existing national curriculum.



# THE MORPHOLOGICAL AWARENESS PILOT

## BACKGROUND AND OBJECTIVES

SUMMARY	
Type of study	Feasibility study
Grade Range	Grades 2 - 5
Number of Schools	20
Number of Students	928 <sup>[2]</sup>
Type of intervention	Teacher training and provision of materials targeting the teaching of morphemes
Date of intervention	September 2017 - May 2018
Dosage of delivery	1 hour per week as part of the Arabic classes

The pilot entails a pedagogical intervention targeting the teaching of morphemes. The intervention trained teachers on how to explicitly teach their students morphemes, and morphological transformations and rules. Research has shown that an explicit approach may improve spelling, reading, vocabulary, and comprehension (Bowers et al., 2010; Carlisle, 2010; Kirk & Gillon, 2009). It is worth noting that all the existing research focusing specifically on explicit morphemes instruction in the English and Spanish language. The Arabic Morphemes language studies were correlational and did not assess explicit Morpheme instruction (Shalhoub-Awwad and Leikin, 2016). The pilot hypothesizes that training teachers to explicitly teach morphemes in 2<sup>nd</sup> to 5<sup>th</sup> grade classrooms will be beneficial to students' Arabic literacy development.

The overall objective of the pilot was to evaluate whether this learning method helps students increase their overall text comprehension, in addition to reading abilities for students in grades 2-3.

[2] Total number of students surveyed at endline.



## **PILOT COMPONENTS AND MATERIALS**

The content of the intervention was aligned with the national Arabic curriculum for grades 2-5; i.e., it followed the same levels, progression and lesson plans, but supplemented what was taught by introducing explicit instruction on morphemes. Dr. Abdullah Al Shdaifat<sup>[3]</sup> created the initial framework for the content, and gave general examples on morphological transformations and exercises. This framework was used to develop the content and materials.

The content was developed by a task force consisting of members of the Queen Rania Teacher's Academy (QRTA) and the Ministry of Education (MoE). The task force developed booklets for the teachers which guided them on what material to deliver to the students, giving examples on how to explain the content and included the morphological rules, student booklets which acted as supporting materials to the existing textbooks, and flashcards to be used in class. QRTA were also responsible for teacher training.

The explicit morphological instruction introduced was based on and aligned with the patterns the students are meant to solve in textbooks. Since all public and private schools in Jordan are required to follow the same curriculum, we envisioned this approach would be sustainable as teachers would be able to follow the supplementary material without diverting from their lesson plans.

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[3] Assistant Professor at the University on Jordan



# THE MORPHOLOGICAL AWARENESS PILOT'S **THEORY OF CHANGE** (TOC)

The design of the pilot was informed by a theory of change that illustrated how morphological awareness training for 2<sup>nd</sup> to 5<sup>th</sup> grade teachers could result in the desired impact on students' literacy outcomes. Figure 1 depicts the pilot's theory of change. The ToC was developed to identify key hypotheses associated with the ToC and the core areas to probe in the qualitative section of the study. The ToC allowed the setting of indicators to evaluate the outcomes of the pilot.

