

**THUMA MINA TEACHING**

*Accelerating Access to Quality Education*



**M&ESURE**  
RESEARCH AND EVALUATION

# Process Evaluation

## Overview

### Thuma Mina Teaching Video lesson Programme

**FINAL REPORT**  
**18 OCTOBER 2022**

## TABLE OF CONTENTS

1	BACKGROUND AND PILOT OVERVIEW .....	1
2	EVALUATION SCOPE AND METHODOLOGY .....	2
	2.1 Selection of treatment and control schools.....	2
	2.2 Evaluation data collection methodology .....	2
3	EVALUATION FINDINGS .....	3
	3.1 Related to Programme Design .....	3
	3.2 Related to Programme Implementation .....	4
	3.3 Related to achievement of outcomes .....	4
	3.4 Key successes .....	6
	3.5 Recommendations .....	6
4	APPENDIX: BEST USE CASE .....	7

*This report is a shortened version of the full evaluation report that has been submitted to Thuma Mina Teaching and serves as an overview of the report.*

## 1 BACKGROUND AND PILOT OVERVIEW

Thuma Mina Teaching (TMT) requested M&E support from M&ESURE Research and Evaluation from September 2021 to November 2022 in the form of developing an M&E framework and conducting a process evaluation of their pilot programme. Due to the vast inequalities that exist in the South African education system, learners who go to under-resourced schools do not have access to the same quality of education as their wealthier counterparts, which further entrenches inequality and other social ills. Even though learners have access to devices and the internet, they still encounter barriers to learning such as paid subscription services which make these resources unfeasible. For TMT, the dream of good, free, quality education via the internet was born.

The TMT Programme converts school subjects (as per the CAPS) into easy-to-use, accessible and understandable resources that are provided to teachers and learners. The main resources consist of video lessons that are supported by supplementary resources in the form of a slide deck, self-assessment quizzes and Bookmarks containing QR codes that direct users to the resources. The current strategy of dissemination involves placing videos on YouTube for consumption amongst the general public. Access to these resources is dependent on access to internet connectivity and a suitable device which may prevent the resources from reaching certain groups. There is therefore also a low-tech version which provides the video lessons on a USB card that can be inserted into most TVs (for use within households or schools).

The Programme has been piloted before in different settings. The current pilot has a particular focus on Economic and Management Sciences (EMS), specifically Financial Literacy. The pilot programme and evaluation are funded by the Capitec Foundation and focuses on mapping and developing video lessons for EMS grades 7-9, implemented in 2022. The pilot programme implementation began in 2022, with preparatory work taking place towards the end of 2021. The TMT resources were provided to teachers during an onboarding session at each school by Thuma Mina Teaching. In addition, regular support visits took place where the TMT representative could provide teachers with assistance, if required. Once onboarded, teachers were expected to use the videos and quizzes as they saw fit in their classes. Through the pilot, it is hoped key learnings will emerge specifically around how teachers are using the resources; whether the rationale underlying the programme theory holds true; and whether the programme theory is resulting in expected changes (as conceptualised in the Theory of Change).

The video lessons are a self-directed tool that enhances teaching and learning. It is therefore hoped that teachers are upskilled in terms of educational technology and have improved content knowledge. It also allows teachers to grow more confident and become more motivated and inspired to teach better. This leads to teachers cultivating an environment more conducive for teaching which enables learning to take place. This results in learners who are engaged in the lessons and who interact more in class, which eventually translates into improved marks. TMT's resources can be used in a variety of technological settings (i.e. low- to high-tech) and, as it is designed with low tech environments in mind, the low-tech uses of the lessons and materials are made easy. The key objectives of the Thuma Mina Teaching Video Lesson Programme are therefore:

1. To provide resources to teachers that assist them in planning and teaching; and
2. To provide resources to learners that are engaging and relevant and assist them to improve their school performance.

