

Mother Tongue Power: Literacy and Bilingual Education



Every child is a National Asset

**MTbBE a Transformative
Pedagogy to widen epistemic
access to meaningful Teaching,
Learning and Assessment
beyond Grade 3 for
Mathematics and Science
Learning.**

**DR N. MBUDE-MEHANA
DDG: Transformation Programs**

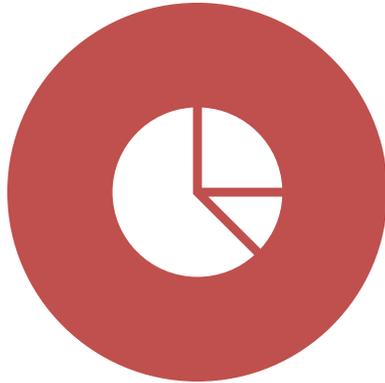
25 JUNE 2024

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My interest in this area is moulded and shaped by three issues in the order they appear:



a) being a black African language-speaking female born into a poor home/ environment



b) the benefits and disadvantages of attending a Catholic missionary school at the height of apartheid



c) teaching Science in a public township school as a critical eye-opener an 'aha-moment'

NASCEE: Explore the transformative potential of using African Languages for learning, teaching and Assessment (LoLTA) beyond Grade 3



Progress, opportunities and challenges

More years of pre-schooling

ECD opportunities created by 'migration' to basic education

A system that has shown it is capable of considerable qualitative improvement

More strategic approach to learning and promotion in the Foundation Phase envisaged

Continued high levels of access up to the secondary level

Improved translation of access to Grade 12 attainment

Continuing poverty and hunger at home

Budget constraints combined with growth in learner numbers: larger classes etc.

But non-personnel supplies relatively well protected

Growth in black participation in practical subjects

But inherited inequalities remain

School rationalisation that facilitated grade survival

An NSC that remains a reliable indicator of skills acquired



What is the Transformation agenda in using LoLTA?

When discussing change and growth, two words that often come up are transformational and transformative. These terms are often used interchangeably, but they do have distinct meanings. So, which one is the proper word to use? The answer is both. Transformational and transformative are both correct, but they carry slightly different connotations.



Transformative refers to a process or experience that brings about a substantial and meaningful change. It involves a significant shift in perspective, mindset, or behavior, but it may not necessarily be as drastic as transformational change. Rather than a complete overhaul, transformative change focuses on creating a positive impact and improving the current state.



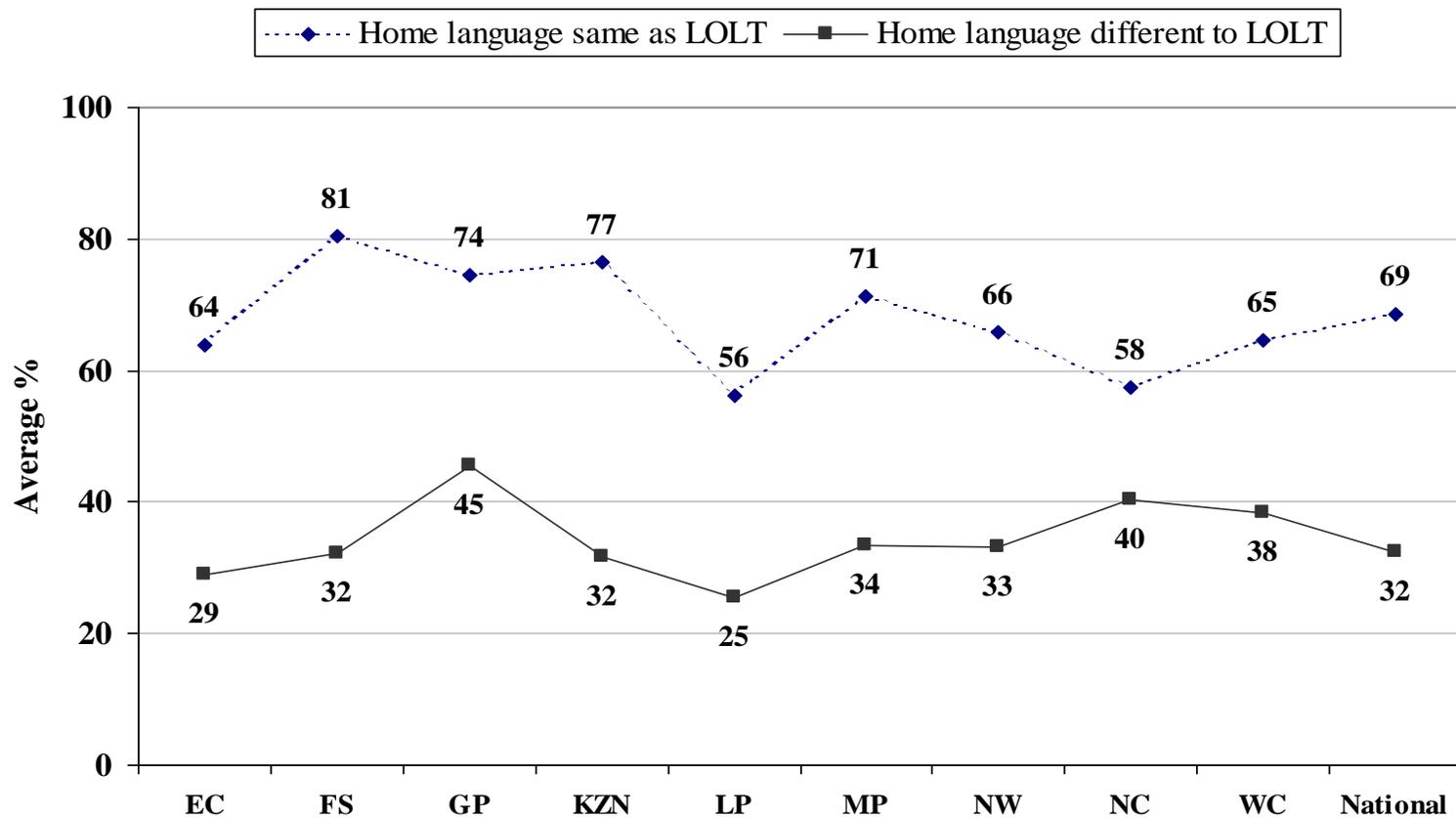
Transformational refers to a process or experience that brings about a significant and profound change. It involves a complete shift in perspective, mindset, or behavior. Imagine a caterpillar transforming into a butterfly – it undergoes a complete metamorphosis, emerging as something entirely different. In essence, transformational change is a complete and radical overhaul.

What is the Mischief?

- What has become obvious in the South African assessment data is that when we compare the achievement of children who learn and are assessed in their home language (mostly speakers of English and Afrikaans) with those who have to learn and be assessed in a second language (usually English for the 78% of student who use an African language at home), that there is a significant gap in achievement.
- The gap is between 32% for African language speakers and 69% for speakers of English and Afrikaans. What this means is that for the majority of African learners, they are so far behind by Grade 6 that it is unlikely that they will catch up with the speakers of English and Afrikaans, and that they are the most vulnerable in terms of **future employment, health and poverty.**

Grade 6: Language of Learning & Teaching (LoLT) & assessment

Achievement by home language and province



TRACKING THE CLASS OF 2022 FROM GRADE 1- 12

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Gr 1	1 177 089	1 208 973	1 222 851	1 235 901	1 244 208	1 208 992	1 186 829	1 163 477	1 150 672	1 142 573	1 118 607	1 083 190
Gr 2	1 003 353	1 074 788	1 116 427	1 149 894	1 164 050	1 182 132	1 141 325	1 117 527	1 124 343	1 114 489	1 109 319	1 100 624
Gr 3	957 209	967 373	1 025 185	1 073 447	1 106 895	1 118 913	1 124 312	1 102 908	1 095 221	1 103 834	1 098 434	1 093 526
Gr 4	974 860	966 349	964 630	1 036 378	1 088 804	1 126 128	1 130 949	1 145 084	1 153 845	1 145 307	1 127 877	1 112 643
Gr 5	957 203	939 025	923 562	929 735	979 360	1 026 674	1 046 370	1 060 638	1 089 050	1 091 826	1 097 094	1 087 311
Gr 6	946 427	935 446	909 095	894 517	899 799	947 015	978 130	1 012 602	1 038 271	1 063 212	1 073 761	1 073 524
Gr 7	941 291	912 528	902 099	875 311	884 994	899 622	924 167	966 151	1 017 848	1 040 722	1 062 877	1 072 712
Gr 8	1 008 110	971 509	942 345	935 624	931 766	952 628	971 367	995 994	1 057 640	1 108 205	1 096 255	1 127 946
Gr 9												
Gr 10			1 073 060	1 048 823	950 512	905 066	894 113	890 836	930 960	982 574	1 038 850	1 022 822
Gr 11			1 146 285	1 139 872	1 112 604	1 104 749	1 075 925	1 033 799	1 045 424	1 104 452	1 081 618	1 148 437
Gr 12	847 738	874 331	834 611	897 342	928 983	901 697	892 784	862 009	861 035	867 783	954 069	928 050
	534 498	551 837	597 196	571 819	687 230	704 533	661 116	643 802	640 714	628 190	750 478	775 630

