

Teaching Mathematics for Understanding

TMU PILOT

**FOUNDATION PHASE
TEACHER TRAINER'S GUIDE
July 2019**

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Workshop Objectives

1. Prepare teachers for change being introduced by the TMU PILOT implementation.
2. Train teachers on the implementation of the TMU PILOT programme.
3. Orientate teachers to the Trainer's Guide and Handout.
4. Motivate and inspire teachers.
5. Provide in depth training on the methodology for the teaching problem solving in Term 3 using the TMU PILOT lesson plans and resources.

Before the Training

1. Be fully prepared, have all of your materials laid out in an orderly fashion.
2. Display the objectives of the workshop, and go through these with participants.
3. Display the agenda on a prominent wall in the training venue.
4. At the end of every training day, reflect on the objectives and agenda, and tick off what has been achieved that day.
5. Be prepared to use energizers and motivational videos appropriately.

Registration / Housekeeping

Remember to ask the participants to sign the register.

Agree on the importance of working hard and engaging sincerely with the material in order to maximise learning and enable fruitful pilot implementation.

	TIME	ACTIVITY	TRAINER WORKSHOP	TEACHER WORKSHOP
Day 1: July 2019				
		Registration		
1	30 min	Pre-training Activity (pre-test)		
2	60 min	Welcome, introduction to Term 3 training and housekeeping. Pre-Post results of teachers – discussion of selected items		
3	30 min	Material distribution		
4	90 min	Reflection on teacher’s training and misconceptions (refer to HANDOUT)		
5	60 min	Content input 1 (Slides) Numbers 11-20		
6	60 min	Content input 2 (Slides) Addition with carrying and subtraction with borrowing Making materials		
7	60 min	Dry-run preparation– Grade 1 Lesson 2, 17 and 32. (All concept development activities – 45 min)		
6 hours and 30 minutes in total – SES determine own tea and lunch break				
Day 2: July 2019				
8	60 min	Dry run preparation finalisation – Grade 1 (All concept development activities – 45 min)		
9	45 min	Dry run presentation (one group to present): LESSON 2.		
	15 min	Feedback session		
10	45 min	Dry run presentation (one group to present): LESSON 17.		
	15 min	Feedback session		
11	45 min	Dry run presentation (one group to present): LESSON 32.		
	15 min	Feedback session		
12	30 min	Improvement of lessons (select one lesson of three dry run)		
13	60 min	Revised presentation (including mental maths)		
	15 min	Feedback session		
14	30 min	Post training activity (post-test)		
15	15 min	Closure and evaluation		
6 hours and 30 minutes in total – SES determine own tea and lunch break				

	TIME	ACTIVITY	TRAINER WORKSHOP	TEACHER WORKSHOP
Day 1: July 2019				
		Registration		
1	30 min	Pre-training Activity (pre-test)		
2	60 min	Welcome, introduction to Term 3 training and housekeeping. Pre-Post results of teachers – discussion of selected items		
3	30 min	Material distribution		
4	90 min	Reflection on teacher’s training and misconceptions (refer to HANDOUT)		
5	90 min	Content input 3 (Slides) Multiplication		
6	60 min	Content input 4 (Slides) Fractions in Grade 2		
7	30 min	Dry run preparation– Grade 2 lessons 7 and 27. (All concept development activities – 45 min)		
6 hours and 30 minutes in total – SES determine own tea and lunch break				
Day 2: July 2019				
8	30 min	Dry run final preparation – Grade 2 lesson 7. (All concept development activities – 45 min)		
9	45 min	Dry run presentation (one group to present): LESSON 7.		
	15 min	Feedback session		
10	60 min	Dry run final preparation – Grade 2 lesson 27. (All concept development activities – 45 min)		
11	45 min	Dry run presentation (one group to present): LESSON 27.		
	15 min	Feedback session		
12	30 min	Improvement of lessons		
13	45 min	Revised presentation 1 Lesson 7		
	45 min	Revised presentation 2 Lesson 27		
	15 min	Feedback session		
14	30 min	Post training activity (post-test)		
15	15 min	Closure and evaluation		
6 hours and 30 minutes in total – SES determine own tea and lunch break				