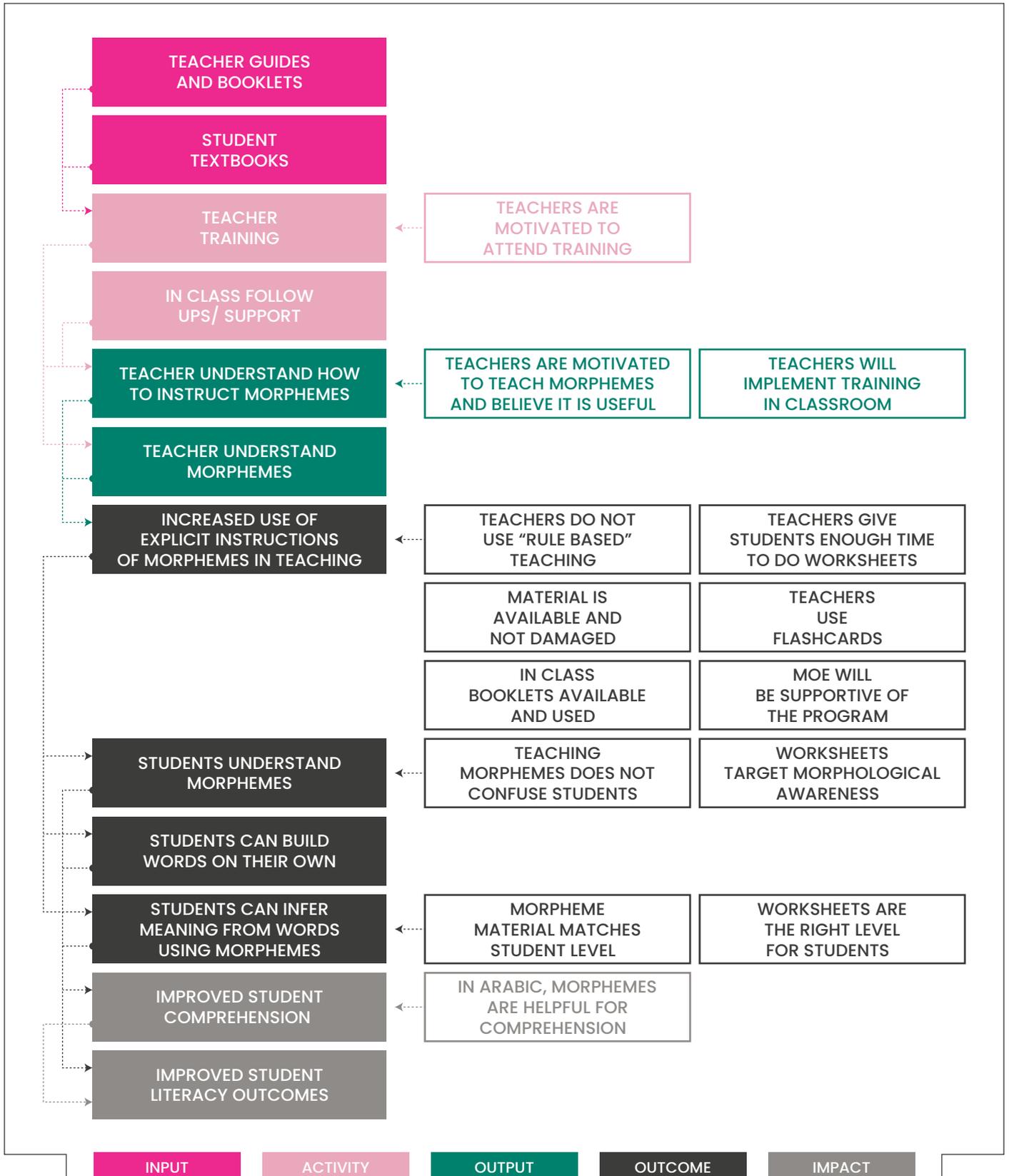
## **KEY EVALUATION HYPOTHESES**

- **HYPOTHESIS ONE:** The training will provide teachers with a clear understanding of morpheme rules, how to develop their teaching methods, and how to use the supplementary material (booklets and flashcards). This was expected to result in teachers being able to instruct on morphemes explicitly.
- **HYPOTHESIS TWO:** If teachers can use explicit instruction of morphemes while leveraging the pilot content and material, they will be more confident and motivated to teach morphemes explicitly in the class.
- **HYPOTHESIS THREE:** If teachers use explicit instruction of morphemes using the new teaching method and supplementary material, students will be more engaged and interested in Arabic lessons.
- **HYPOTHESIS FOUR:** If students are engaged in the class and able to solve the activities in the supplementary textbook, their morphological awareness will improve.
- **HYPOTHESIS FIVE:** If the students' morphological awareness improves, their text comprehension skills will improve. This was believed to improve the students' overall literacy level.



**FIGURE 1: MORPHOLOGICAL AWARENESS TOC**

Context: Teachers are incentivized to finish curriculum and not focus on learning



# EVALUATION METHOD

## EVALUATION METHOD OVERVIEW

The overall aim of this feasibility study was to answer the questions:

### **EVIDENCE OF PROMISE**

To what extent does it appear that the theory of change of the intervention holds in this context?

### **FEASIBILITY**

Can the morphemes awareness pilot be implemented as intended in the Jordanian context?

### **SCALABILITY**

Is the intervention scalable?

To do so, a mixed method approach was used. Quantitative and qualitative tools were used to collect data from school teachers and students to test all the components in the theory of change and answer all the core areas probed in the evaluation matrix.

Two randomized control trials (RCT) were conducted; each targeted ten schools in Amman. The first RCT targeted 2<sup>nd</sup> and 3<sup>rd</sup> grade students in low-fee private schools <sup>[4]</sup>, and the second RCT targeted 4<sup>th</sup> and 5<sup>th</sup> grade student in public schools. Each RCT had five treatment and five control schools of similar characteristics. The characteristics included: gender, location within Amman, number of students per class.

Both treatment and control schools followed the national curriculum; however, treatment school teachers were given a teacher booklet that included new ways to teach Arabic morphemes, and were trained on how to use the suggested approaches. Additionally, students were supplied with exercise booklets to scaffold their learning. By conducting pre and post surveys for both groups, we were able to measure the impact of the pilot on the students' learning outcomes and attitudes on the new method of learning.