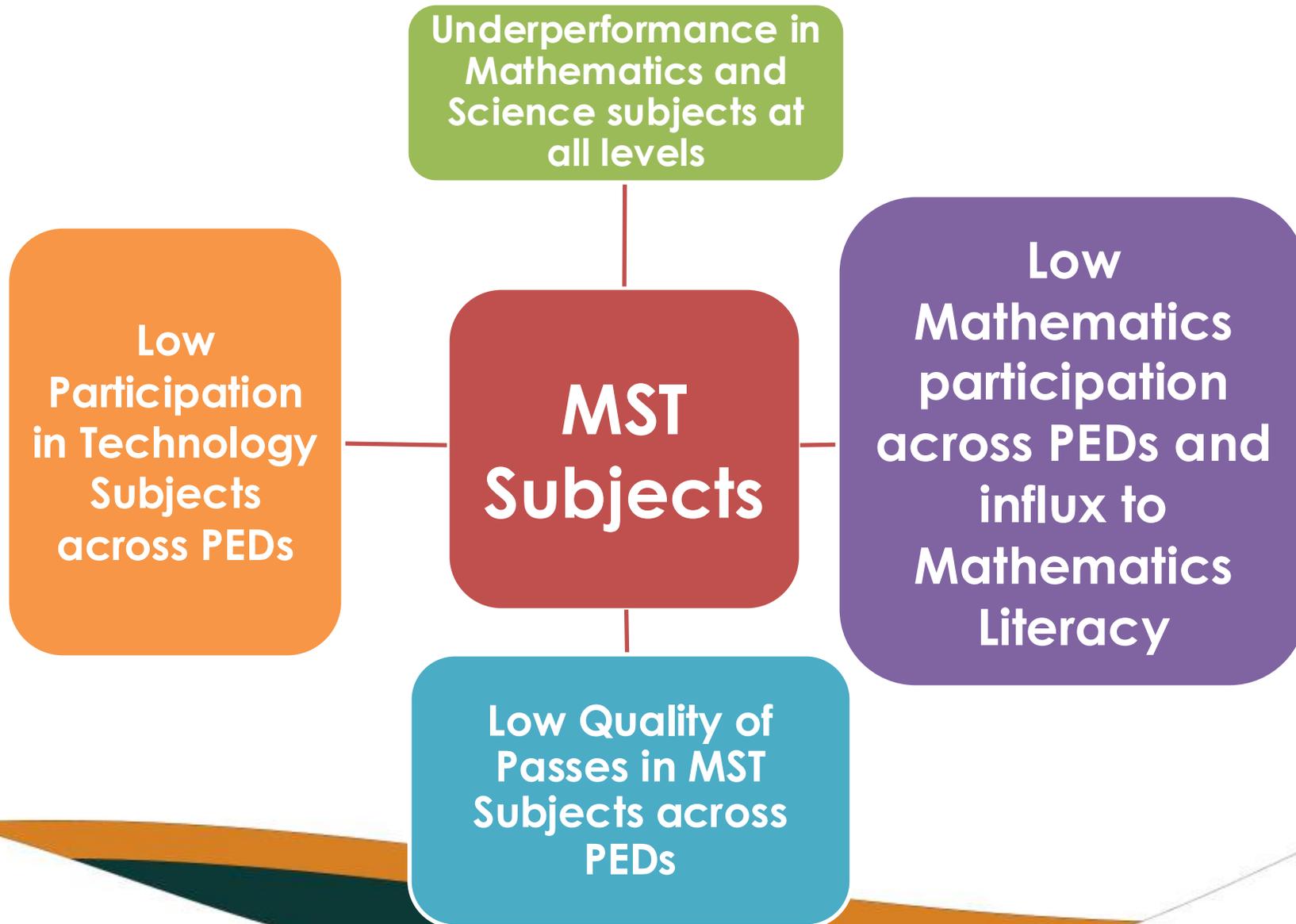


Long term vulnerability created by language disadvantage

- **Evidence-based Fact (EBF):** What has become obvious in the South African assessment data is that when achievement of children who learn and are assessed in their home language (mostly speakers of English and Afrikaans) is compared with those who have to learn and be assessed in a second language ESL (usually English for 78% of learners) there is a **significant gap** in achievement.
- **EbF:** Here we see that the gap is between 32% for African language speakers and 69% for speakers of English and Afrikaans. What this means is that for the majority of African students, they are so far behind by Grade 6 that it is unlikely that they will catch up with the speakers of English and Afrikaans, and that they are the **most vulnerable** in terms of future employment, health and poverty.

EbF: Only 3 Universities in South Africa have re-curriculated in pursuit of the alignment of supply with the demands of the basic education. **This is the elephant in the room.**

WHY FOCUS ON MST FOR MTbBE?



The Case for Mathematics, Science and Technology

- In SA, current datasets internally and externally for learner outcomes beyond Grade 3 point to the fact that learners who do well in Reading; Mathematics and Science have access to the language of teaching, learning and assessment (LoLTA) both in the basic education sector and in Higher Education.
- The Language of mathematics and science; fully embedded in its registers; adds a layer of difficulty on top of the LoLT which burdens African language learners. This creates a deficit narrative that concentrates on what AL learners cannot do.

JOURNEY TO NOWHERE

- Currently, teachers are encouraged at every turn by the department to make each content subject a language subject (Language Across the Curriculum (LAC) taking time away from the actual subject learning.
- All these are efforts aimed at enhancing the English vocabulary that learners 'need' to access mathematics. Acquiring vocabulary in lists of technical words and phrases characterises a typical mathematics classroom in South Africa.
- Moskovich (1998) warns that the notion of register should not be interpreted as getting learners to memorise a list of technical words and phrases. This interpretation reduces the concept of mathematical register to vocabulary and disregards the role of in learning to communicate mathematically.
- A critique of the typical mathematics learning environs that NGOs and donor agencies go after; for ESL learners is premised helping African learners to understand English so that they can do better in

NB: We must begin to ask why Afrikaans learners who are learning in Afrikaans do not need these English additional classes? They actually do better than African language learners in English.

Mathematics: Participation Rate and Performance by Race in the 2015 NSC Results (DBE, 2016)

YEAR	LEARNER NO.S	NO.S WROTE	NO.S PASSED	NO.S FAILED	PASS %
African	233 335	228 169	99 039	129 130	43.4%
White	17 641	17 592	16 889	9 297	96.0%
Coloured	11 101	11 006	7 517	3 489	68.3%
Indian	6 756	6 734	5 670	1 064	84.2%
Asian	232	229	214	15	93.5%

Mathematics: Race Profile – White Learners

YEAR	LEARNER NOS	NOS WROTE	NOS PASSED	NOS FAILED	PASS %
2008	20 724	20 072	19 713	359	98%
2009	20 461	20 387	19 695	692	97%
2010	19 751	19 690	18 726	964	95%
2011	18 751	18 678	17 331	1 347	93%
2012	18 711	18 655	17 478	1 177	94%
2013	19 629	19 567	18 392	1 175	94%
2014	17 854	17 793	16 797	996	94%
2015	17 641	17 592	16 889	9 297	96%

Mathematics: Race Profile – African Learners

YEAR	LEARNER NO.S	NO.S WROTE	NOS PASSED	NOS FAILED	PASS %
2008	272326	257161	100571	156590	39%
2009	254035	248764	98800	149964	40%
2010	231269	224037	91925	132112	41%
2011	195868	191295	76545	114750	40%
2012	193021	189033	90955	98078	48%
2013	202 757	199 086	106 792	92294	54%
2014	193957	189767	90371	99396	47.6%
2015	233335	228169	99039	129130	43.4%

Why the race lens: To provide for ALL children ones needs to examine closer the underperformance.

- Qunta (1998) registers a concern about South African reluctance to discuss issues of race:

- The issue of race is very difficult in our society. Yet there is a queasiness to deal with it in a frank manner. There appears to be an underlying assumption that to raise the issue would in fact provoke it and, conversely, that if we ignore it, we would be all living happily as one nation united by a common South Africanness ... (Qunta, 1998)*

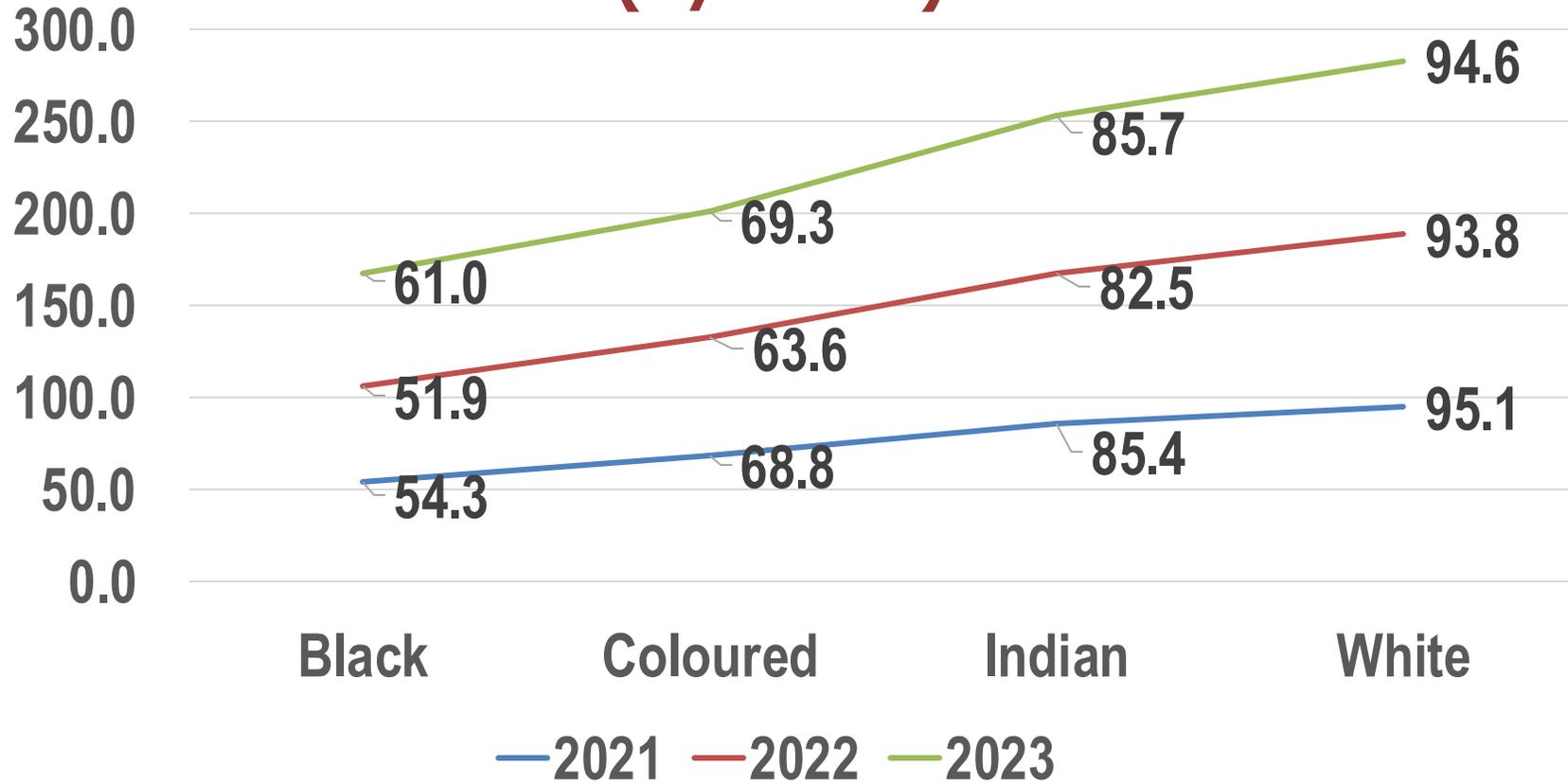
- Squelch (1993) purports that **to gloss over the racial differences and the material difference they make in the lives of people does not change reality.** The above reality is that Mathematics underperformance has a colour and class; it is black and poor.



