



The Epoch & Optima Trusts *Maths Challenge Programme*

**Terms of Reference for a comprehensive
outcome evaluation of 15 years of
operation**

April 2023

On behalf of the Epoch and Optima Trusts, Tshikululu Social Investments NPC (hereafter referred to as Tshikululu) wishes to appoint a Service Provider to evaluate the Epoch and Optima Trusts' Maths Challenge Programme.

The terms of reference below describe the scope and basic requirements of the evaluation.

1. Background and rationale

The Epoch, Epoch Two and Optima Trusts are three independent Trusts founded by Anglo American to address the poor mathematics outcomes in the South African education system. The following notable findings from research in the education sector informed the strategic direction of the Epoch and Optima Trusts in 2006/2007:

- The gap between what the schools were providing and what universities and employers needed was widening.
- The introduction of the new curriculum (the move from Higher Grade and Standard Grade mathematics to a choice between mathematics and Maths Literacy) had been done with insufficient preparation.
- Learners were coming into high school with a very poor skills base. The impact of outcomes-based education on primary schools had resulted in reduced content knowledge and a poor work ethic. This increased the burden of teaching in high schools.
- There was a serious shortage of maths teachers¹.
- Only a handful of schools produced a notable number of Grade 12 African learners achieving quality mathematics passes (above 60%) and all these schools were under pressure in terms of resources and capacity.

The Trustees of the Epoch and Optima Trusts took a strategic decision at the time to support the basic education sector, in general, and mathematics in particular, with the overarching goal of **increasing the number of African learners achieving quality mathematics passes in South Africa**. The Trusts sought to achieve this through three programmes:

Programme	Description
<p>Maths Challenge Programme</p>	<p>The original and flagship programme is the Maths Challenge Programme (MCP), which focuses on secondary schools that consistently produce a substantial number of quality mathematics passes, with a specific focus on African learners.</p> <p>The main objectives of the Maths Challenge Programme are to:</p> <ul style="list-style-type: none"> • Increase the number of learners participating in mathematics; and • Increase the number of learners passing mathematics with quality passes (those gaining 60% plus [levels 5, 6 & 7], and • Improve the quality passes of African learners in mathematics (those gaining 60% plus [levels 5, 6 & 7]) <p>The Trusts decided to support schools that were already achieving a certain number of quality maths passes and participation, under the assumption that results could be assumed as a proxy for functionality, and that functional schools such as these were well-placed to further increase performance with increased funding.</p>

¹ Recent research by Stellenbosch University's Research on Socioeconomic Policy Unit shows that almost half of publicly employed teachers (49%) are aged 50+ in 2021, pointing to an approaching wave of teacher retirements.

	Initially, the programme was run in two streams- the Public Schools MCP and the Independent schools MCP (both high-fee paying and low-fee paying independent schools) However, the final group of independent schools (after various schools were exited along the way) was exited in 2019.
Teacher Learnership Programme	In 2013, to further support the Maths Challenge Programme, the Trusts introduced the Teacher Learnership Programme. The Teacher Learnership Programme invests in a selection of Maths Challenge Programme schools and some independent schools to provide internships to aspiring teachers with two specific objectives in mind: <ul style="list-style-type: none"> • To support young, aspirant Maths, Science and language teachers; and • To produce qualified and practically trained teachers who will add much-needed value in South African education.
Feeder Primary School Programme Pilot	Having understood the burden high schools were facing with poorly equipped learners entering high school, in 2021 the Trusts embarked on a Feeder Primary School Programme. This is a pilot programme supporting nine primary schools that feed into three Maths Challenge Programme secondary schools with the objective of ensuring that these learners are better prepared for Grade 8.

Unique to the Trusts is that the Maths Challenge Programme and the Teacher Learnership Programme are school-led interventions: The Trusts provide functional schools with financial resources for school-driven interventions that would achieve the Trusts' objectives.

Tshikululu manages the Epoch and Optima Trusts, providing financial management, strategy development, implementation, and monitoring and evaluation services.

2. Project scope

The Maths Challenge Programme (MCP) has gone through several iterations over the past 15 years: the first was the Epoch and Optima strategy 2008–2013; the second was the strategy 2014–2019 and, most recently, The Legacy Project strategy from 2020–present. The Legacy Project introduced significant changes to the MCP, which saw the:

- Exit of low-fee independent schools and underperforming MCP schools
- Addition of high performing quintile 1 - 3 schools in the MCP
- A shifted focus to black African learners, whereas previously the Trusts had included all candidates under the definition of 'black' (i.e.: including Indian and Coloured learners).

