



# Evaluation and benchmarking of curricula

Determining standards for qualifications and curricula

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Emmanuel Sibanda & Liz Burroughs - Umalusi

# ASSAf questions

- What progress has been made in developing benchmarks and related tools?
- What approach has been selected for benchmarking and why?
- Who or what should South Africa be benchmarking against?
- What gaps or problems remain?

# Umalusi

## Maintaining and setting standards

- Established in 2001, by an Act, to quality assure the standard of education in schools and ABET
- While not mandated to do research, Umalusi nevertheless created a Research unit, which has, since 2004, done research focussed on understanding the nature and the standard of the South African Senior Certificate, and more recently the new National Senior Certificate

# What has Umalusi benchmarked? Why?

Year	Comparison	What compared
2004	1993 and 2004 SC examinations	Examined curriculum
2006	School and college subjects	Intended and examined curricula
2007	Making educational judgements	Reflections on processes
2008	Learning from Africa: the SC and other Anglophone exit qualifications	Intended and examined curricula
2008	Maintaining Standards: the SC and the NSC	Intended and examined curricula
2009	Maintaining Stds: NSC and NCV; NSC and international qualifications Foundation Phase	Intended and examined curricula  Intended curricula

# The evolution of evaluation instruments

- **2004 Matric Research:** 4 subjects, in same qualification over time – Were standards dropping?
- No tools, but suggested criteria and categories
- **2005 School College comparison:** 4 subjects shared in common across 2 different qualifications
- Guidelines for the evaluation of both the intended and examined curriculum. Teams developed a variety of subject-specific tools in response to the questions posed.
- 2007 Cognitive tool workshop – a single tool to be used across subject areas

# Evolution of evaluation instruments 2

- **2006 – 8 African comparison:** 4 subjects, in equivalent qualifications in 4 Anglophone African countries
- A tool, based on the revised Bloom's taxonomy, introduced for use in both the curriculum and exam evaluations
- **2008 Maintaining Standards:** 6 gateway subjects compared for the Senior Certificate (HG and SG) and the National Senior Certificate, NATED 550 and NCS
- The evaluation instrument for MS was based on the learning from the previous research, but with additional constraints.

# Conducting the evaluations

- Teams – a variety of expertise
- The instrument – a detailed questionnaire, partly in Excel, partly in Word. Curriculum; Examinations. Exactness, conciseness
- The raw material – the NATED 550 syllabuses for HG and SG, Exam guidelines, exam papers over a period of 3 years plus memoranda; the NCS, LPGs, SAGs, exemplar papers, 2008 papers, relevant educational policy
- Training workshops – use of the tools, finding consenses.

# The curriculum evaluation instrument

- The purpose in the MS curriculum evaluation was to understand how comparable the National Curriculum Statement the SC HG and SG syllabi, that is, the intended curricula, were as the basis for setting comparable exams (the examined curricula) across the two qualifications
- An instrument for analysing and comparing exams formed a companion evaluation: actual level of difficulty and cognitive demands



# What aspects were analysed? And how?

- Content specification and coverage, weighting and focus
- Skills specification, weighting and focus
- Text specifications (language group)
- Organizing principle and coherence
- Sequence progression and pacing
- Aims/purpose/vision/outcomes
- Teaching approach and subject methodology
- Assessment guidance
- Availability, user-friendliness and use of curriculum documents
- Concluding tasks

# Content analysis

- Identify all the major content areas represented in the three curricula
- Estimate the apparent cognitive complexity level of each area/sub-area identified
- Examinable or not examinable
- Content weighting: percentage of class time
- Content weighting: percentage of exam time
- Focus: Discipline specific, Generic, Life skill (as percentages)

# Theoretical foundations

- Based on Bernstein's theory of pedagogy, and operationalised over time by various groups of researchers working in various countries over the world.
- Umalusi's evaluation has been shaped by Bernstein's concepts of the framing of selection, sequencing, pacing and evaluation criteria
- So, for example, selection operationalized as the specification, weighting and foci of content and skills
- Evaluated what is in the curriculum as well as how it is to be achieved

# Eg: Part of content/ skill section of Umalusi curriculum evaluation tool

Content/ skill	Skill details			NATED 550 SG		NATED 550 HG		NCS 2008	
	Doc	Pg	Type	Spec	Diff	Spec	Diff	Spec	Diff
<b>Add</b>	1		B	X	M	X	D	X	M
<b>Subtract</b>	1		Af	X	M	X	D		
<b>Multiply</b>	3		An			X	D	X	D