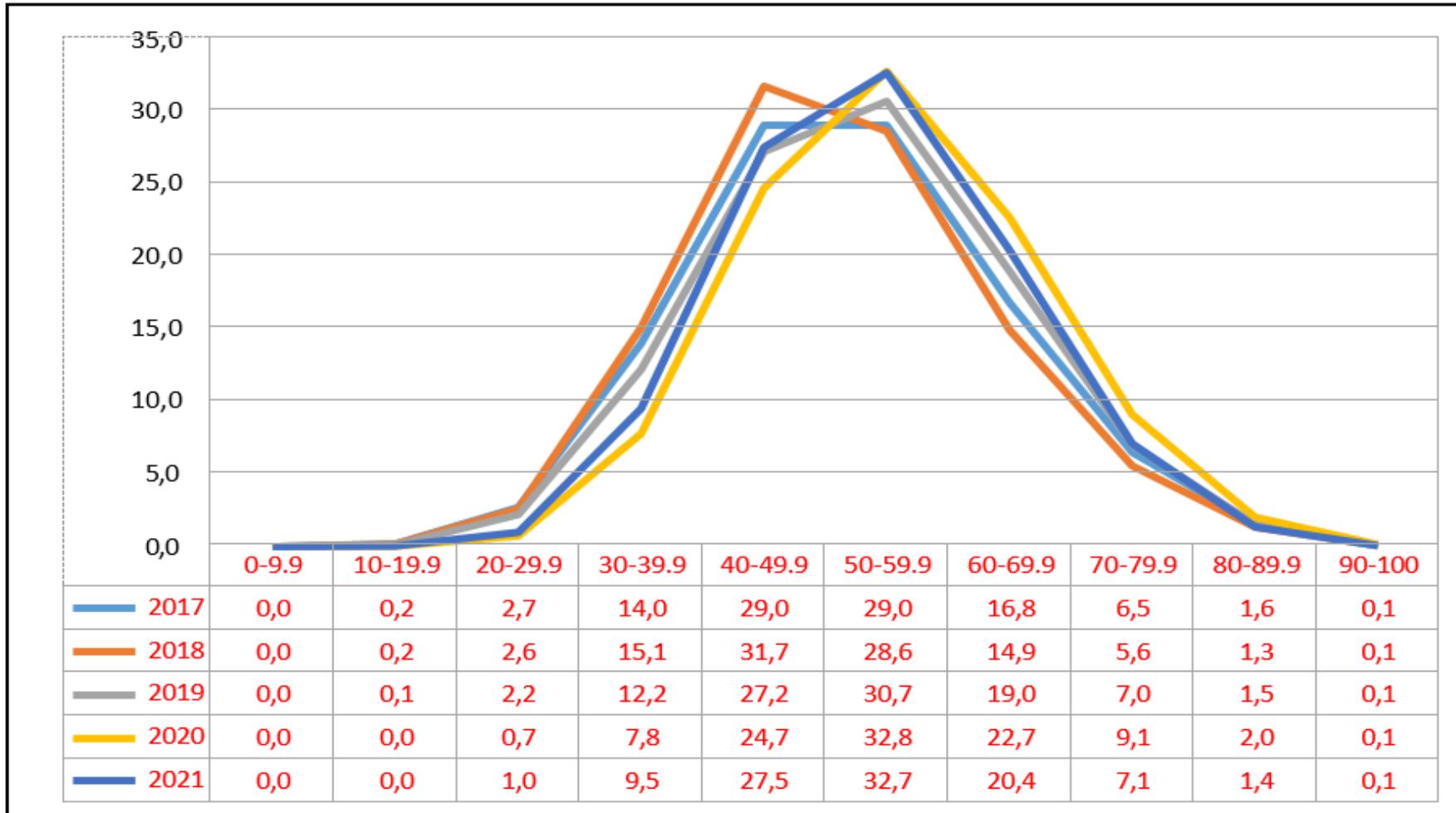
LoLTA Stratification currently

HAS ANYTHING CHANGED
FROM 2015?

Graphical Representation – Mathematics Performance (By Race)



Performance distribution curves in English First Additional Language



The race lens an uncomfortable but an important strategic catalyst for LoLTA change

- The above reality that framed by 350 years of educational disadvantage in South Africa remains through coloniality viz. a mindset that remains beyond the colonial administration.
- Apartheid ensured two education systems co-existed – one predicated on the goals of a First-World Education and primarily meant for whites, the other intended to produce a pool of labour, blacks being recipients. Those inequalities deliberately engineered by colonial and neo-colonial policies deepened to a point where former President Mbeki characterised South Africa consisting of ‘two nations, one rich and white, the other poor and black.
- When there’s inequity in learning, it’s usually baked into life (Fryer, 2016). The odds of escaping a poverty-ridden lifestyle, despite innate intelligence and drive, are a long short for Africans. The research was aimed at contributing towards changing the above narrative for black children to triumph over baked-in societal inequality through education.

The MTbBE pilot Cofimvaba

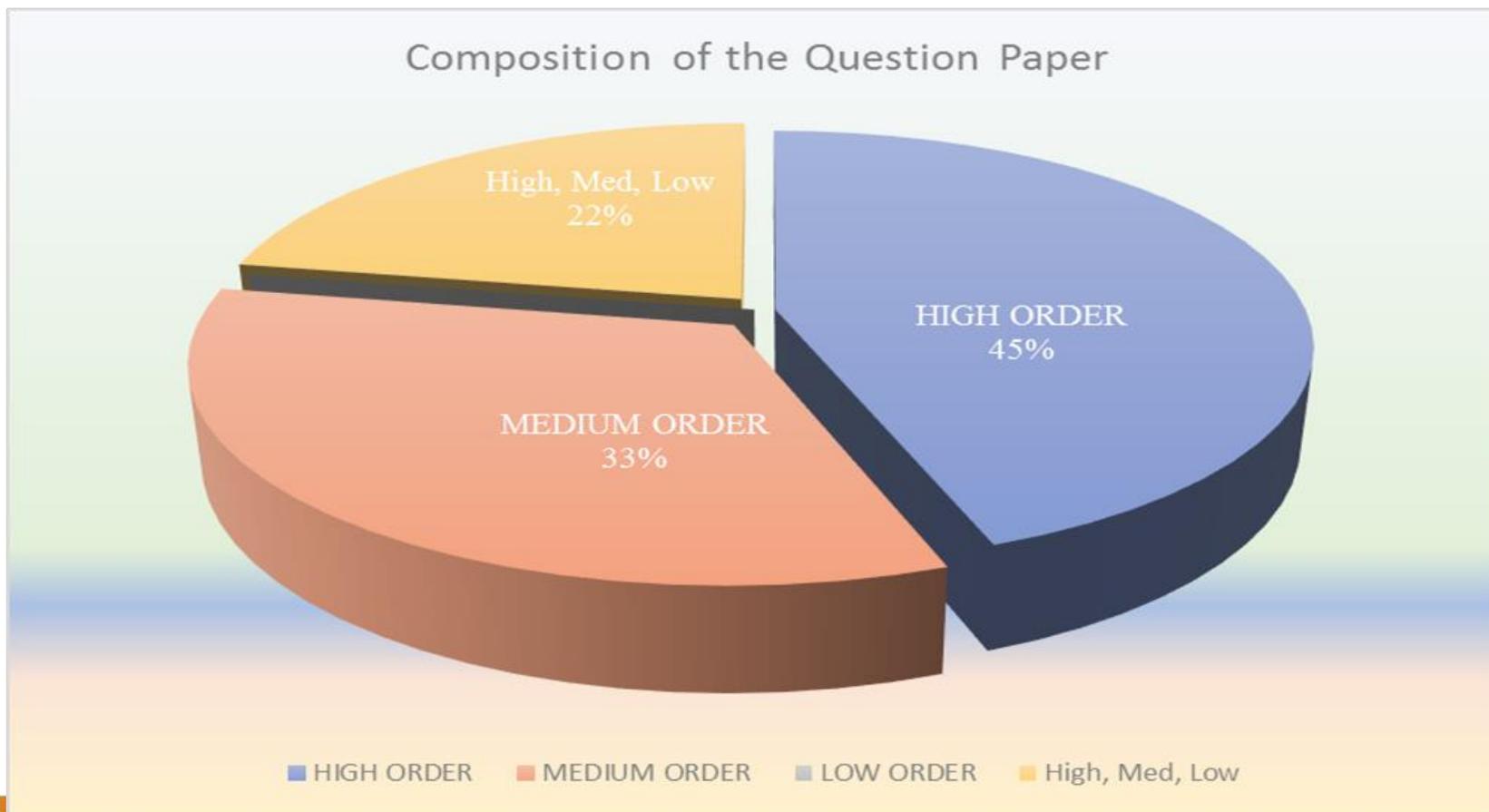
Eastern Cape pilot confirmed by the National Rapid Assessment (2023) as reliable



Definition: Mother Tongue based-Bilingual Education (MTbBE)

- The central concern of MTBBE is providing quality education to African Language children through the best-suited medium in order for them to have epistemological access to the curriculum (MST), while learning English.
- The language of the learner is used mainly as LoLTA with English as a supportive LoLT. (Grade 4 80%-20%).