	TIME	ACTIVITY	TRAINER WORKSHOP	TEACHER WORKSHOP
Day 1: July 2019				
		Registration		
1	30 min	Pre-training Activity (pre-test)		
2	60 min	Welcome, introduction to Term 3 training and housekeeping. Pre-Post results of teachers – discussion of selected items		
3	30 min	Material distribution		
4	60 min	Reflection on teacher’s training and misconceptions (refer to HANDOUT)		
5	60 min	Content input 5 (Slides) Division without remainder		
6	90 min	Content input 6 (Slides) Fractions 1		
7	60 min	Content input 7 (Slides) Fractions 2		
6 hours and 30 minutes in total – SES determine own tea and lunch break				
Day 2: July 2019				
8	60 min	Dry run preparation – Grade 3 lesson 21. (All concept development activities – 45 min)		
9	45 min	Dry run presentation (one group to present)		
	15 min	Feedback session		
10	60 min	Dry run preparation – Grade 3 lesson 24. (All concept development activities – 45 min)		
11	45 min	Dry run presentation (one group to present)		
	15 min	Feedback session		
12	45 min	Dry run preparation – Grade 3 lesson 27. (All concept development activities – 45 min)		
13	45 min	Dry run presentation (one group to present)		
	15 min	Feedback session		
14	30 min	Post training activity (post-test)		
15	15 min	Closure and evaluation		
6 hours and 30 minutes in total – SES determine own tea and lunch break				

What you will need for this Training:

ITEM	QUANTITY	CHECK
MATERIALS FOR DISTRIBUTION TO PARTICIPANTS		
Grade 1-3 Term 3 Lesson Plans		
Grade 1-3 Term 3 Trackers		
Grade 1-3 Term 3 Teacher Resource Packs		
Grade 1-3 Term 3 Learner Activity Books (LAB)		
Bilingual Dictionary – from Term 1		
Base ten kit (CORE METHODOLOGY manipulative)		
Teacher Pre-Test and Post-Test		
Evaluation form		
Trainer’s Guide		
Training Handout		
EQUIPMENT AND MATERIALS FOR YOUR USE		
Flipchart stand, koki and paper	1	
Laptop (if you have a speaker, please bring)	1	
A4 coloured paper	1 pack	
A4 paper		
Marker pens	1 per participant	
Prestik	4	
USB WITH THE FOLLOWING FOLDERS		
All TMU PILOT MATERIALS (Lesson plans, Trackers, Teacher resources, Learner Activity Books (LAB), Bilingual Dictionary)	1	
MOTIVATIONAL VIDEOS	1	

REMINDERS

1. Optional: Prepare some **energizers** and use those when the group needs an energy boost.
 - a. Mirrored numerals.
 - b. Number sentences.
2. Try to stick to the suggested timing of the schedule. Take note of your **time management**, and make plans to catch up if you are running behind schedule.
3. Between training items if there is time, **revise what has been done to date** – this **helps participants to structure and internalise** the training process, which they will have to deliver to teachers.
4. Ask participants to keep the following in mind:
 - We need to **inspire and motivate teachers** to implement this programme – if we do not get them to **emotionally connect with what we are doing**, we will not succeed as we should.
 - We need teachers to **'just do it'** – **start following the lesson plans immediately**, even if they do not fully understand what they are doing, and even if they are not completely confident about what they are doing. Their **knowledge and understanding will increase** with practice, and with each training session. But to start, they must 'just do it'.
 - We are **implementing a BIG IDEA** – you can teach column addition and subtraction with understanding. Using the base ten kits and making connections between representations are at the heart of this implementation. We need to communicate the message clearly and well!
5. Take photographs, make notes of meaningful comments, and **document all required information** for your reports (officials please clarify the route of this reporting).
6. Think about the team – share stories and successes, motivate each other, **have everyone's back**.
7. Have **fun!** And remember, preparation is the key.