# Eg: Contact time needed per curriculum (Physical Science)

Curriculum	Est. no. 45 min. periods		% class time (Full curricula)			% class time (Examined curricula)		
	Full curr.	Examina ble curr.	D	M	E	D	M	E
<b>NATED 550 SG</b>	<b>241</b>	<b>119</b>	<b>34</b>	<b>57</b>	<b>9</b>	<b>37</b>	<b>53</b>	<b>10</b>
<b>NATED 550 HG</b>	<b>254</b>	<b>144</b>	<b>37</b>	<b>55</b>	<b>9</b>	<b>47</b>	<b>44</b>	<b>9</b>
<b>NCS 2008</b>	<b>368</b>	<b>162</b>	<b>38</b>	<b>49</b>	<b>13</b>	<b>43</b>	<b>48</b>	<b>9</b>

# How useful has this benchmarking been?

- Essential in terms of the standardization work Umalusi does. Provided immediate information to inform Umalusi's stats committee in its deliberations.
- Provided a nuanced understanding of the similarities and differences between the substance of the SC and that of the NSC: findings differ among the teams
- No matter how carefully the tool is developed, the demands of the subject being analysed will influence how the instrument is used
- The 2009 MS is using the same teams to analyse curricula associated with the qualifications offered by CIE, and the International Baccalaureate

# Assaf Questions

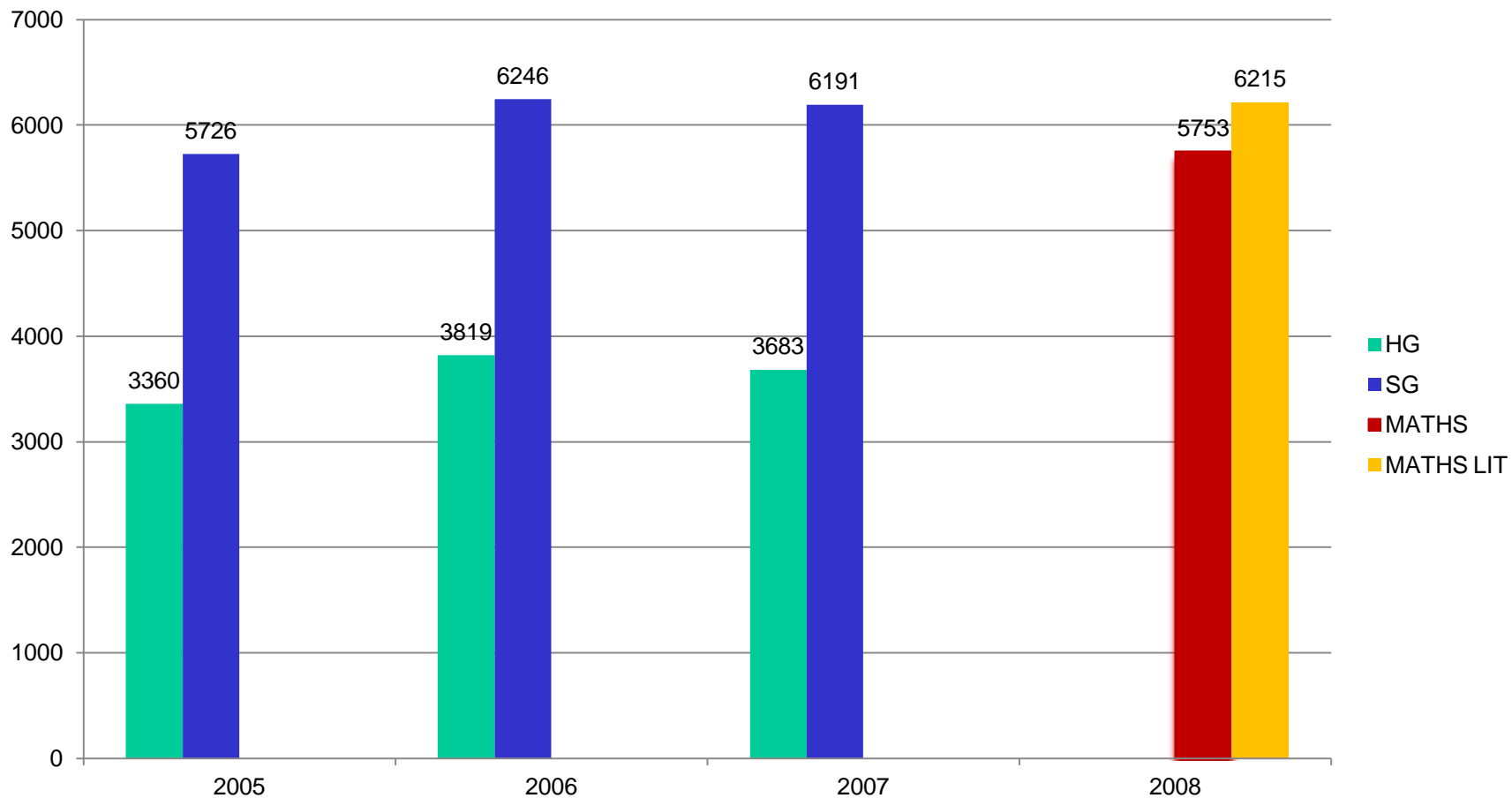
- Where are we now
- Where do we want to be
- How do we get there
- **Where do we come from**