2018 Grade 6 Maths Graded Question Paper



COMPARISON BETWEEN MTBBE & NON- MTBBE

■ MATHEMATICS MTBBE ■ MATHEMATICS NON - MTBBE



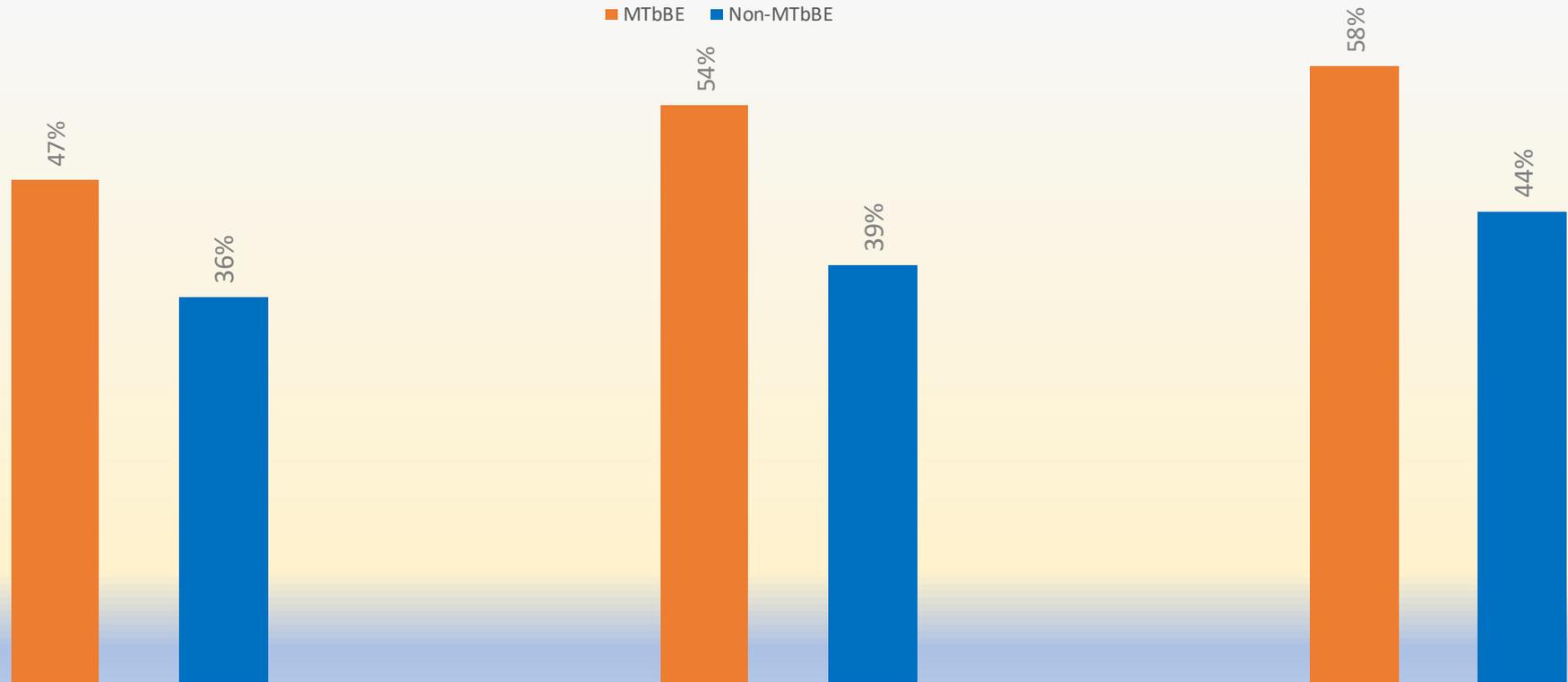
In High Order Questions MTbBE learners perform best

PERFORMANCE OF SCHOOL BASED ON QUESTIONS' LEVEL OF DIFFICULTY

MTbBE Non-MTbBE

Mixed Qstn
Composition

High- 60%
Medium - 30%
Low -10%



MTbBE
Non-MTbBE

HIGH ORDER Questions

MEDIUM ORDER Questions

Mix of High, Med, Low Questions

47%

54%

58%

36%

39%

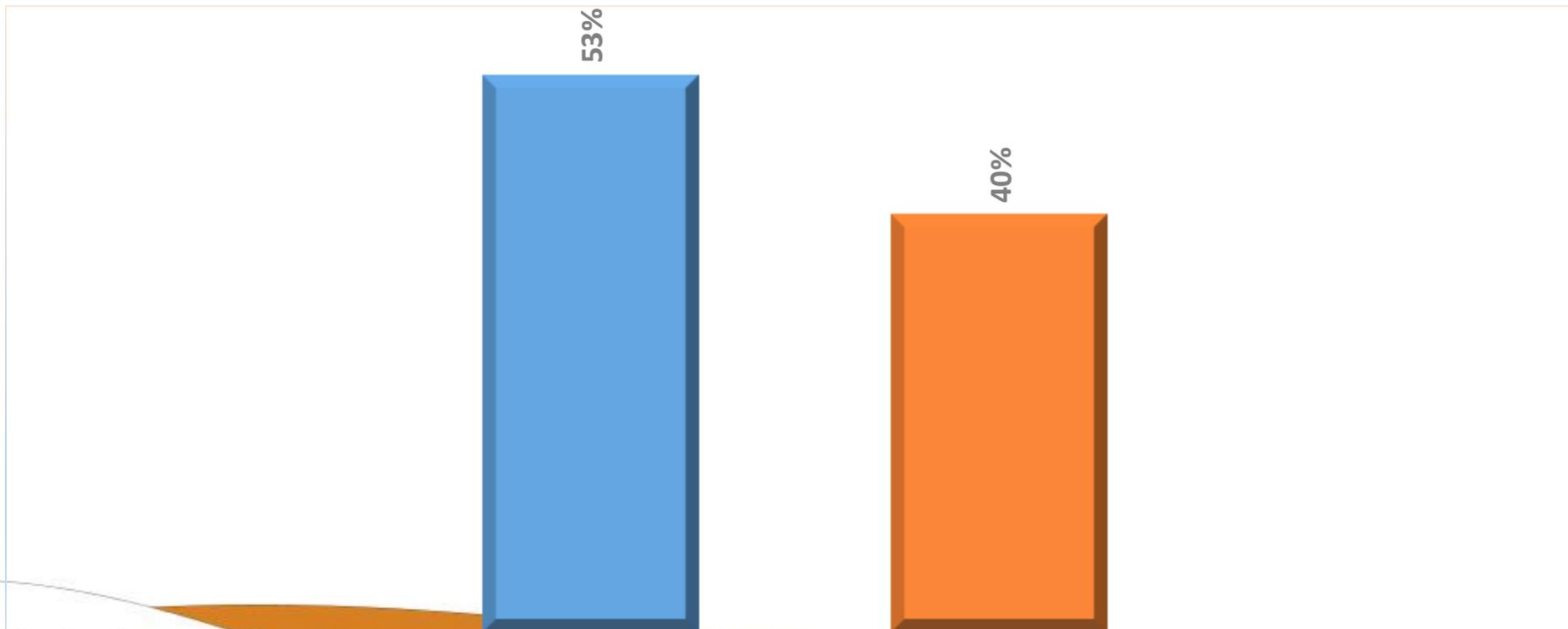
44%

Performance Per Cohort

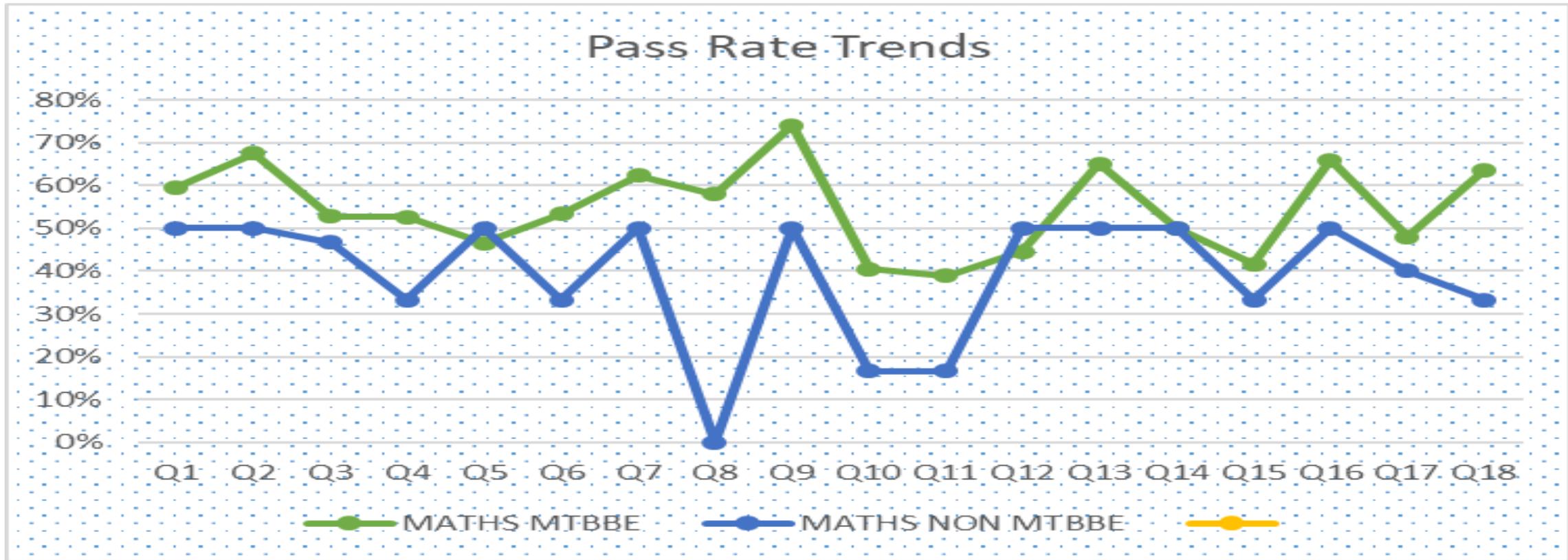
- From the graph below it is evident that in Mathematics, MTBEE learners are outperforming the non-MTBEE cohort.
- On average, MTBEE learners scored 53% whereas non-MTBEE scored 40% on average. These are significant gains.