Over the past 15 years, it is estimated that the MCP, through its partner schools, has reached the lives of around 100 000 matriculants studying mathematics.

There are currently 51 schools participating in the MCP in 2023. However, over the course of 15 years a total of 121 schools has participated in the MCP. Some of these (such as independent schools) were exited as part of the change in strategy, while others were exited due to issues ranging from due diligence to lack of performance.

Tshikululu has the following information available with regard to the MCP:

- A comprehensive theory of change for the Epoch and Optima Trusts and the role that the MCP plays within this;
- Fifteen years of data collected from Grade 8 to Grade 11 learners in mathematics with regard to participation and performance by demographics from each school on the programme;
- Qualitative reports from the MCP schools; and

- Trustee meeting packs from the inception of the Epoch and Optima Trusts
- Access to key informant interviews with trustees, former trustees as well as those who were on the Trust at inception.

NB: The successful evaluator will be required to obtain national senior certificate matric databases from the Department of Basic Education (DBE) and permission from the DBE to use such databases; as well as any other information which the evaluator is of the view that they will need in order to undertake the evaluation.

3. Type of evaluation

Tshikululu proposes that this should be a comprehensive outcome evaluation in order to understand the accomplishments and contributions of the MCP in achieving its objectives; and to make recommendations to the education and social investment sector in implementing this kind of programme.

4. Evaluation questions

The trustees of the Epoch and Optima Trusts are currently embarking on a review of the Trusts' strategy. The MCP has been core to the Trusts since inception and, as a new path is decided for the Trusts going forward, it is vital to review the past 15 years of the programme and its impact. Moreover, the trustees believe that it is the duty of the Epoch and Optima Trusts – as Public Benefit Trusts – to disseminate this knowledge to other funders investing in a similar space in South Africa.

The following key evaluation questions are proposed for the evaluation:

Proposed Key Evaluation Questions	
<ul style="list-style-type: none"> • What is the relevance and value of the Maths Challenge Programme (MCP) over the past 15 years? <ul style="list-style-type: none"> ○ <i>In what educational context did the Epoch and Optima Trusts implement the programme, and why?</i> ○ <i>What were the objectives of the MCP and its school-led programme design/funding model?</i> ○ <i>How did the Epoch and Optima Trusts shift their strategy (including exiting schools) over the years?</i> ○ <i>What is the educational context in South Africa in 2023? How is it different from 15 years ago?</i> 	
<ul style="list-style-type: none"> • How effective has the MCP been in achieving its objectives over the past 15 years²? <ul style="list-style-type: none"> ○ <i>To what extent did the MCP schools achieve the goal to increase the participation of learners in mathematics over the years?</i> ○ <i>To what extent did MCP schools achieve the goal to improve the learners' quality passes (60% plus [levels 5, 6 & 7]) in mathematics?</i> ○ <i>To what extent did the MCP schools improve the participation and number of quality passes achieved by African learners?</i> 	
<ul style="list-style-type: none"> • With regards to mathematics participation and quality passes, how did the MCP schools perform in comparison³? <ul style="list-style-type: none"> ○ <i>Based on the participation and performance of MCP schools; how did they compare with regard to:</i> <ul style="list-style-type: none"> ➤ <i>National rates?</i> ➤ <i>Control schools⁴?</i> ➤ <i>Schools that were exited from the MCP⁵?</i> 	

² Dependant on permissions from the Department of Education

³ Dependant on permissions from the Department of Education

⁴ The Trusts have had control schools for many years originally chosen via judgemental matching however it may be worth scrutinising the appropriateness of the schools to serve as controls for the purpose of the impact evaluation, using appropriate matching variables

⁵ An exploration of how and why the Epoch & Optima Trusts exited a school compared to the current MCP schools will provide valuable data towards the assessment of the impact of the MCP. It also provides the opportunity to explore the 'path' or 'direction' the exited schools took post the intervention and could potentially come up with some interesting findings. See Ethics section.