Both quantitative and qualitative data were collected for the evaluation. EGRA was used to assess 2<sup>nd</sup> and 3<sup>rd</sup> grade students and tests developed by the MoE were used to test 4<sup>th</sup> and 5<sup>th</sup> grade students. Additionally, a perception and technical survey on morphemes were administered to all grade levels. Focus groups were conducted with the treatment school teachers at midline and endline to solicit their opinions and feedback on the design, training, content, and implementation of the pilot. QRF's implementation unit visited each school twice per semester and filled out a follow-up sheet, which has information on the implementation. QRTA conducted follow-up visits with the schools to provide technical support.

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[4] Due to the implementation of the Reading and Math Project (RAMP) in grades 1-3 across all public schools in Jordan, the QRF pilot was implemented in low-fee private schools for Grade 2 and 3.



## **SCHOOL AND TEACHER SELECTION CRITERIA**

A total of 20 schools were selected to be part of the pilot. To avoid intervention spill-over, control and treatment classrooms for the same grade level were chosen from different schools. The schools were selected randomly based on the following criteria:

- All schools should be located in Amman and have more than 20 students in the target grade.
- Ten mixed gender, low fee private schools for grades 2 and 3.
- Ten public schools for grades 4 and 5, six of which were female schools, and four were male schools.

Schools were randomly assigned to a treatment. Each school principal was responsible for nominating two teachers, one from each grade to be part of the pilot. The principals chose the teachers based on their level of engagement and their availability as some teachers may have not been available due to prior commitments

## **EVALUATION TIMELINE**

This pilot ran throughout the 2017–2018 academic year. A baseline survey was administered in September 2017, at the beginning of the academic year, to benchmark where the students are at prior to the pilot commencement (in terms of student levels of text comprehension and morphemes understanding). Focus groups with teachers were conducted at the end of each semester (December and May) to gain qualitative information about the pilot (midline and endline). The endline survey was administered at the end of the year to measure student abilities.



# DATA COLLECTION TOOLS, SAMPLE DESIGN AND QUALITATIVE OBJECTIVES

The following sections describe the qualitative component of the evaluation including the data collection methodology, sample design and objectives.

## DATA COLLECTION TOOLS AND SAMPLE DESIGN

### FOCUS GROUP DISCUSSIONS

The IEM team at QRF conducted a total of 4 FGDs with the treatment school teachers as illustrated in Table 1; two focus groups were conducted at midline and two at endline with the public and private treatment school teachers.

Phase	FGD Profile	Sample Size	FGD Size	Fieldwork Dates
Midline	2 <sup>nd</sup> – 3 <sup>rd</sup> grade teachers from low fee private schools	1 FGD	A total of 10 teachers; 2 teachers per treatment school	20 <sup>th</sup> & 21 <sup>st</sup> Dec 2017
	4 <sup>th</sup> – 5 <sup>th</sup> grade public school teachers	1 FGD	A total of 10 teachers; 2 teachers per treatment school	
Endline	2 <sup>nd</sup> – 3 <sup>rd</sup> grade teachers from low fee private schools	1 FGD	A total of 10 teachers; 2 teachers per treatment school	9 <sup>th</sup> May 2018
	4 <sup>th</sup> – 5 <sup>th</sup> grade public school teachers	1 FGD	A total of 10 teachers; 2 teachers per treatment school	

The targeted number of participants per FGD was 8 – 10 teachers with the aim of interviewing the same teachers at midline and endline.



Discussion guides (DG) developed by QRF's IEM team were used by QRF moderators for the FGDs (in midline and endline). Four key informant interviews (KIIs) were used to test the DGs prior to its implementation, and inform the final version used at midline and endline FGDs.

Each FGD was conducted in Arabic, ran for one hour and was audio recorded. IEM evaluators then transcribed the FGDs in English.

## ***IN-CLASS OBSERVATIONS***

The qualitative component of the pilot also analyzed the 40 in-class observations conducted by the QRF Implementation Unit to the treatment group schools. Each treatment school was visited twice per semester of pilot implementation. Two visits were required for each school in order to have at least 1 visit per grade participating from each school.

The overall aim of the In-class observations was to observe the participating teachers teaching an Arabic class (specifically to observe explicit instruction of morphemes). This helped the Implementation team at QRF assess the teachers' ability to implement the new teaching approach, and their adherence to the instructions outlined in the supplementary material. The visits also aimed to understand the challenges teachers faced while implementing the new teaching approach. Observation sheets were used to record observations by the Implementation Unit member during the observations, which were used for analysis and reporting.