“It’s not the will to win that matters – everyone has that. It’s the will to prepare to win that matters.” Paul Bear Bryant

DAY ONE

1	30 MINUTES	PRE-TRAINING ACTIVITY (PRE-TEST)	Facilitator: M&E team	What you will need: Pre-Tests
<ol style="list-style-type: none"> 1. Welcome the participants into the room. 2. Settle participants in their places. 3. Distribute the pre-tests, but tell participants not to look at them yet. 4. Explain the purpose of the pre-test and post-test is to test the impact of the programme, not to look at individual scores. 5. Ask participants to please use the same name on all official documents – this should be their first name and surname as it appears on their ID Documents. 6. Explain that this test will be written under regular test conditions, i.e.: no talking or communication of any kind. 7. Tell participants to look at the test, and briefly orientate them to each section. 8. Do not read through the questions. 9. Ask participants to begin, and work to a maximum of 30 minutes. 10. Tell participants that if they are finished, they must please sit quietly and wait for their colleagues. 11. After 30 minutes or when all participants are finished, collect all test papers. 12. Carefully check that all identification and contact details are filled in and are legible. 13. Hand papers to the MQA representative in your room. 14. Note: If any participant objects to writing her or his name on the test, call or WhatsApp one of the senior MQA officials to please come to your room to talk to the participant. Arrange for this to happen outside of the venue – do not let it derail proceedings. 15. The senior MQA official is: Asiya Hendricks 082 706 7694 				

2	60 MINUTES	WELCOME, AGENDA, GROUND RULES and HOUSEKEEPING Pre-post test results sharing	Facilitator:	What you will need: Master training guide
<ol style="list-style-type: none"> 1. Settle participants so that you have their attention. 2. Officially welcome participants to the group. Greet and meet new participants. 3. Discuss the training agenda, and run through the items for each day (refer to the master trainers guide). <ul style="list-style-type: none"> • Point out starting and finishing times, and acknowledge that these are long working days, but assure participants that we will do your best to ensure that they are enjoyable and fruitful. All work together to achieve the training goals. 4. Share the following housekeeping information: <ul style="list-style-type: none"> • Point out where the closest bathrooms are. • Point out where your tea/lunch will be served. 5. Finally, briefly explain that this training will be run in a very active, participatory manner. <ul style="list-style-type: none"> • Because of this, we remind participants that laptops must please not be brought to training. • Participants will be given trainers guides with all information required for the filed training. • We also ask that participants do not miss any sessions. • Finally, participants should engage with all sessions with open minds, and enjoy this time together 6. Finally, take some time to discuss the results of the pre and post tests and use them to think about what you can learn from them. 				

3	30 MINUTES	MATERIALS DISTRIBUTION	Facilitator:	What you will need: Training handout All Term 3 PILOT materials (Tracker, Lesson plans, LAB, Teacher resources.)
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Outcomes for Teachers

Teachers will:

- Take ownership of the resources and materials that are given to them
- Effectively manage the resources and materials that are given to them
- Share the basic information about the TMU PILOT.
- Identify 3 positive aspects of the changes made in the TMU PILOT toolkit.

1. Settle participants so that you have their attention.
2. Tell participants that you are now going to **distribute all Term 3 materials**.
3. Ask participants to **tidy their space**, and take out the **Training Handout and a pen**.
4. Ask participants to turn to the page in the Training Handout called **MATERIALS DISTRIBUTION FORM** and to please **tick off** each resource as it is handed to them, and to **write their names** on each resource.
5. **Hand out a copy of each item to each participant**, in an orderly fashion. **DO NOT ASK PARTICIPANTS TO TAKE ONE AND PASS ON – THIS ALWAYS LEADS TO CONFUSION.**
6. Make sure that everyone has what is needed, and that they label all resources.
7. Give participants a few minutes to acquaint themselves with the TMU TERM 3 materials.

4	45 MINUTES	REFLECTION ON TEACHER’S TRAINING	Facilitator:	What you will need: Training handout Flip chart & koki
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Outcomes for Subject Advisors

Subject Advisors will:

- Lead a discussion in which participants share their experiences of the teacher’s training sessions.
- Identify positive and negative things raised by participants and discuss – can any concerns be addressed in this session or over the next two terms?