## 2 EVALUATION SCOPE AND METHODOLOGY

A process evaluation was proposed due to the relatively short timeframe of the assignment. The table below shows the key questions addressed in the evaluation:

Focus	Evaluation questions
<b>Programme design</b>	<ul style="list-style-type: none"> <li>• How does the programme’s logic translate into its activities?</li> <li>• Do these activities connect/relate to the programme’s outcomes?</li> </ul>
<b>Programme implementation</b>	<ul style="list-style-type: none"> <li>• How has the intervention been implemented in terms of its delivery?</li> <li>• Have the implementing partners done what they undertook to do?</li> <li>• Have they done it well? i.e. an appraisal of the quality of project implementation</li> </ul>
<b>Programme achievement of short-term outcomes</b>	<ul style="list-style-type: none"> <li>• To what degree have the programme’s expected results been achieved?</li> <li>• To what extent do the objectives of the programme address the needs of beneficiaries?</li> </ul>
<b>Learnings</b>	<ul style="list-style-type: none"> <li>• What were the strengths and successes of the programme? What were the weaknesses or failures?</li> <li>• What lessons learned from this programme inform the planning and implementation of similar initiatives in future?</li> </ul>

The evaluation took the form of a quasi-experiment, with the use of control and treatment groups. To estimate the treatment effect of a quasi-experiment, a Difference-in-Differences calculation is used which “compares the changes in outcomes over time between a population that is enrolled in a program (the treatment group) and a population that is not (the comparison [or control] group)”.

### 2.1 Selection of treatment and control schools

Six<sup>1</sup> schools in total were jointly selected by TMT and WCED and included in the pilot. Three treatment schools were purposively selected to form part of the pilot, due to certain criteria including their quintile, their location, physical environment, access to internet and technology at the school as well as relationships with principals/ teachers at the schools. Since the schools in these two groups need to be similar for the results to be comparable, it was decided to only to include no-fee schools in the study. The following schools were therefore included in the study as either treatment or control schools: Apex High School; Bergrivier High School; Luckhoff High School; New Orleans Secondary High School; Noorder-Paarl Secondary High School; Wellington High School.



Photo 1: Grade 9 Apex learners writing the baseline test, 21 Jan 2022

### 2.2 Evaluation data collection methodology

Key implementation data collection activities included interviews with TMT programme staff; interviews/ focus groups with teachers in term 1 and 2; termly feedback questionnaires for teachers; a classroom observation of one treatment school Grade 8 and 9 lessons in term 2 and self-administered questionnaires completed by learners during the classroom observations. Additional data included ‘systems data’ that could be obtained through YouTube user statistics and the self-assessment quizzes and bookmarks

<sup>1</sup> Instead of 4, as initially planned.

provided to learners. The data collection activities mainly took place at treatment schools. In addition to implementation data, outcomes data was also collected among learners, consisting of base- and midline tests. A baseline test was written by all treatment and control schools at the beginning of term 1. The midline test was written by all treatment and control schools at the end of term 2 and was administered as an appendix to each schools' own EMS June examination. A total of 478 Grade 8 learners and 471 Grade 9 learners wrote the test, thus constituting the sample of learner marks that were analysed. The tests seem to have been set at a good level since the scores range from the 40% to 62%.

### 3 EVALUATION FINDINGS

#### 3.1 Related to Programme Design

In terms of examining the extent to which activities that were delivered during the pilot are aligned with what was set out, the implementation of activities did take place as planned as per the design of the intervention. Therefore, the main elements of the design as it relates to the activities is sound. In addition, the pilot socio-economic data obtained from learners shows that there is adequate access to mobile phones and internet for learners to use and access the resources. Further, the current programme design as examined through conducting the pilot, holds true, particularly in terms of the short-term outcomes for teachers as well as learners. In terms of **short-term outcomes for teachers**, it seems as if these are being achieved as there is an appreciation of the TMT resources insofar as they provide teachers with opportunities to acquire skills and knowledge on not only the content but also on using online resources for teaching. In addition, it has also provided them with a standardised measure (in the form of the quizzes) to gauge learner progress which, it is hoped, will assist teachers to be able to teach in ways that addresses learning backlogs (thereby achieving the medium-term outcome). In terms of **short-term outcomes for learners**, it appears these are being realised as learners are using the resources outside of

*It is a very productive tool that learners can use in their own home, but also in class when you want to explain something from a different point of view and showing a visual concept. It is an important resource to incorporate.*