## ***OBJECTIVES, DATA ANALYSIS AND REPORTING***

The evaluation sought to test if the ToC held in practice by answering the Key Evaluation Hypotheses derived from the ToC. All data collected from FGDs and in-class observations were grouped and analyzed into the following areas answering the Key Evaluation Hypotheses (as outlined earlier in the Theory of Change section):

- Teachers' reactions to the teacher training
- Teachers' reactions to the explicit morpheme instruction teaching approach
- Teachers' reaction on how the pilot impacted the students' behavior, attitude and performance in Arabic
- Teachers' reactions to the supplementary booklets
- Teachers' reactions to the follow-up visits



# FINDINGS AND RESULTS

## TEACHERS TRAINING

One of the main components of the pilot design was delivering thorough and comprehensive training for teachers on how to explicitly give instructions on morphemes, and apply the techniques used in the supplementary material of the pilot.

In the below sections, the qualitative findings surrounding the teachers' engagement with the training and comprehension of the training content are explored. Further, we look into teachers' reactions towards the training logistics (timing, schedule, etc.) and overall suggested improvements for the training.

## TEACHERS' ENGAGEMENT IN THE TRAINING

Overall, responses at midline reflected huge positivity towards the training. Teachers who attended the training highlighted how engaging the training was in terms of trainers' presentation style and approach, exercises held, trainers' knowledge and the reasonable number of trainees partaking in the training (the treatment school teachers).

Some participants described the training to be different from other trainings they have attended because it provided engaging exercises that were practical and hands-on. Endline responses corroborated the feedback provided at midline by participants, as the same level of positivity towards the training was registered.



... liked that it was an interactive training with practical exercises... made us understand everything clearly and implement it correctly in class.

~ 2<sup>nd</sup> - 3<sup>rd</sup> Grade Private School Teachers FGD - Endline

Other teacher's training implements a teacher's lead instruction teaching method, which is not very effective. This is more engaging, no barriers between us and the trainers.

~ 4<sup>th</sup> - 5<sup>th</sup> Grade Public School Teachers FGD - Endline



At midline and endline, teachers emphasized how the training followed an unconventional approach where trainers engaged participants in discussions followed by group exercises, rather than giving trainer's lead instruction through a lecture/presentation style. The approach followed in the pilot enhanced their engagement and attentiveness with the training.

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The training itself is interactive and practical. Unlike previous trainings where the trainer just cared about presenting what they have and leaving.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Midline



Teachers also highlighted that this training approach was a learning process, as they could apply similar approaches with their students in their own classrooms to increase engagement.

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For me this was a good example of great teaching that taught me a lot, and gave me a guiding on how I should be teaching.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline



## **COMPREHENSION OF THE TRAINING CONTENT**

Teachers understood the training content, materials, teaching, etc. This can partly be attributed to the aforementioned elements regarding teachers' engagement in the training which let better understanding of how to teach morphemes explicitly. Considering the majority of feedback regarding the content, material and training methods was positive, it is safe to conclude that the teachers did not face issues with understanding the training content. This was further confirmed during the in-class observations, where no major issues were observed with the teachers' ability to instruct on morphemes explicitly in the classroom and apply the supplementary curriculum lessons comfortably.





In this training, they provided us with the tools, techniques, required knowledge and skills to apply what we are learning. Other trainings don't provide that.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline

They trained us on how to conduct the activities and allowed us to try them so we know how to implement them in class.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Endline



However, during one of the in-class observation visits to a public school, the teachers for each of the participating grades highlighted the need for further explanation on one of the lessons from the booklet ( الميزان الصرفي ), and requested the presence of a QRTA trainer when they gave the lesson, believing this would provide the required support to deliver the lesson correctly.

## TRAINING LOGISTICS

The duration of the teachers' training was tailored to the length of the supplementary curriculum lessons, materials and activities. For the 2<sup>nd</sup> and 3<sup>rd</sup> grade teachers, a two-day training (eight hours per day) was conducted. The 4<sup>th</sup> and 5<sup>th</sup> grade teachers had a three-day training (six hours per day), because they required additional time due to the additional lessons designed for those grades. The 2<sup>nd</sup> and 3<sup>rd</sup> grade teacher training took place on a weekend, while the 4<sup>th</sup> – 5<sup>th</sup> grade teacher training took place on working days after school hours.

### TIMING

The majority of teachers preferred that future trainings are not held after school hours, as teachers perceive it as their "personal time" and does not motivate them to attend. Future trainings should be held during regular working hours.

### DURATION

Teachers expressed their satisfaction with the current training duration because it allowed enough time to cover all the lessons and exercises thoroughly. Teachers highlighted that if the training was held for a longer duration then it might influence their interest and engagement levels.

Few of the 2<sup>nd</sup> – 3<sup>rd</sup> grade teachers mentioned during the FGDs that a training scheduled for a longer number of days, in exchange for less hours a daily would have been more suitable. They suggested this would allow time to reflect on the material to come up with questions and clarifications. Furthermore, it allow them enough time to manage other life commitments.