1. Settle participants so that you have their attention.
2. Refer to the handout. Take time to complete the questions that call on participants to reflect on the training sessions in the field. (**SEE Training Handout**).
3. Discuss comments and questions as a group.
4. Conclude the discussion by summarising points raised and noting any that should be taken forward.

5	TIME varies	FIRST CONTENT INPUT Grade 1 – Content input 1: Numbers 11 to 20 (TIME 60 min) Grade 2 – Content input 3: Multiplication (TIME 90 min) Grade 3 – Content input 5 – Division without remainders (TIME 60 min)	Facilitator:	What you will need: Flipchart paper & koki <i>PowerPoint slides</i> Tracker & Lesson plans Refer to master training agenda.
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Outcomes for Teachers

Teachers will:

- Grade 1: Familiarise themselves with the teaching of numbers 11 to 20 using a straight ten frame.
- Grade 2: Familiarise themselves with the teaching of the concept of multiplication introduced as repeated addition.

- Grade 3: Familiarise themselves with the teaching of division without remainders.
- Establish routines and methodologies for teaching the grade specific content.

1. Settle the participants.
2. Present the Content Input using the appropriate PowerPoint presentation.
3. **Participants should be allowed to ask questions while you present and participate actively, solving problems themselves, while you present.**
4. Conclude the session by suggesting to participants that they spend time in the evening going through the Term 3 lesson plans set to see how the methodology discussed in this session is designed into the Term 3 lesson activities across Grade 1, 2 and 3. **They should note questions they have that they want to ask about in the course of this training.**

6	TIME varies	SECOND CONTENT INPUT Grade 1 – Content input 2: Addition with carrying and subtraction with borrowing. (TIME 60 min) Grade 2 – Content input 4: Fractions in Grade 2 (TIME 60 min) Grade 3 – Content input 6: Fractions 1 (TIME 90 min)	Facilitator:	What you will need: Flipchart paper & koki <i>PowerPoint slides</i> Tracker & Lesson plans Refer to master training agenda.
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Outcomes for Teachers

Teachers will:

- Grade 1: Familiarise themselves with the teaching of addition with carrying and subtraction with borrowing using a straight ten frame. Make materials used in the teaching of the content.
- Grade 2: Familiarise themselves with the teaching of fractions in Grade 2.
- Grade 3: Familiarise themselves with the teaching of fractions in Grade 3.
- Establish routines and methodologies for teaching the grade specific content.

1. Settle the participants.
2. Present the Second Content Input using the PowerPoint presentations.
3. **Participants should be allowed to ask questions while you present and participate actively, solving problems themselves, while you present.**
4. Conclude the session by suggesting to participants that they spend time in the evening going through the Grade 1, 2 and 3 Term 3 lesson plans set to see how the methodology discussed in this session is designed into the lesson plan activities. **They should note questions they have that they want to ask about in the course of this training.**

7	60 MINUTES	DRY RUN PREPARATION or THIRD CONTENT INPUT Grade 1 – Dry run preparation Grade 1 Lessons 2, 17 and 32 Grade 2 – Dry run preparation Grade 2 Lessons 7 and 27 Grade 3 – Content input 7: Fractions 2	Facilitator:	What you will need: Flipchart paper & koki <i>PowerPoint slides</i> Tracker & Lesson plans Refer to master training agenda.
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Outcomes for Teachers

Teachers will:

- Prepare for dry run teaching of specified lessons. (Grades 1 and 2)
- Grade 3: Familiarise themselves with the teaching of fractions in Grade 3.

- Establish routines and methodologies for teaching the grade specific content.