Teacher 1, Term 2 feedback

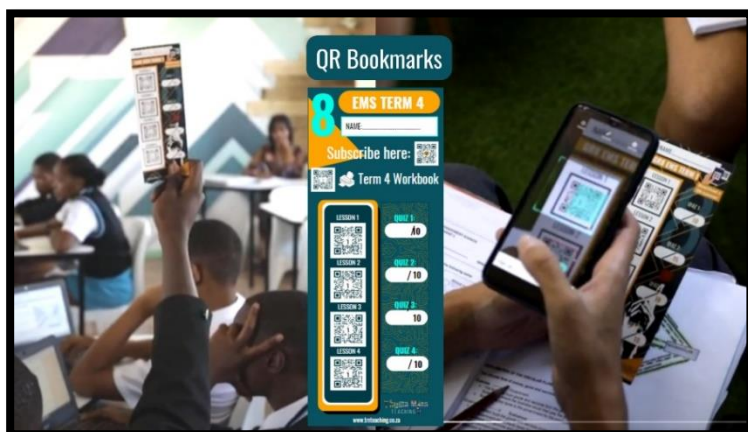


Photo 2: QR Bookmarks in action

the classroom and, in analysing the baseline and midline test results, learners in the treatment schools who formed part of the pilot have performed better than those in the control schools, indicating that the resources have contributed to increased content knowledge and also improved performance among learners.

### 3.2 Related to Programme Implementation

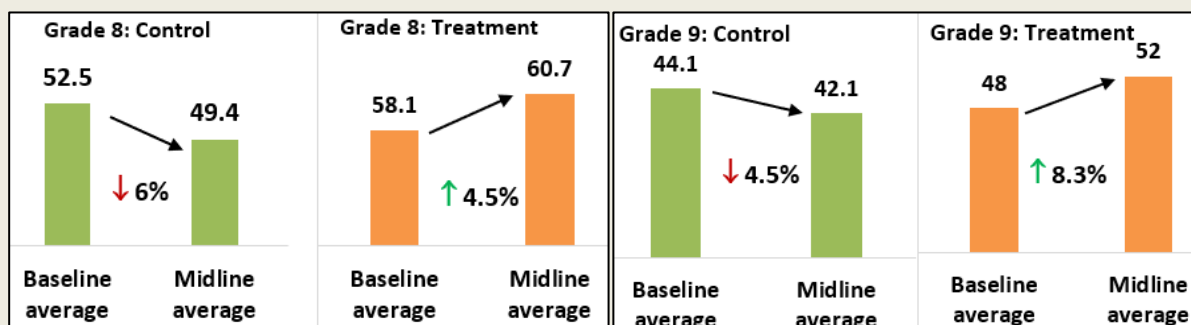
The main findings, based on the analysis of evaluation data related to programme implementation are therefore as follows:

Actual implementation was closely aligned to the planned implementation. In terms of the factors impacting access and use of the TMT resources, School 1 and 3 have been most successful in navigating the barriers to access and use that they encountered. This is despite having larger class sizes than School 2. It is the view of evaluator that one of the critical success factors that have contributed to the successful usage of the TMT resources at these schools during the pilot have to do with the leadership support and buy-in that has assisted teachers to be able to better implement the video lessons. At schools where the resources were used in the most successful way with the most favourable results, teachers promoted the importance and use of the resources outside of the classroom, thereby motivating learners to access and use the resources outside of the classroom. This is evidenced in the large numbers of learners who accessed the video lessons and quizzes. A conceptual framework shared by TMT, highlights the intersection between Standards ('what is expected'), Selves ('what I value') and Situations ('what can be done') which forms the basis of motivation for teachers to implement activities/ interventions in their classes. This could be seen at the two treatment schools where uptake was high and there was good alignment between standards/ selves/ situations. This framework could also be useful to further examine the challenges with implementation at Treatment school 2.

### 3.3 Related to achievement of outcomes

The section that follows presents a summary of the key findings relating to the achievement of the outcomes. The graphs below show the Grade 8 and 9 base- and midline test scores of the control schools and treatment schools<sup>2</sup>. For the control schools, the graphs suggest that **without an intervention one can expect a decline in learner marks** between the base- and midline tests. Indeed, Grade 8 and Grade 9 control classes saw a decline in scores of 6% and 4.5% respectively.