MATHS PERFORMANCE PER COHORT

■ MATHEMATICS MTBEE ■ MATHEMATICS NON - MTBEE



Pass Rate Percentage Trends

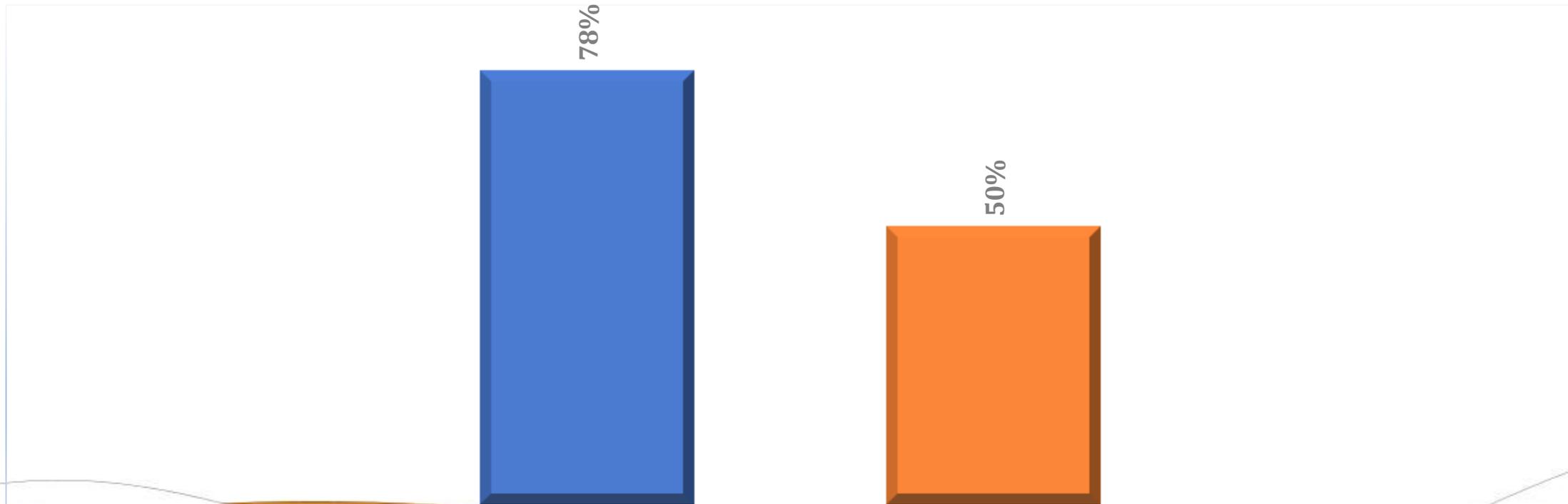


Q2, Q7, Q8, Q9, Q13, Q16 were High Order Questions.

NS TECHNOLOGY PERFORMANCE

NS PERFORMANCE PER COHORT

■ NATURAL SCIENCE MTBBE ■ NATURAL SCIENCE NON-MTBBE



**Conclusion aligned to international research:
Mental Math Dependant On Language, Researchers Find
Texas, A&M University (2001)**

Psychological research shows that the language most bilingual people use to mentally solve math problems is the language in which they were first taught maths - a finding with educational implications, especially for black learners who have mother tongue education in the Foundation Phase. Children's exposure to counting, enumerating and solving sharing problems in a particular language determines which language they will use to do maths with ease.

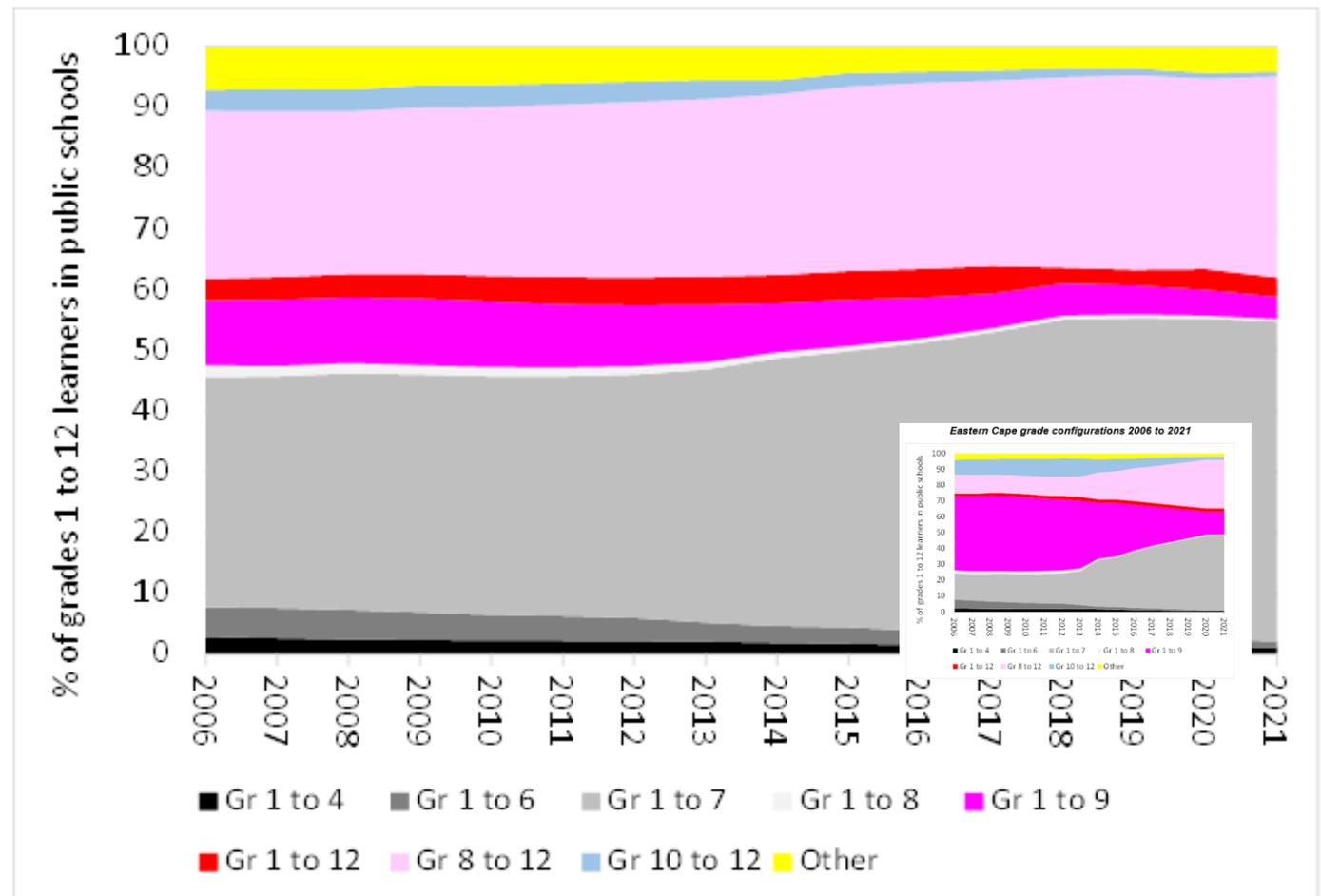
Positive Growth Trajectory for the ECDoE

- - The Eastern Cape is the only province where learners write the Grade 12 September Trials Examinations offered bilingual question papers in 6 subjects. Mathematics, Physical Sciences, History, Life Sciences, Agricultural Sciences and Accounting. The province is at 68% overall throughput rate.
- - Since the expansion of MTBBE in the EC province; there has been a noticeable upward trajectory of a qualitative nature from below right up to Grade 12. the EC has crossed the 80% ceiling for the first time with qualitative passes in both Mathematics and Science.
- - The National Rapid Assessment (2023) confirmed that the EC case study is a reliable prototype albeit challenges related to attitudes of officials and funding problems caused by budget cuts. The Minister convened a LIEP conference in July 2023 that expressed recommendations that 2024 was the year to extend AL LOLTA to Grade 4.
- - The positive trajectory for qualitative improvements in the EC are commendable; they should be sustained.

Enrolments in grades R to 12 over time (contd.)

Grade configurations 2016 to 2021

In 2006, **66%** of learners were in 1-to-7 or 8-to-12 schools. By 2021, that figure had reached **86%**, largely due to EC rationalisation.



In EC, % of Gr 9 learners in public schools able to proceed to Gr 12 in *same* school went from **35%** in 2010 to almost **80%** in 2021.

MTbBE Key findings

Teachers do not teach in English, and learners do not learn in English. English is a Language of assessment. Hence the low achievement in Mathematics. Translanguaging is key for improved academic performance in MST but develop Translanguaging principles for Assessment and harmonize across the system.

Peers have an instrumental role to play as ways of talking and engaging on maths and from maths are squared out without the fear of saying the wrong English sentence. In resource constrained areas, peer education reduces anxiety and leads to more learning opportunities. We need to focus more on bilingual peer education for MST.

MTbBE works min 6yrs. Significantly higher academic performance in MST in Grade 6 by MTbBE cohort.. Focus on MTbBME for the next 6 years to extend epistemic access to MST.

Increased chances of opportunities to talk about maths and science amongst girl children, and their natural competitiveness comes up in translanguaging . Girl learners do well in leading MST education when they don't feel anxious about getting it wrong.