1. Settle the participants.
2. Ask the participants to start preparing for the dry run lessons (**Grades 1 and 2**). (Refer to the training handout for the specific lessons.)
3. Present the Third Content Input (Grade 3) using the PowerPoint presentations.
4. **Participants should be allowed to ask questions while you present and participate actively, solving problems themselves, while you present.**
5. Conclude the session by suggesting to participants that they spend time in the evening going through the Grade 3 Term 3 lesson plans set to see how the methodology discussed in this session is designed into the lesson plan activities. **They should note questions they have that they want to ask about in the course of this training.**

DAY TWO

8 10 12	60 MINUTES	DRY RUN PREPARATION In each session prepare the lessons as specified in the training agenda for the specific grade.	Facilitator:	What you will need: Flipchart paper & koki bottle tops Lesson plans Grade specific materials.
Outcomes for Teachers Teachers will: <ul style="list-style-type: none"> • Use their knowledge of the TMU PILOT programme and methodologies to plan a demonstration lesson. • All participate in the planning of model lessons. 				
<ol style="list-style-type: none"> 1. Tell participants they are going to use this session to prepare a lesson for a demonstration. 2. Remind them that in order to prepare their lesson, they must read the lesson plan and the core methodology. 3. Then, they must gather or make any resources that they need for the lesson. 4. Finally, they must practise giving the lesson, making sure they think about including all the steps of the lesson, following the time guidelines, and incorporating good classroom management. 5. Explain the following criteria for PLANNING AND PRESENTATION: <ol style="list-style-type: none"> a. Participants must NOT DEVIATE from the lesson plan. They must present lessons AS PER THE CORE METHODOLOGIES AND THE LESSON PLANS. b. Participants must think very carefully about what they say, and the instructions they give. The biggest challenge to PACING is that participants often TALK TOO MUCH, AND SAY UNNECESSARY THINGS. They must be brief, clear, and to the point. <p><i>Note: You want good demonstrations – support the participants while they plan.</i></p>				
<ol style="list-style-type: none"> 1. Participants should all work individually on the lesson preparation. 2. Write the list of specific lessons to be planned during this session on the flip chart. <p>Lessons to prepare for GRADE 1:</p> <ol style="list-style-type: none"> a. First prepared lesson: Lesson 2 b. Second prepared lesson: Lesson 17 c. Third prepared lesson: Lesson 32 <p>Lessons to prepare for GRADE 2:</p> <ol style="list-style-type: none"> a. First prepared lesson: Lesson 7 b. Second prepared lesson: Lesson 27 <p>Lessons to prepare for GRADE 3:</p> <ol style="list-style-type: none"> a. First prepared lesson: Lesson 21 d. Second prepared lesson: Lesson 24 e. Third prepared lesson: Lesson 27 <p>When you prepare your presentation think about:</p> <ol style="list-style-type: none"> a) What must the teacher say? b) What must the teacher do? 				

- c) What must the teacher write?
- d) What must the learner write?

3. Walk around and supervise and offer assistance as participants prepare.
4. Remind participants of time – you do not want them to take too long to prepare.
5. At the end of the time, call participants to order, ask them to tidy up and be ready for their presentations.
6. Thank participants for their participation.

9 11 13	60 MINUTES	DRY RUN PRESENTATIONS and REVISED PRESENTATIONS Prepared lessons according to the agenda.	Facilitator:	What you will need: Flip chart & koki Lesson plans and teachers' resources per grade
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Outcomes for Teachers

Teachers will:

- Use their knowledge of the TMU PILOT programme and core methodologies to present a demonstration lesson.
- All participate in the planning and demonstration of model lessons.
- Offer meaningful feedback to colleagues.

1. Settle the participants.
2. Explain that participants will all be called on to present at least one part of a lesson that they have prepared. All participants should be ready to teach all assigned lessons.
3. **Remind participants of criteria and time allocations.**
4. Ask participants to please keep this as a **safe and respectful space**.
5. Also remind participants to **actively listen** to their colleagues.
6. **Begin demonstrations.**
7. Groups will come to the front and demonstrate the lessons given to them.
8. Select participants to do the presentations.
9. Each activity will be given approximately 45 minutes.
10. After the demonstrations, you will lead the group in a feedback session.
11. If a group has clearly done an incorrect or poor demonstration, you must thank them for their effort, but you must then **correct the mistakes or demonstrate correctly** – DO NOT LET PARTICIPANTS LEAVE WITHOUT KNOWING WHAT IS CORRECT.
12. Close the session asking participants to reflect on the presentation and prepare further on theirs for the next.