*Grades 8 and 9 base- and midline test results for control and treatment schools*



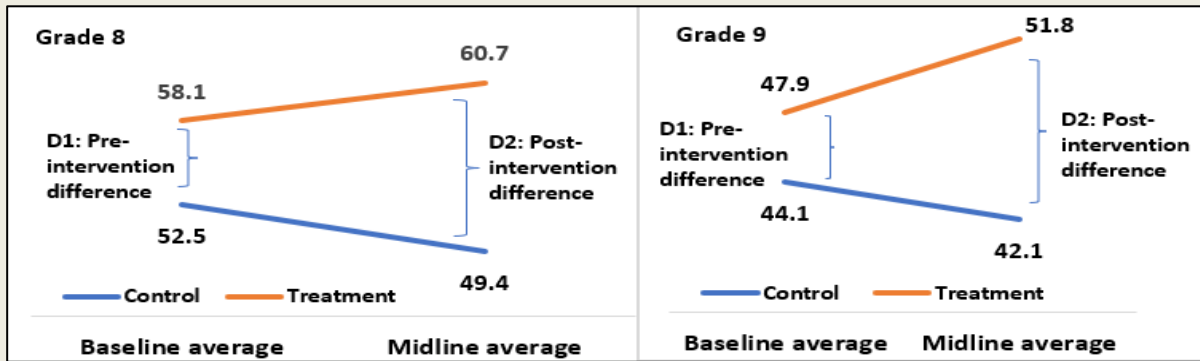
Assuming that the control and the treatment schools have similar trends, the control schools' difference in their base- and midline scores can be interpreted as the change the treatment schools would have experienced, **had they not received the treatment**. The graphs on the right showing the treatment schools, show that instead of seeing a decline (as with the control schools), we see an improvement in test scores

<sup>2</sup> Treatment School 2 was removed from the outcomes data. This is due to the limited implementation of resources during the pilot. This limited implementation was due non-resource related challenges.

of the schools that received the treatment (with an increase in average scores of 4.5% for Grade 8 and 8.3% for Grade 9). An average treatment effect of 5.7 points was obtained for Grade 8s which is equivalent to a **10% improvement in marks<sup>3</sup>** between base- and midline when expressed as a percentage of the initial average baseline result. An average treatment effect of 5.9 points was obtained for Grade 9s which is equivalent to a **12% improvement in marks<sup>4</sup>** between base- and midline when expressed as a percentage of the initial average baseline result.

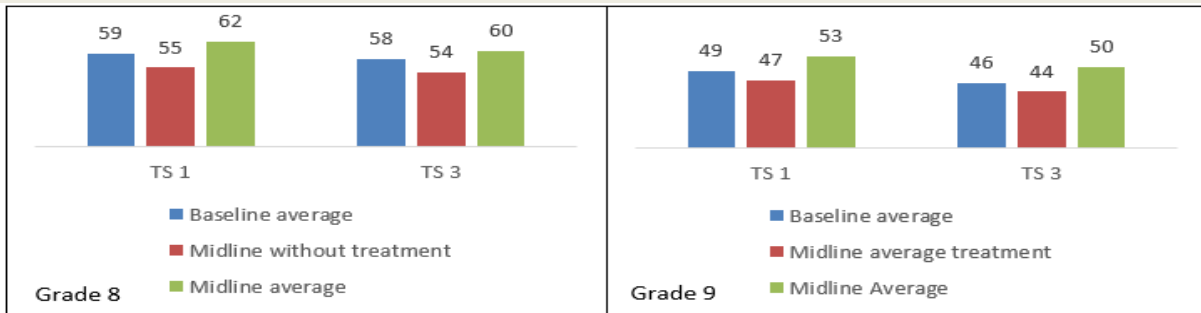
**10% Grade 8 improvement**  
**Grade 9 12% improvement**

*Difference-in-difference – Grades 8 and 9 control and treatment schools*



The red bars of the following figures show the results we would expect had no intervention taken place at the respective treatment schools. These estimations are based on the percentage decline we see in the control schools between the base- and midline tests. The control schools had a decline in their midline result of 6% (Gr. 8) and 4.5% (Gr. 9) which would also be expected for the treatment school, had there not been an intervention. This reinforces the results achieved.

*Grade 8 and 9 Estimated results with and without treatment*



With the information obtained from the pilot within the timeframe, it would appear the intervention is rendering a positive result in terms of learner results. Considering that there has been a minimum of 10% improvement across the grades, one can imagine the significant impact this can have on individual learners in terms of improved motivation, less repetition of the same grade, less dropouts, higher update of higher-grade subjects like Accounting. In addition, if one assumes that the schools in the treatment and control groups are similar.