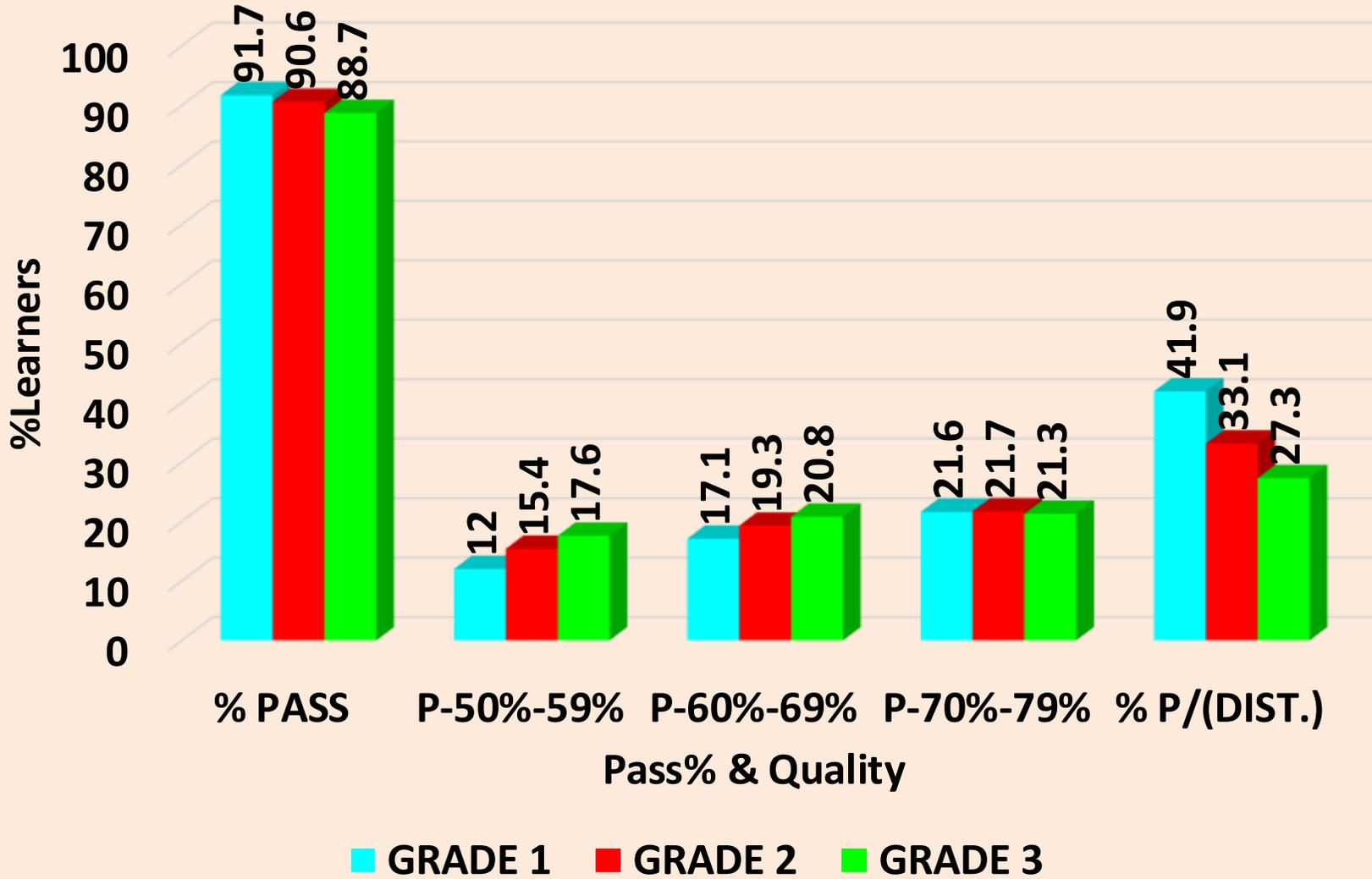
Language planning accelerates MTbBE:

- Status Planning
- Acquisition planning
- Corpus Planning
- Prestige planning.
- S, M & E Planning (assessment)

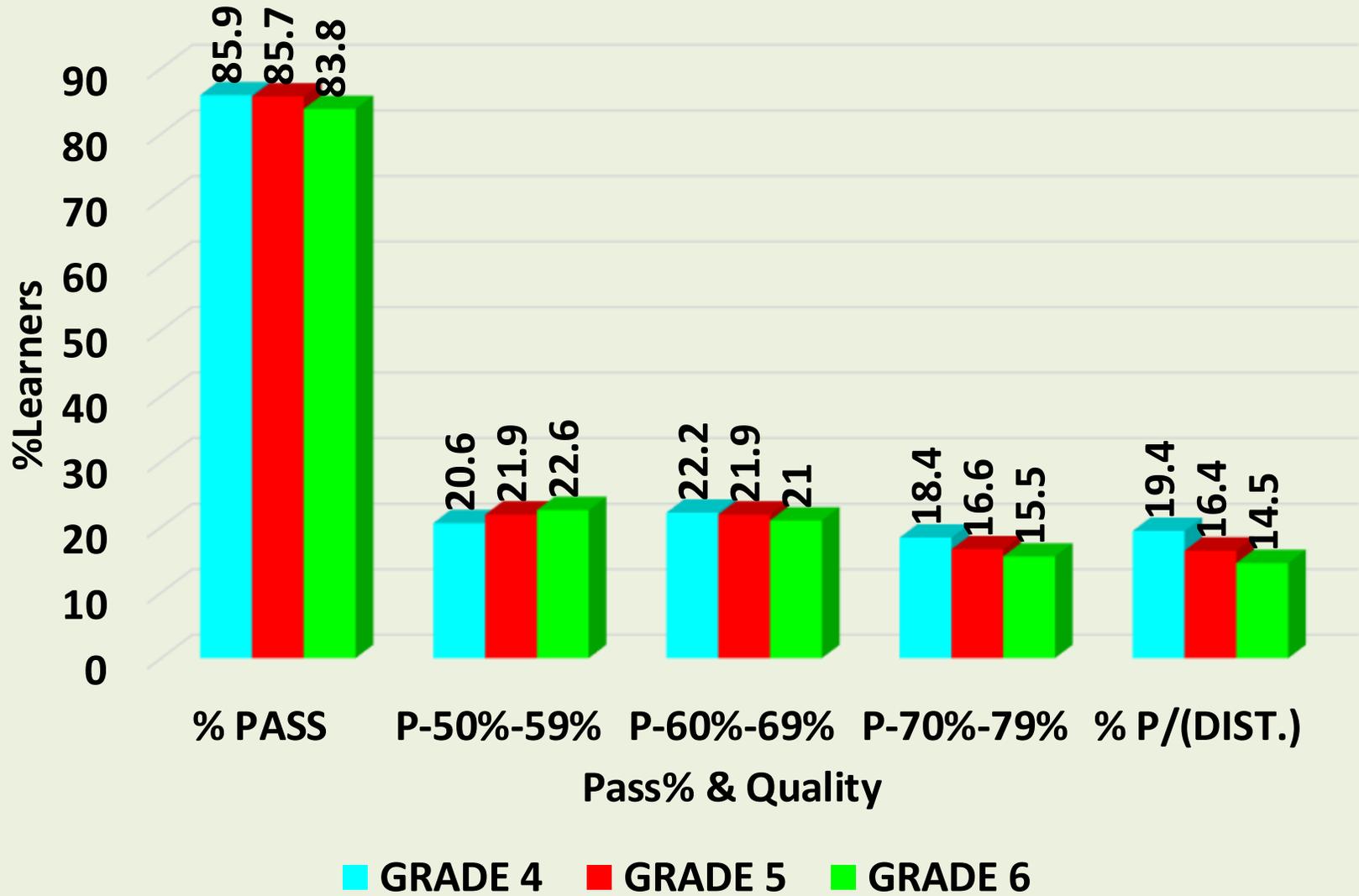
Lessons learnt:



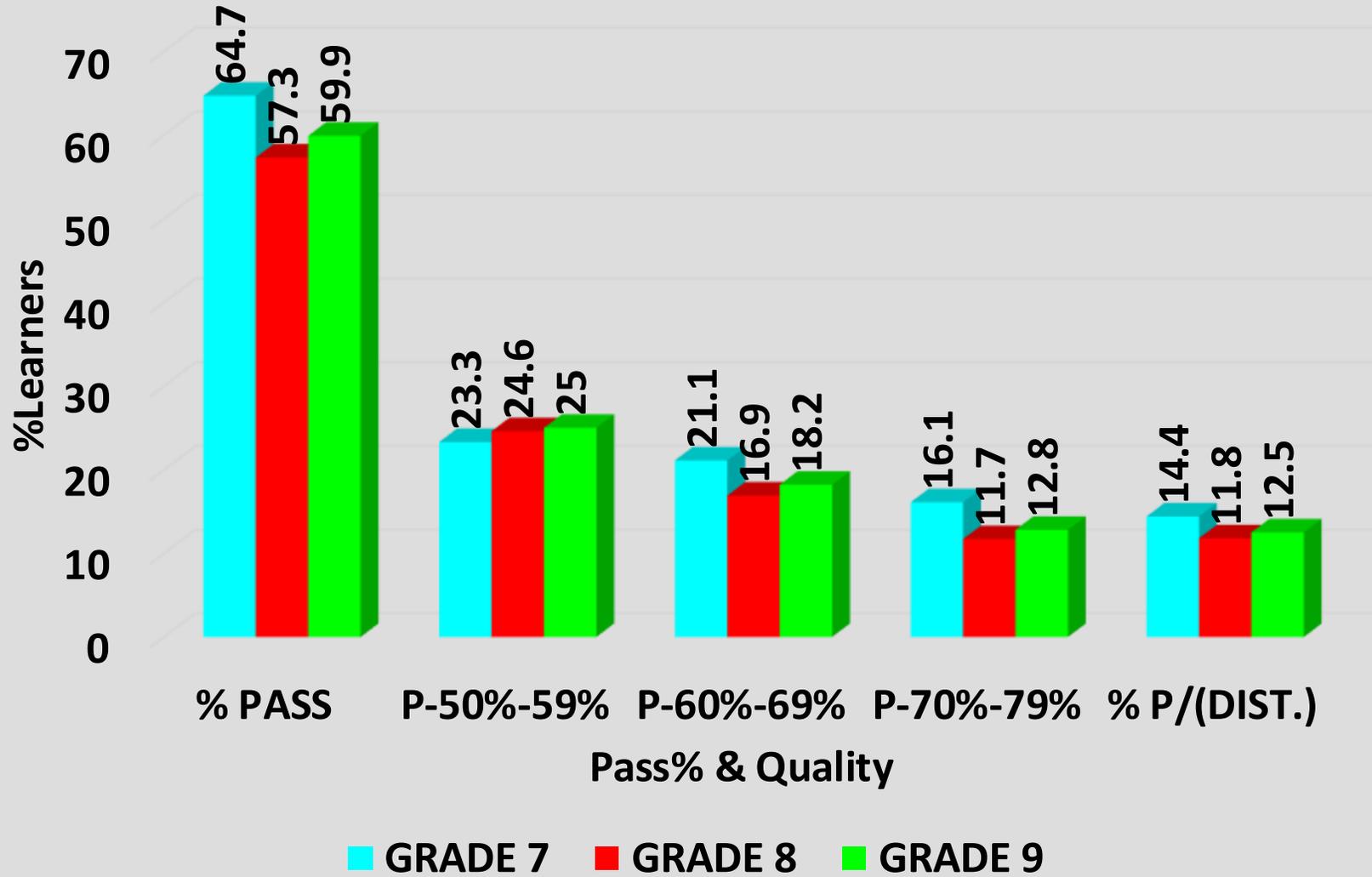
MATHEMATICS FP



Mathematics IP



MATHEMATICS SP



Every child is a National Asset

WAY FORWARD

THE 2025 MTbBE ROADMAP



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



STRATEGIC AREAS FOR DBE TO FOCUS ON FOR ROLLOUT

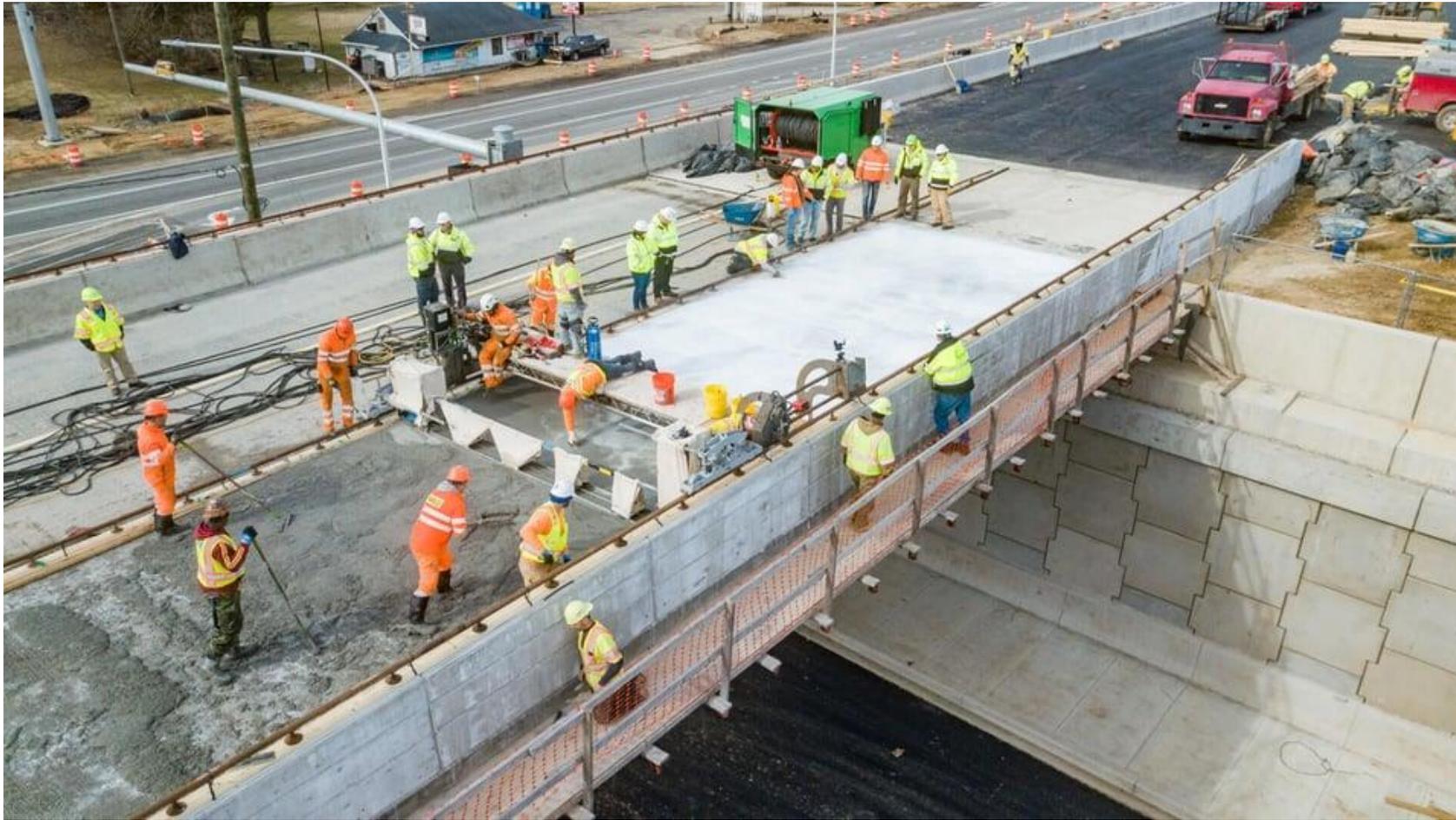
- 1. Policy and Curriculum Alignment:** Conduct a comprehensive review of existing policies, frameworks, and curricula to align them with the MTbBE approach, including assessment policies and language requirements that are de facto policies.
- 2. Resource Mobilisation:** Develop a robust resourcing plan that leverages public-private partnerships, reallocates existing budgets, and explore external funding sources for LTSM development, teacher training, advocacy campaigns, and staffing the National Language Unit, as well as establish Provincial Language Units.
- 3. Teacher Development:** Prioritise the creation of a national teacher development framework for MTbBE, strengthen collaboration with higher education institutions, and streamline accreditation processes for relevant programs.
- 4. Monitoring and Evaluation:** Establish a comprehensive monitoring and evaluation framework to track literacy outcomes, assess the impact of MTbBE and assessments on teaching and learning, and inform continuous improvement of the strategy and implementation.
- 5. Stakeholder Engagement and Advocacy:** Launch a coordinated advocacy campaign targeting parents, communities, and policymakers to promote the importance of Mother Tongue-based Literacy and garner support for MTbBE implementation.
- 6. Partnerships and Coordination:** Create a coordinated partnership platform to engage with various stakeholders, including the private sector, civil society, traditional leaders, and indigenous knowledge systems, to leverage their contributions and ensure alignment of efforts. Desist the urge to maintain what is now working even if partners are sponsoring it, NGOs must be coordinated.

Transformative Levers/ CHANGE LEVERS

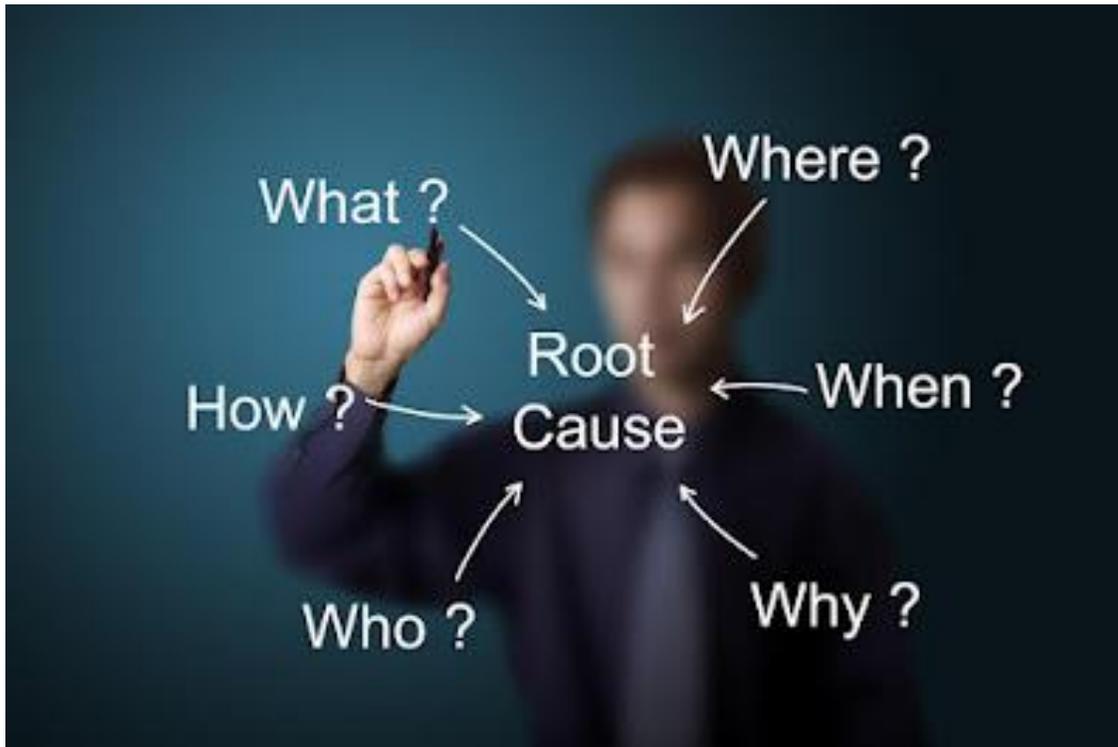
The levers of change for a successful implementation of Mother Tongue-based Bilingual Education (MTbBE) include:

1. **Stakeholder Engagement:** Active involvement of community leaders, educators, parents, and students to ensure relevance and buy-in. Alignment of the work of NGOs and everyone in the sector with that of DBE is key.
 2. **Teacher Training:** Equipping teachers with the necessary skills and knowledge to effectively use and implement LTSM.
 3. **Resource Allocation:** Securing funding and partnerships to provide adequate implementation, especially a reprioritisation of available resources.
 4. **Policy and Governance:** Establishing provincial and national language units to ensure coordinated support and alignment with educational policies.
 5. **Curriculum Integration:** Integrate MTbBE as a lever in the Curriculum Strengthening process. Develop instructional materials, and multilingual assessment processes into the curriculum to support MTbBE. Upgrading the NPPPR to legitimise translanguaging for LoLTA for the entire schooling system in phases, for FP, IP, SP and FET.
 6. **Monitoring and Evaluation:** Continuous assessment and improvement of strategies and effectiveness based on data-driven insights. Continue to use the aggregated data using language and race as a variable it informs the system.
 7. **Advocacy and Awareness:** Awareness raising campaigns and support for MTbBE among DBE officials and stakeholders.
- By focusing on these strategic areas and addressing the pre-enabling activities, the Department can lay a strong foundation for the successful implementation of the Mother Tongue-based Bilingual Education approach across all educational phases.