14	30 MINUTES	POST-TRAINING ACTIVITY (POST-TEST) Portfolio of evidence	Facilitator: M&E team	What you will need: Post-Tests and POE
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1. Welcome the participants into the room.
2. Settle participants in their places.
3. **Distribute the post-tests**, but tell participants not to look at them yet.
4. **Ask the participants to place their completed POEs in a position where you can collect them while they write the test.**
5. **Remind the participants that the purpose** of the pre-test and post-test is to test the impact of the programme, not to look at individual scores.
6. Ask participants to please use the **same name** on all official documents – this should be their first name and surname as it appears on their **ID Documents**.
7. Explain that this test will be written under **regular test conditions**, i.e. no talking or communication of any kind.

8. Tell participants to look at the test, and **briefly orientate** them to each section.
9. Do not read through the questions.
10. Ask participants to begin, and work to a maximum of 30 minutes.
11. Tell participants that if they are finished, they must please sit quietly and wait for their colleagues.
12. After 30 minutes or when all participants are finished, collect all test papers.
13. Carefully check that all identification and contact details are filled in and are legible.
14. **Hand papers to the MQA representative** in your room.
15. Note: If any participant objects to writing her or his name on the test, call or WhatsApp one of the senior MQA officials to please come to your room to talk to the participant. Arrange for this to happen outside of the venue – do not let it derail proceedings.
16. The **senior MQA official** is:
 - Asiya Hendricks 082 706 7694

15	30 MINUTES	EVALUTATION AND CLOSURE	Facilitator:	What you will need: Evaluation forms
Outcomes for Teachers				
Teachers will:				
<ul style="list-style-type: none"> • Evaluate the training and programme by completing an evaluation form. • Document any concerns that they may have about the TMU PILOT programme. • Share one positive outcome of this training for them personally. 				
<ol style="list-style-type: none"> 1. Settle participants so that you have their attention. 2. Make sure participants have all their materials. 3. Next, settle participants and tell participants that you have come to the end of your time together. 4. Thank participants for their participation and involvement and tell them how much you have enjoyed working with them. 5. Ask them to think carefully about everything that they have covered over the course of the workshop. 6. Next, hand out the evaluation form (this goes straight to MQA) for participants to complete. <ol style="list-style-type: none"> a) Collect evaluation forms. b) Collect district planning schedules. 7. Then, settle participants in a small, closed circle, for the final close out. 8. Ask participants to reflect on this for a minute, and then go around the circle, and get feedback from each participant: <ul style="list-style-type: none"> • Please share one positive aspect of this programme, training or experience that you take away from this session – this can be absolutely anything that has impacted on you in a positive manner. 9. Remind participants to please follow the ground rules and ACTIVELY LISTEN as we go around the circle for the last time. 10. Ask participants to please be AUDIBLE and CONCISE. If they start to share more than one concern and/ or one positive, you will cut them off. 11. Go around the circle and listen to each participant’s response. 12. Document the participant’s names and responses for your report. Try to do this verbatim. 13. Listen actively and thank each participant for her or his response. 14. Thank participants for all their hard work. 15. Wish them the best of luck for their training, and end the session with a reading, prayer or song. 16. Ask participants to please gather their belongings, and to move back to the plenary room for a closure. 				

After the Training

1. Please collect all extra materials from your training room, and return them to the central repository. (To be identified)
2. Please sort this material carefully – do not just dump anything!
3. Please ensure that MQA have all Pre-Tests, SACE numbers, and Evaluation Forms.
4. Please complete your training report carefully and submit it before the deadline. Please email any relevant photographs or videos with the report.

Please be extremely well prepared. Work together with your partner as a TEAM to offer participants an outstanding experience!

Inspire and motivate participants to embrace the TMU PILOT in order to improve the teaching and learning of mathematics in the Foundation Phase.

**Let us actively support
Teaching Mathematics for Understanding**

Good luck and thank you!