# Where do we come from:

Senior Certificate	National Senior Certificate
One year qualification	Three years qualification
Ten national subjects	Sixty six national subjects
Two Levels: HG & SG	One level – differs from one subject to the other
Maths HG versus SG	Maths versus Maths Lit



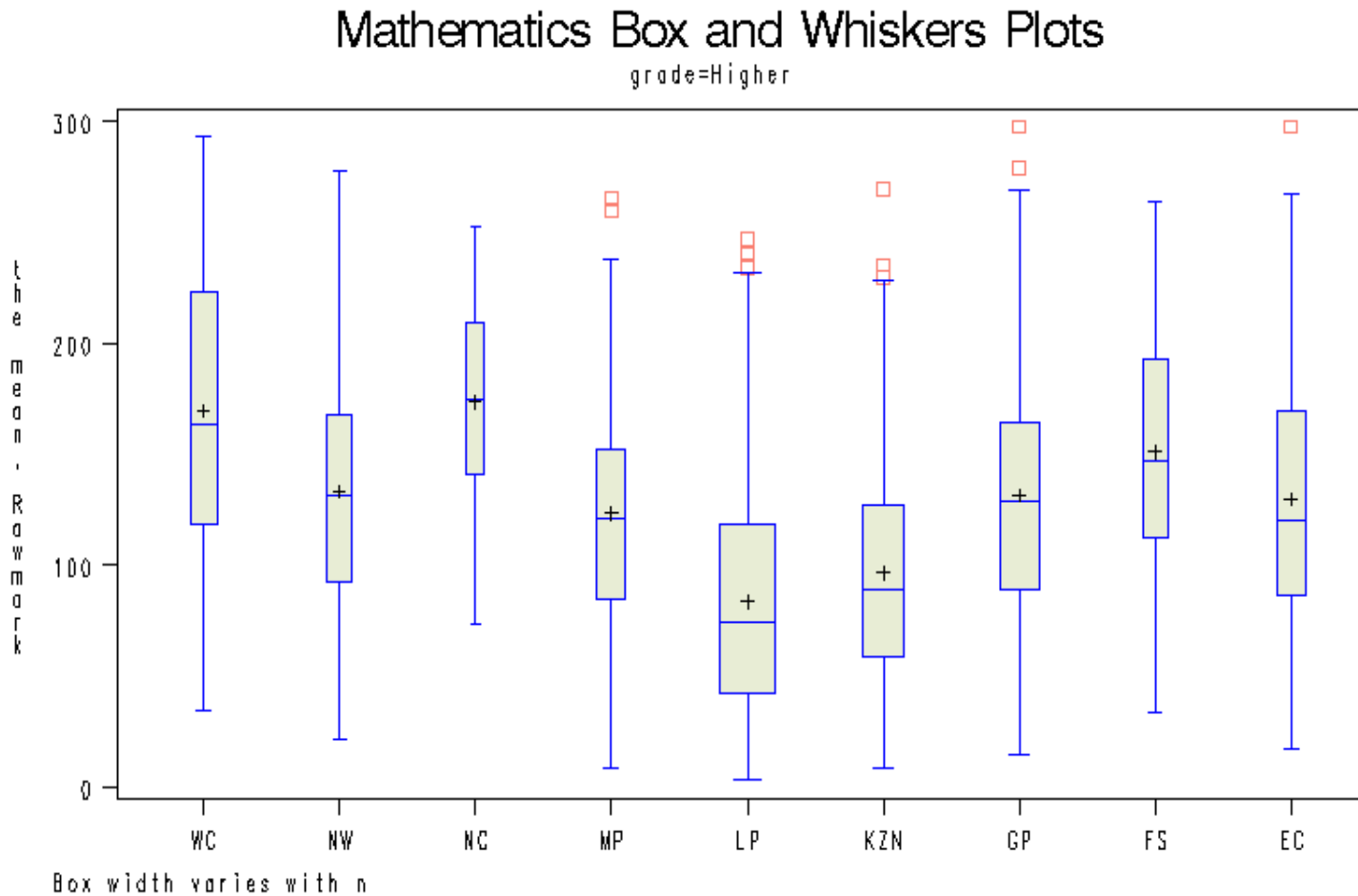
# Where do we come from: Number of Schools