Proposed Key Evaluation Questions

- | |
|---|
| <ul style="list-style-type: none"> ● What is and has been the impact of the programme in the MCP schools? <ul style="list-style-type: none"> ○ <i>What were the direct and indirect long terms results/outcomes of the MCP on the schools?</i> ○ <i>What were the intended or unintended long terms results/outcomes of the MCP?</i> ○ <i>Are any of the long-term results/outcomes of the MCP schools sustainable?</i> ○ <i>What conditions would ensure the success of the MCP if it were replicated or scaled up?</i> |
| <ul style="list-style-type: none"> ● What are the enabling factors and barriers in MCP schools to achieving participation and quality results in mathematics? ● And what are the above in comparison to: <ul style="list-style-type: none"> ○ <i>Control schools?</i> ○ <i>Schools that were exited from the MCP?</i> |
| <ul style="list-style-type: none"> ● How coherent and valuable is the school-led programme design/funding model? <ul style="list-style-type: none"> ○ <i>Was the MCP school-led model implemented as intended?</i> ○ <i>What is the quality of the MCP school-led model?</i> ○ <i>Did it have the desired outcome for the programme and the schools?</i> ○ <i>How did the school-led model evolve over the years?</i> ○ <i>Was the school-led programme design/funding model appropriate to the broader education challenges in basic education?</i> ○ <i>What other existing programme designs could have been used?</i> ○ <i>How well were and are resources being utilised? Does the implementation model offer best value for money?</i> ○ <i>How successful/ unsuccessful was Tshikululu in managing the implementation of the school-led model? What factors contributed to their successful or unsuccessful management?</i> ○ <i>Was the hypothesis of the MCP to support 'functional' schools the correct social investment approach?</i> |
| <ul style="list-style-type: none"> ● What are the Trusts' learnings and recommendations that are worth sharing with the social investment sector regarding this kind of programme? <ul style="list-style-type: none"> ○ <i>What lessons can be learnt from the MCP school-led model?</i> ○ <i>What are the recommendations to guide similar, and/or future related programmes?</i> |

5. Methodology

In an evaluation of this magnitude, it is expected that data collection will comprise both rigorous quantitative and qualitative, primary and secondary data collection methods and analysis. The exact evaluation approach will be in the evaluator's discretion. However, Tshikululu will ensure that the evaluator is provided with all documentation listed in [Section 2](#).

Important ethical considerations to note

Engagement with any partners must be sensitive to needs and circumstances. The aim of this evaluation is not to create competition amongst, or cause divisions within, or stress for, MCP schools. Moreover, some aspects of the evaluation will inevitably include communicating with and interviewing schools that have been exited from the programme.

Should the evaluator wish to carry out key-informant interviews or focus group discussions with schools, Tshikululu will act as the main point of contact. The successful bidder will have the opportunity to review (with Tshikululu) the list of 121 schools that have passed through the MCP, and to decide when and if to contact these schools.

6. Deliverables

The evaluator will be expected to provide the following deliverables to Tshikululu in relation to the Epoch and Optima Trusts Maths Challenge Programme 15-year comprehensive outcome evaluation:

- An inception report
- A validation workshop with Tshikululu
- A draft report
- A final evaluation report
- Presentation of the final report and evaluation findings to Epoch and Optima Trustees

Please note: A shortlist of bidders will be asked to present a high-level overview of their proposals at an Epoch and Optima Trustee meeting on the afternoon of 24 April 2023 (time TBC).

7. Proposal submission and expertise required

Submission of the proposal should contain the following:

- A short brief outlining how the assignment is understood.
- An outline of the approach that the evaluation will follow. This outline should include the methodology, data collection strategy, instruments to be used and data analysis.
- Ethical compliance should be specified.
- A detailed project and budget plan for the review with an indication of the amount to be charged, inclusive of value added tax (VAT).
- Timelines of the key deliverables.
- The experience of the team that will undertake the research, to be clearly stated.
- Indication of the work that will be subcontracted, if any.
- Company registration documentation including a current tax compliance certificate and Broad-Based Black Economic Empowerment contribution certificate.
- The curriculum vitae (CVs) of the each member of the management team, including the team leader and researchers that will undertake the research.

The following evaluator expertise will be required:

- Thorough understanding of the education sector in South Africa.
- Capacity to conduct this assignment in a professional and ethical manner.
- Experience in conducting similar evaluations.
- An appropriately capacitated team which is able to complete the work.
- Ability to follow all steps necessary for this assignment as set out above.