### LOCATION/DISTANCE TRAVELLED

Commuting long distances to attend the training was not ideal for some respondents, suggesting that it was as inefficient and tiring.



### **SUGGESTED IMPROVEMENTS**

During midline and endline FGDs there was a clear interest among 2<sup>nd</sup> – 3<sup>rd</sup> grade private school teachers in holding a session in which teachers shared their experiences implementing the pilot, where teachers can discuss the type of challenges they have faced and how they tackled them.

At midline, some 2<sup>nd</sup> – 3<sup>rd</sup> grade private school teachers also suggested they would benefit from a second teacher training before the start of 2<sup>nd</sup> semester. They suggested the training cover the 2<sup>nd</sup> semester's supplementary curriculum and allow room for discussion to share experiences from the 1<sup>st</sup> semester.

4<sup>th</sup> – 5<sup>th</sup> grade public schools teachers mentioned that providing them with the pilot material (booklets and flashcards) before the training would allow them time to prepare for any clarifications and questions they might have. Teachers' believed this will reduce any mistakes or errors by the teachers while applying the lessons in the class.

## **EXPLICIT MORPHEME TEACHING METHODOLOGY**

The ToC suggested that the teachers' comprehension of the new material and their application of the new teaching approach would result their ability to deliver the supplementary material and give explicit instruction on morphemes comfortably.

### **COMPREHENSION OF EXPLICIT MORPHEME TEACHING METHODOLOGY**

The training aimed at making sure teachers clearly understood the supplementary material covering explicit morpheme instruction and how to teach it in class. Teachers did not highlight any major challenges with understanding and implementing the supplementary material.

Few teachers highlighted certain difficulties faced with understanding and implementing specific lessons (i.e. those highlighted by some teachers in the follow-ups). However, the FGDs showed that the overarching concept behind teaching the supplementary material through the activities and exercises approach seemed to be clear and appreciated.

The in-class observations conducted by QRF's Implementation unit confirmed that there were no major issues when it came to comprehending the pilot's supplementary material and that was proved by the teachers' ability to implement the lessons in class with minimal support. Observations during in-class visits showed that the teachers also seemed confident and comfortable while giving the lesson.



Now I am able to build my own material and worksheets because I understand how to teach it in class.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Endline



## **VALUE ASSOCIATED WITH MORPHOLOGICAL AWARENESS**

In order for the pilot to have succeeded, it was essential for teachers to see an added value from the pilot's supplementary material and teaching approach. Since they were delivering the lessons, their engagement in class with the students was extremely important.

FGDs findings suggested that teachers saw clear value in the pilot, with regard to their professional skill development and in-class environment. Teachers highlighted how the pilot taught them a new and effective instructional approach, and aided them in overcoming issues with communication and engagement with their students (i.e. students were not shy to ask and discuss lessons, students participated more, etc.).



In the past, it was teacher's leading instruction teaching approach and focused on grammar, while avoiding morphemes. This is more beneficial because its interactive and engaging, also teaches morphemes in an easier manner.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



Teachers expressed how the supplementary material and teaching approach were very unconventional, yet effective because they were in the form of group exercises and activity-based. When compared to the MoE curriculum, the teaching method suggested in the pilot training was seen as a move away from traditional teaching approaches (teacher's lead instruction teaching).

## **IMPACT OF THE PILOT ON STUDENTS' BEHAVIOR, ATTITUDE AND PERFORMANCE**

The ToC hypothesis suggested if students are engaged in the class and are able to solve the booklet activities, then their morphological awareness will develop. It was important to understand if the pilot brought any changes to the students' behavior and attitude during the pilot, and if it did, what type of change was it? What impact did it have on the students' morphological awareness?

It was evident from the teachers' responses during the midline and endline FGDs that one of the strongest benefits associated with the pilot was the positive impact it had on students' behavior and attitude during the class. The majority of teachers during the FGDs highlighted witnessing behavioral and attitude changes in their students.



## **STUDENTS' ATTENTION AND ENGAGEMENT IN ARABIC LESSONS**

The explicit instruction of morphemes focused on delivering morphemes lessons in an interactive and engaging manner, to increase students' attention, engagement, participation and excitement. To that extent, it was important to understand if the teaching approach was working and the hypothesis held.

Teachers' mentioned how over the course of the year students became excited to attend the Arabic classes, specifically the morphemes lessons, due to the exercises and activities. Such excitement resulted in students preparing for the classes beforehand and displaying greater attentiveness during the lessons.

Teachers expressed that students' increased attention and engagement in class were not only because of the activities and group exercises, but also because students felt that they were learning more than before.