<sup>3</sup> 5.7/58 = 9.8% (5.7 points expressed as a proportion of the Treatment baseline scores)

<sup>4</sup> 5.9/47.9 = 12.3% (5.9 points expressed as a proportion of the Treatment baseline score)

## Key Challenges

One of the most significant challenges experienced by all 3 treatment schools was the limited time available for teaching (which is due to several factors, e.g., changes in Term 1's scheduling with rotational timetables used in Covid-19 being replaced by pre-Covid scheduling which resulted in some delays in commencing with the teaching plan for the year. Other challenges that impacted on time available were loadshedding, public holidays and learners taking longer to grasp certain concepts which may also be due to learning gaps resulting from Covid-19 restrictions). Where there were some challenges with regards to accessibility of technology or internet, these further negatively impacted on the extent to which the TMT resources were used by teachers. At some of the treatment schools, calculators are limited and only provided to learners during class which restricts the time they have available to complete their exercises with a calculator. Despite all these (mostly) external challenges, the TMT resources are able to bring about large learning gains of between 10% and 12%. This is a noteworthy achievement and provides a good introduction to the key successes identified during this pilot.

*We have a class of 40 learners, and it is impossible to answer all the questions and work through the videos with them. The stronger learners find this beneficial, working through the videos and assessments after school to substantiate what was said in class. They can rewind the video and watch it again and learn how to approach the activity. I place a lot of emphasis on working on those skills with the high achievers.*

Teacher 1, Term 2 feedback

## 3.4 Key successes

Key successes related to use of practical examples through using visuals and real-life examples; learners engaging with the TMT resources used during class; TMT video lessons are helping teachers with their teaching (they can model their teaching on the presenter's teaching); TMT resources assist learners with the curriculum and workload; ease of accessibility of TMT resources; high personal motivation contributes to learners reaping the benefits of the TMT resources; useful to Learners' who already have a good level of knowledge; and Financial Literacy (contained in EMS) is a difficult subject and to have developed a resource for this has been an accomplishment.

## 3.5 Recommendations

The following high-level recommendations for improvement have been identified by a number of role players:

1. Understand what learners struggle with when trying to access TMT resources outside the classroom
2. Rethinking the way in which the content is facilitated, e.g. Having a web-based portal where data can be stored, housed and analysed;
3. Improving the usability of the TMT resources in the classroom;
4. Addressing the pace of the video lessons;
5. Providing more structured guidance to learners on how to navigate/ work with the material/ resources;
6. Investigating options of funding TVs rather than projectors and screens;
7. Considering amendments to teacher training and support;
8. Considering making user data and statistics on use more easily available.

## 4 APPENDIX: BEST USE CASE

### *Key guidelines with regards to the use of TMT resources in a no-fee and low-tech school setting*

A teacher training session takes place with teachers where a number of different aspects are covered with teachers, such as using of resources, educational technology, classroom management techniques and how to best use the resources to address the knowledge gaps among learners. This training could be conducted by a TMT school liaison person who would also be available to provide on-site support to teachers, when needed.

1. Teacher obtains the resources before teaching and uses the videos, slide deck and self-assessment quizzes to prepare their lesson. Teacher has a clear sense of which aspects to focus on during the lesson. Teacher is able to adapt the slide deck to suit their context and needs.
2. Teachers test the video in class without learners to ensure all aspects work well before learners enter the classroom.
3. Teacher uses the video in class as well as the slide deck, mainly to revise key concepts. Teacher also uses the self-assessment quiz in the class to test the key concepts covered during the class and learners mark their tests in order to gain an understanding of which aspects they struggle with. Teachers also have access to these marks so that the teacher understands the knowledge gaps existing in the classroom.
4. Teacher encourages learners to use the resources by themselves, out of the classroom. This is done using different methods of encouragement/ reminders via WhatsApp group, printing the slides and quizzes and even running little competitions to encourage learners to use the quizzes.
5. Onboarding with learners - through school liaison or directly with learners. All learners will be exposed to the resources by a TMT representative to ensure that learners buy-in so that they will access and use the resources outside of the classroom.