8. Roles, responsibilities and resources

Tshikululu will manage the evaluation, including contracting with the successful service provider (on behalf of the Epoch and Optima Trusts), receiving and reviewing all deliverables and ensuring strong communication between all parties. The trustees of the Epoch and Optima Trusts will make the final decision as to which service provider will be appointed.

Tshikululu (on behalf of the Epoch and Optima Trusts) will provide input into the evaluation as needed, as well as input into the draft evaluation report.

9. Timeframes

A comprehensive proposal to carry out the evaluation must be submitted by **12 noon on Wednesday 19 April 2023**. The proposal should be emailed to the Epoch & Optima Trust mailbox:

Epochoptima@tshikululu.org.za

Activity	Date
Proposal to be submitted to Epochoptima@tshikululu.org.za	Wednesday 19 April 2023 @ 12 noon
Shortlisted bidders notified	Afternoon of Thursday 20 April 2023
Presentation by shortlisted bidders to Epoch & Optima Trustees	Monday 24 April 2023 (Time in pm to be confirmed)
Selection, adjudication and appointment of the service provider	May 2023
Clarification and inception workshop between the successful service provider and Tshikululu	May 2023
Inception report submitted	May 2023
Finalisation of contract/SLA with the service provider	May 2023
Beginning of evaluation	1 June 2023
Validation workshop with Tshikululu	9 October 2023
Draft report to Tshikululu	13 October 2023
Return of draft report to evaluator with Tshikululu/Epoch & Optima trustee inputs	23 October 2023
Submission of edited final report	6 November 2023
Presentation of the final findings to the Epoch & Optima Trustees	1 December 2023

10. Communication requirements

As Tshikululu will be required to continuously provide feedback to the Epoch and Optima Trusts, it is requested that the evaluator and Tshikululu maintain open lines of communication, and that the evaluator responds timeously to any communication requests from Tshikululu.

The central communication point for Tshikululu will be Beatrice Watermeyer (Monitoring and Evaluation Specialist). Beatrice will be available to supply Epoch and Optima Trusts' documentation and answer any queries by the service provider.

11. Assessment of proposal against criteria

The proposals will be judged against the following criteria:

Criteria	Weighting (%)
Submission of correct requested documentation <ul style="list-style-type: none"> Submission of all requested documentation as listed at section 7. 	5
Methodology <ul style="list-style-type: none"> The bid proposal should clearly demonstrate the methodology and approach the service provider will undertake to provide a comprehensive outcome evaluation of the MCP over 15 years in line with the evaluation questions at section 4. This must include specified ethical compliance. 	45
Evaluation Team <ul style="list-style-type: none"> The team leader should possess the necessary technical capacity and knowledge required in this kind of evaluation. Specific experience within the team demonstrating previous work/research and understanding of basic education sector and an understanding of the South African school dynamics. 	25

<ul style="list-style-type: none"> A diverse team which includes individuals who come from previously disadvantaged backgrounds, including black and female researchers. 	
Costing and timeline <ul style="list-style-type: none"> Realistic project and budget plan, given the scope and the timelines of the project 	25
Total	100

12. Contracting

A shortlist of bidders' proposals will be asked to present at an Epoch and Optima Trustees meeting on the afternoon of 24 April 2023 (time TBC).

The successful bidder will then be informed via email. Thereafter, the implementation plan for the evaluation will be finalised. Deliverables and the timing of reports are to be produced before the contract is signed by the successful bidder and Tshikululu on behalf of the Epoch and Optima Trusts. The contract will be subject to the terms and conditions agreed upon between the successful bidder and the Trusts, as well as regular performance reviews by the Epoch and Optima Trust team who may discontinue the contract for substandard work. Tshikululu will make payments within 30 days following the submission of invoices on condition that the agreed deliverables have achieved.

13. Intellectual Property

The appointed service provider will assign the copyright of the impact evaluation to the Epoch and Optima Trusts. This will include data, instruments, documents and reports that will be produced out of the reviews.

The results from the evaluation will be shared with Trustees of the Epoch and Optima Trusts but may extend to stakeholders in the education sector.

14. Contact persons for queries and submission

Queries related to the submission of proposals should be emailed to Epochoptima@tshikululu.org.za. For additional queries, you can contact Tshikululu on +27 11 544 0300.