It was very interactive and engaging. Especially that the MoE Arabic books do not have any pictures in them. This material made the class more fun and relevant to students.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline

Wonderful teaching style because I felt they included games as a teaching method and that is closer to the kids. They feel entertained while learning (drawing, pictures, mix and match, etc.)

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



## **PARTICIPATING IN CLASS AND GROUP EXERCISES**

The witnessed changes in students' behavior included developing the spirit of teamwork among students. Teachers mentioned students usually preferred to solve/work alone as they were not used to groups and activity-based exercises. The supplementary material and nature of the exercises had made them more comfortable with the idea of teamwork over time.



Because it makes the groups compete together, you see how each one in the group tries to give his best in order to make his team win the competition. This style tries to bring the best out of the students.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Midline





Made them more cooperative together and built the spirit of teamwork in them.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Endline



Developing the spirit of teamwork among the students was the tipping point for further changes in their behavior towards each other and the teacher.

#### **PILOT'S EFFECT ON THE BEHAVIOR OF LOWER AND HIGHER PERFORMING STUDENTS:**

During the FGDs, the teachers highlighted that for the lower performing students, the pilot has:

- Increased their confidence to participate in the class, as they feel more comfortable with what they were learning and feel they understand it now.
- Made them more comfortable in asking the higher performing students for assistance to explain or correct something they were working on.

Teachers also highlighted the witnessed changes were obvious among the high performing students, as the pilot made them:

- Comfortable to share their knowledge with other students and explain to them the lesson in case they have not understood it, especially with the lower performing students.
- Confident about supervising the work of other members in their group during exercises.
- Developed their leadership skills by leading their groups and making sure they do well in the group exercises.

#### **IMPACT OF MORPHOLOGICAL AWARENESS ON STUDENTS' ARABIC PERFORMANCE**

The ToC hypothesis suggested that if teachers are able to explicitly instruct on morphemes in class, based on the supplementary material and teaching approach, students' engagement in Arabic classes would increase and in return, enhance their comprehension in Arabic.

To that extent, it was important to understand the teachers' opinions on their students' performance in Arabic and the type of changes they witnessed in their students.

Overall, based on teachers' responses during the FGDs, teachers believed the pilot had a positive impact on the students' Arabic performance (i.e. forming words and sentences, reading, comprehension). Besides the teachers' responses from the FGDs, the quantitative component of the evaluation will be able to confirm and complement these findings or contradict them, through the suitable assessment tools that were used in the pilot (EGRA).



During the midline FGDs, teachers expressed how they noticed improvement in their students' comprehension of the given lessons, due to Morphological Awareness pilot. Teacher responses at the endline FGDs confirmed the aforementioned. The qualitative pilot did not probe the matter further to clearly understand the main factors that teachers based their claims upon.

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With morphemes, you feel that all of the students get the idea and understand. Previously (prior to the morphemes pilot), you can only tell at the end of the lesson that not all students understand the lesson.

~ 4<sup>th</sup> - 5<sup>th</sup> Grade Public Schools Teachers FGD - Midline

We are able to witness the difference in students' performance when compared to classes that weren't taught using this material.

~ 2<sup>nd</sup> - 3<sup>rd</sup> Grade Private Schools Teachers FGD - Endline

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Additionally, teachers highlighted how they saw an improvement in the students' reading skills and ability to form words and full sentences perfectly.

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“

My grade four students, they were able to differentiate between verb and noun because of what they learnt through the pilot.

~ 4<sup>th</sup> - 5<sup>th</sup> Grade Public Schools Teachers FGD - Midline

It has improved the students' reading skills, now we allow them to read in class because it has improved. In the past we used to read most of the time.

~ 2<sup>nd</sup> - 3<sup>rd</sup> Grade Private Schools Teachers FGD - Midline

They are better at forming sentences now; you can observe the improvement in their daily interactions.

~ 4<sup>th</sup> - 5<sup>th</sup> Grade Public Schools Teachers FGD - Endline

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Some private school teachers expressed how the pilot did not focus on readings skills, as much as grammar rules. Therefore, they felt the younger students would require a component that helps them improve their reading skills as well.





The program should start with grade one but focusing only on reading and pronunciation skills. Therefore, in grade two we start with the grammar rules but with students that are able to read properly.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Endline



Teachers at midline and endline FGDs highlighted how improvement in the students' confidence levels had an effect on their performance in class. Teachers believed that when students started overcoming their fears, they started participating more in class, therefore showing that their performance was improving.



Some students coming from other schools had confidence issues, so they were scared to show what their skills were in Arabic. But this teaching approach enhanced their confidence and their skills.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline

The weaker performing students have their presence in class now, they are contributing individuals. In the past they were only there in class but shy to participate.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline



### **DIFFERENCE IN STUDENTS' PERFORMANCE LEVEL**

Based on teachers' responses, there was a clear difference between students based on their performance level. Teachers highlighted that not all students were performing at the same level or learning and improving at the same pace as other students.