# Where do we come from: Grade 12 Enrollment

Subjects	HG - 4 Year Average	SG - 4 Year Average	2008 NSC
Biology	80,945	189,581	206,338
English	383,342	10,563	323,423
Geography	89,392	97,039	147,644
Mathematics	29,578	213,613	201,602
Physical Sciences	47,022	102,882	147,896
Mathematics Literacy			196,617

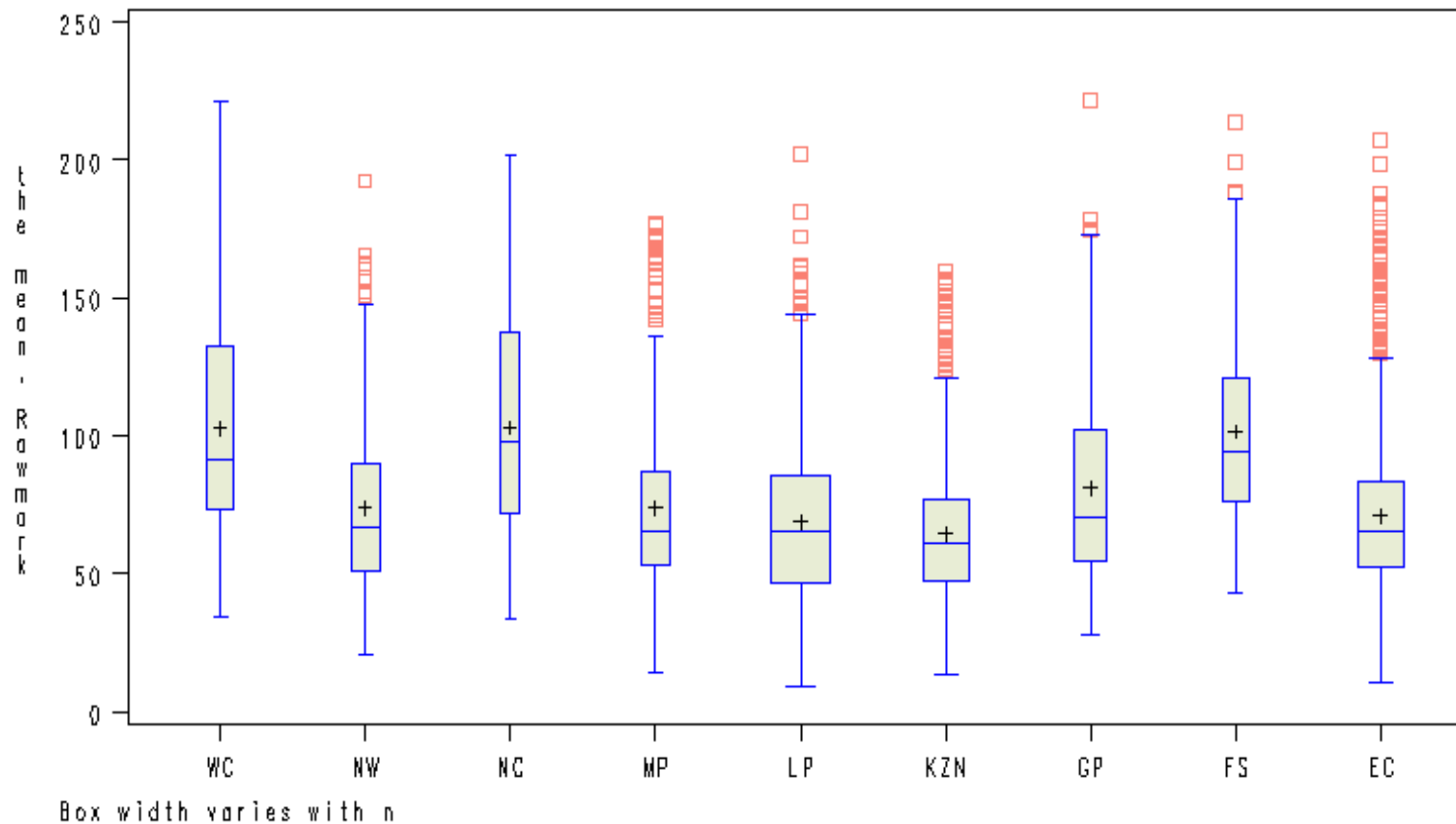
# Where do we come from: Performance in Maths HG