WE ARE ALL BUSY TRYING TO CREATE BRIDGING TO LEARNING FOR AFRICAN CHILDREN



What is the ask to NASCEE:

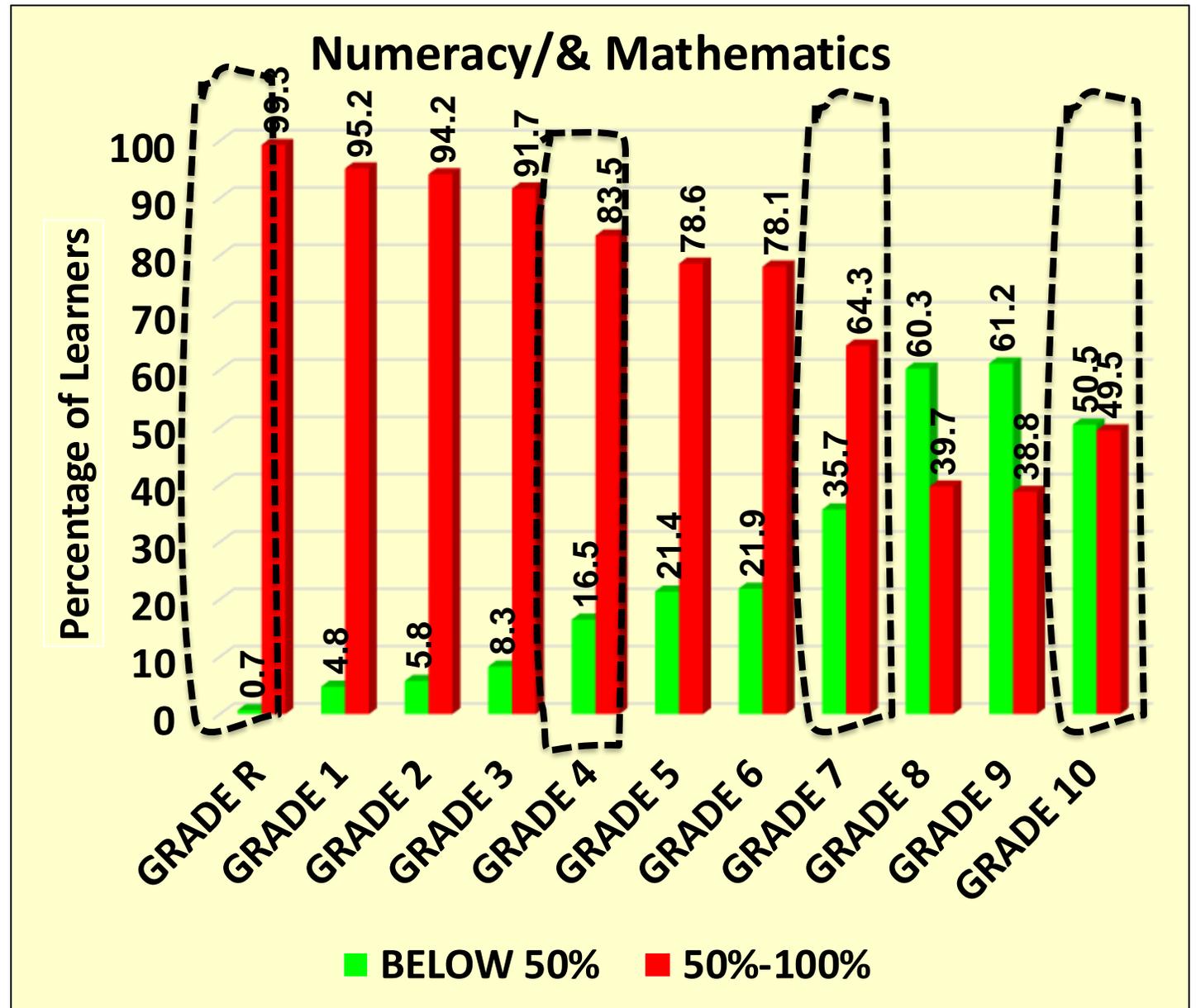


- Interventions that attend to symptoms and not root cause, **fail to address** the core.
- **Wastage, duplication, competition** has miniscule returns on investment. It creates mistrust and we always asks who benefits from such large injection of cash to ineffective strategies.
- **Confusion**; partners, stakeholders and role-players diverge to find reasons not aligned to the cause. **Wrong diagnosis** = incorrect **prognosis**/ treatment.
- Funding fatigue and **deficit narratives** prevail. Always consult and use relevant platforms before embarking on 'good ideas'
- **Translators are not versioners**; get content specialists.
- MT specific methodologies matter; if they're derived from English mainly; that's the beginning of the problem.
- Align your work to that of the sector, sharing the resources is NB, enhances your work. Collaborations are the way to go.
- Share **experience and expertise** if you have acquired any. The development of Afrikaans has valuable lessons, let's filter and replicate.
- Review your work by getting experts who know the area of specialization. Be a perpetual learner.

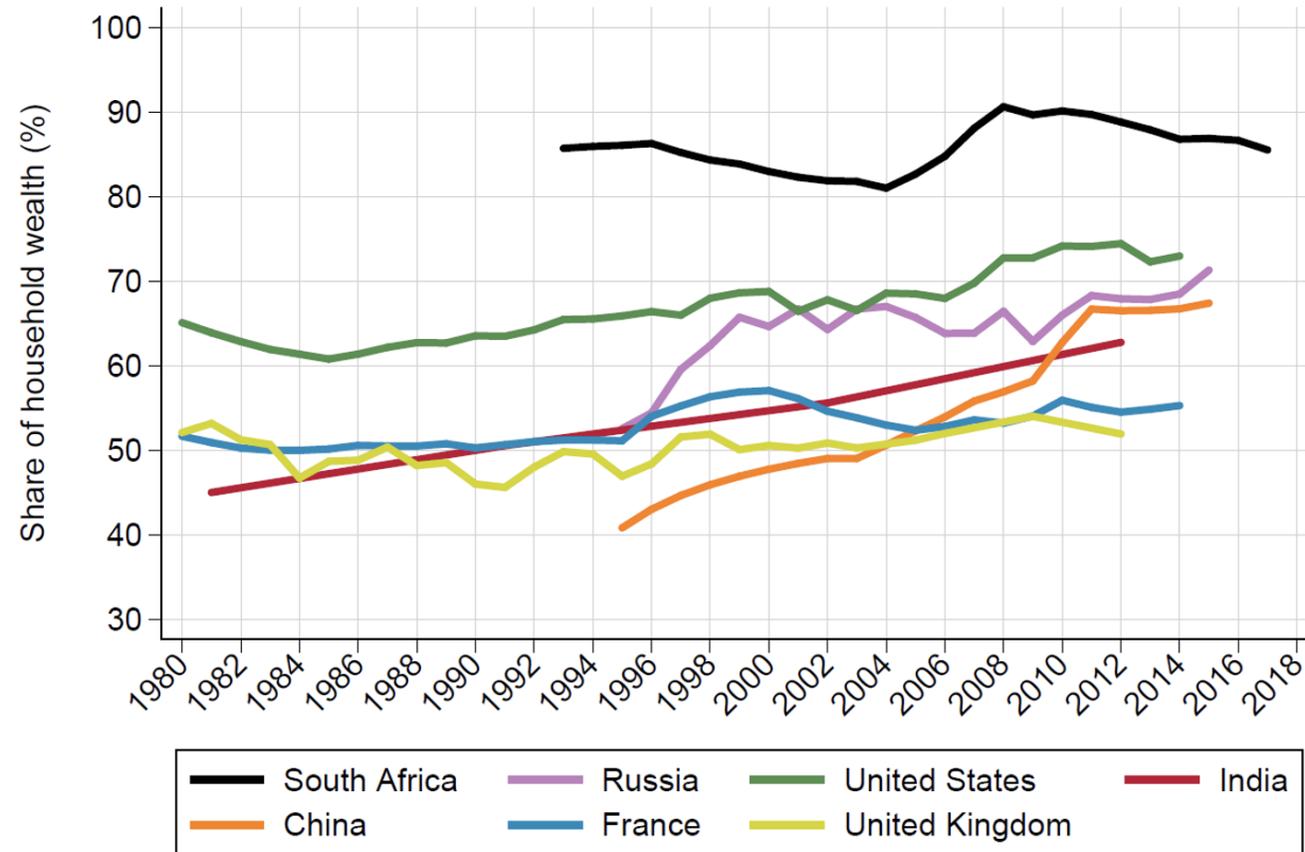
IN CONCLUSION

The only way to change this trajectory is using ALs as LoLTA.

- If this picture is uncomfortable to you, then join us on the DBE journey towards MTbBE for all children.



No one want to be permanently poor!



Thank you!

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