The insights gathered from the FGDs did not reveal details on specific lessons/exercises that were challenging to certain students. Teachers highlighted the challenges faced by students during the pilot were a result of the students overall previous low performance and were independent of the Morphological Awareness supplementary material.

Such challenges in students' performance mainly revolved around the students' reading and vocabulary skills not being in line with the actual grade level they were in. Teachers stressed that they usually faced these issues with new students that have not been taught the basics during their studies in previous schools. However, as aforementioned, teachers did highlight in the FGDs that the booklet exercises did help lower performing students to improve their skills.



## **REACTIONS TO SUPPLEMENTARY MATERIAL BOOKLETS**

Teachers did not highlight any recurring challenges, for themselves or their students, regarding the comprehension of the lessons in the booklets.

Teachers highlighted how students sometimes prepared for the class beforehand, redid the exercises with groups of friends or family, and explained the exercise requirements to other students.



Sometimes I used to find that they already solved their workbook before the class because they are already excited and know how to do it.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



Teachers did not report that the students faced any challenges while working on the booklet exercises during the class, suggesting that the teachers spend sufficient amounts of time explaining the relevant lessons and required tasks.

## **REACTIONS TO THE FOLLOW-UP VISITS**

The pilot ToC suggested that if the teachers are supported with follow-up visits sessions by the QRTA trainers; in addition to the training sessions, the teachers would have been able to give explicit instruction on morphemes. The follow-up visits aimed at guiding and supporting teachers to properly implement Morphological Awareness in class. QRTA conducted follow-up visits with the treatment schools. Each school was visited twice per semester; with one visit per grade level within that school (2<sup>nd</sup> and 3<sup>rd</sup> grades, and 4<sup>th</sup> and 5<sup>th</sup> grades).

An evaluation of the follow-up visits process was conducted to understand if they delivered the desired aforementioned outcome suggested by the ToC.

## **TEACHERS' RESPONSES TO THE FOLLOW-UP VISITS**

Follow-up visits were conducted by experienced QRTA trainers who were part of the supplementary material development team. Therefore, they were seen to have the required knowledge and experience to provide constructive feedback. Teachers' responses at midline and endline clearly reflected their acceptance to the follow-up visits.





They are experts and their feedback is constructive for us. I used to build on her comments and it helped me a lot.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Endline

Very beneficial because the tips they provide are useful most of the time and it comes from experienced people.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



The main goal of the arranged follow-up visits was to observe the lessons, give constructive feedback, and guide teachers in the right direction to implement the supplementary material and the suggested teaching approach. Teachers regarded the follow-up visits as continuation to the training, and found these visits very helpful because they used the visits to ask questions about the content and pilot. The majority of teachers viewed the follow-ups as their communication channel to clarify any queries they have.



Gives the teacher room to ask questions/ clarify things with the curriculum developers.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline

Liked the fact it's a scheduled visit, allows us to prepare any questions and clarifications we had from before. Also gives the feeling it's more about helping us and not evaluating us.

~ 4<sup>th</sup> – 5<sup>th</sup> Grade Public Schools Teachers FGD – Endline



The number of visits were considered suitable and enough, as it allowed the teachers to get feedback on more than one instance. Such a process assured the teachers that they were improving in explicitly teaching morphemes as they progress with the supplementary material and curriculum.



I like the idea of having 2 or 3 follow-ups. That way we get feedback on how we are improving as we progress with the curriculum.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



Moreover, the provided feedback was based on live observations from the trainers; therefore, teachers perceived it as valuable feedback on their actual performance and the class dynamics.

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Helps us develop our skills more and reassures us that we are doing a good job.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



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## **SUGGESTED IMPROVEMENTS FOR THE FOLLOW-UP VISITS**

Some teachers suggested that individual sessions between the teacher and trainer may be beneficial and needed. Such sessions could eliminate any biased feedback that was based on a onetime observation, and will allow the trainer to take into consideration the accumulative teacher's experience implementing the pilot in class. This suggestion could enhance the feedback process, as it will be based on the teachers' actual experience from implementing the pilot in class and not just on the trainer's observation during the follow-up visits.

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During follow-ups at our school, the trainer expected us to speak using classical Arabic with the students the whole time, even while discussing group exercises. However that is impossible to do with 2<sup>nd</sup> grade because sometimes they don't understand what we are saying, the language is not very relevant to them and makes you lose connection with them as students.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



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At midline, some 2<sup>nd</sup> and 3<sup>rd</sup> grade private schools teachers stressed the fact that all follow-up visits should have had similar duration, in order to reflect a standardized process that guarantees reliable feedback. This was suggested as one teacher suggested that one trainer did not spend sufficient time during the follow-up visit to provide viable feedback. In return, that made the teacher feel that it was inaccurate and unreliable feedback.