# Where do we come from: Performance in Maths SG

## Mathematics Box and Whiskers Plots

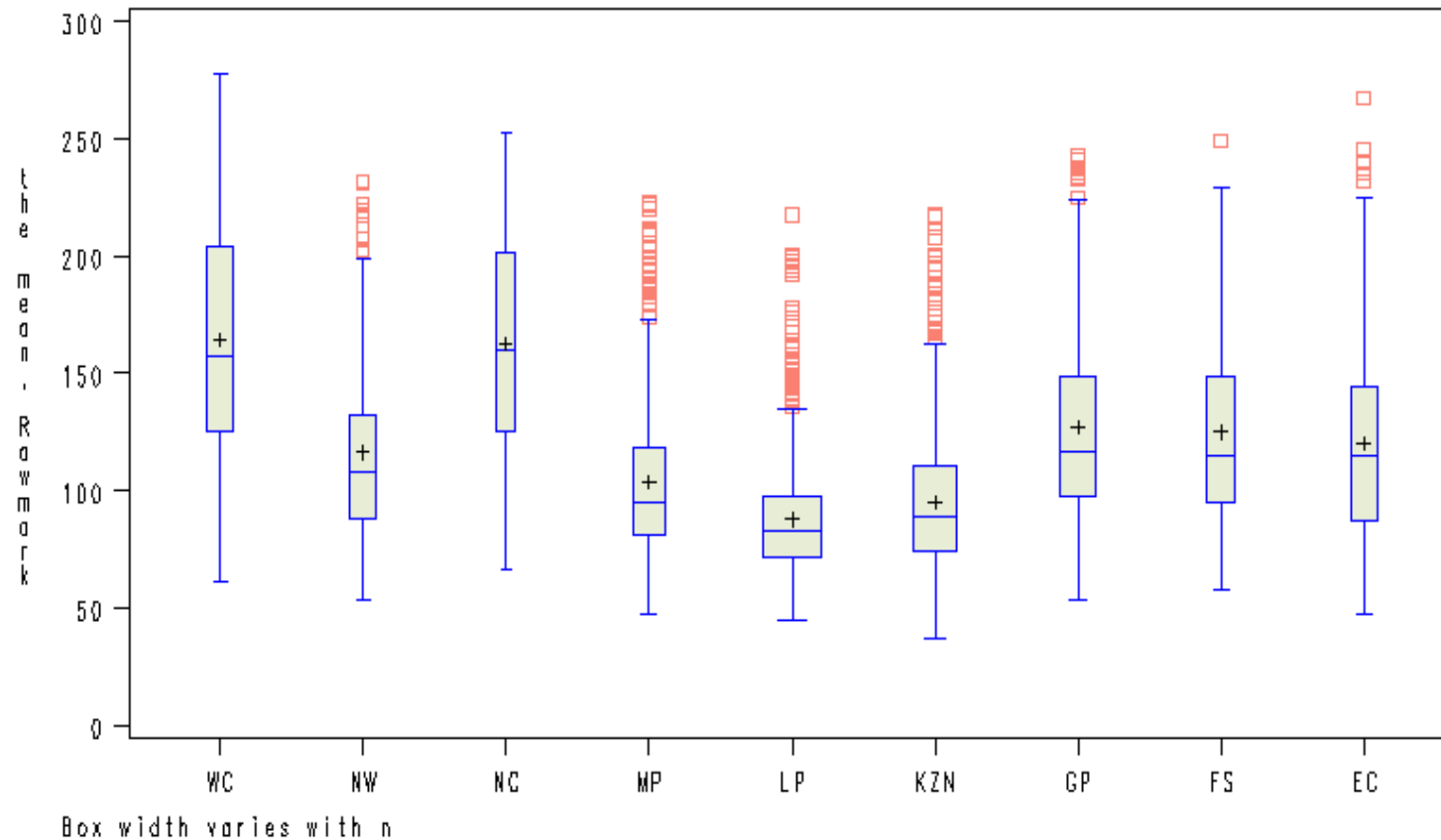
grade=5 standard