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The trainer did not spend more than 10 minutes in one of the class visits and provided wrong feedback because it was based on some part of the lesson.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



Some of the 4<sup>th</sup> and 5<sup>th</sup> grade public schools teachers, mainly boys' school teachers, suggested a male trainer to conduct the follow-up visits among boys' schools, as students will be more comfortable and would ensure that none of the students will create any disrespectful behavior.

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For the male schools, sometimes it is better to have a male follow-up supervisor because the students would be more comfortable about it and more respectful.

~ 2<sup>nd</sup> – 3<sup>rd</sup> Grade Private Schools Teachers FGD – Midline



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## **TEACHERS' SUPPORT SYSTEM**

It was important to explore if the follow-up visits were sufficient as a support process for teachers, and probe for further ideas that may need to be implemented in the future to make it a beneficial process.

Beyond the follow-up visits, teachers did not mention having any further support from the trainers. Teachers felt that further steps could have been taken to create a more beneficial support process. Creating a communication channel between teachers was believed to allow exchange of their experiences, knowledge, challenges faced, ways to tackle challenges, etc. such demand was more obvious among the 2<sup>nd</sup> – 3<sup>rd</sup> grades private schools teachers. Some teachers suggested that a teacher get-together-session every semester would allow for the aforementioned experience-sharing opportunity.



# CONCLUSIONS

This study aimed to answer the key hypotheses derived from the ToC to see if they would hold.

## **HYPOTHESIS ONE:**

The training will provide teachers with a clear understanding of morphemes' rules, how to develop their teaching methods, and how to use the booklet/flashcards. This was expected to result in teachers being able to instruct morphemes explicitly.

Overall, the teachers' responses during the FGDs reflected their satisfaction with the training for the following reasons:

- The training was seen as very engaging and interactive
- Trainers' were seen very knowledgeable about the topic
- Trainers' presenting style encouraged trainees to participate
- The number of trainees against trainers was adequate.

The teachers' ability to give explicit instruction on morphemes and use the supplementary material comfortably reflects the training's success in preparing the teachers to deliver the morphemes lessons to their students.

## **HYPOTHESIS TWO:**

If teachers can use explicit instruction of morphemes and the pilot content and material, then they will be more confident and motivated to teach morphemes in the class.

As soon as teachers became familiar with the topic and the material included in the pilot, they were excited to apply it in class because they sensed it would engage students and encourage them to participate more in Arabic classes. The teachers' insights from FGDs, in-class observations and follow-up visits implies that teachers were confident and motivated to apply the Morphological Awareness pilot in class.



**HYPOTHESIS THREE:**

If teachers use explicit instruction of morphemes by using the new teaching method and supplementary material, then students will be more engaged and interested in Arabic lessons.

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The findings confirm that teachers comfortably instructed morphemes in class using the supplementary material, resulting in more interactive and engaging Arabic classes. Over time, the students' interest in Arabic class increased as they started learning morphemes in a fun and engaging manner.

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**HYPOTHESIS FOUR:**

If students are engaged in the class and are able to solve the booklet activities, then their morphological awareness will improve.

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The collected data from the FGDs and in-class observations reflected how students now looked forward to the Arabic class and were engaged throughout the lesson. Students' performance during the Arabic classes was seen to have improved as they became more excited about participating and being part of the lesson.

The quantitative satisfaction survey findings indicated that the majority of students of all four grades were satisfied with the pilot and believed that the Morphemes class had helped them in learning Arabic. The majority of students indicated that they had used the workbooks in class. However, not all students were satisfied with the difficulty level of the workbook. During the design of the pilot, it was assumed that the workbooks were at the right level for students <sup>[5]</sup>.

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[5] *Morphological Awareness - Feasibility Study Quantitative Report*. Published by QRF in December 2019.



**HYPOTHESIS FIVE:**

If the students' morphological awareness improves, their text comprehension skills will improve. This was believed to improve the students' overall literacy levels.

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The teachers' responses in the FGDs and in-class observation data suggested there was improvement in students' participation rates in the class, improved reading skills and ability to form full sentences, due to the Morphological Awareness pilot (including the suggested teaching approach and supplementary material).

However, the results of the quantitative component (looking at EGRA data), morphemes technical survey and MoE tests, were not able to confirm this view. We found that the pilot did not improve the literacy outcomes of the students. Although the ANCOVA regressions did show that there was a small number of significant positive changes, the impact was no different from what would be experienced by chance <sup>[6]</sup>.

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[6] *Ibid*



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