# Where do we come from: Performance in PHS HG

## Physical Science Box and Whiskers Plots

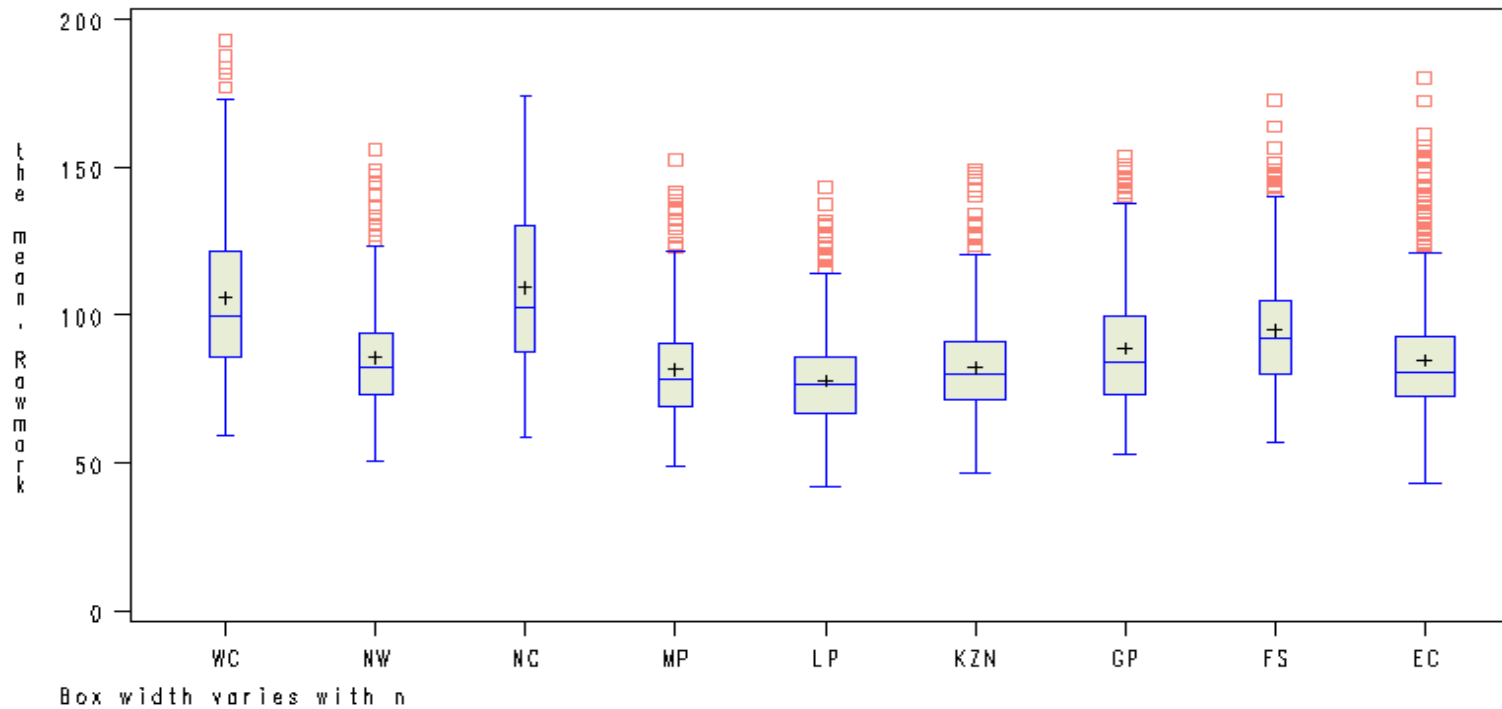
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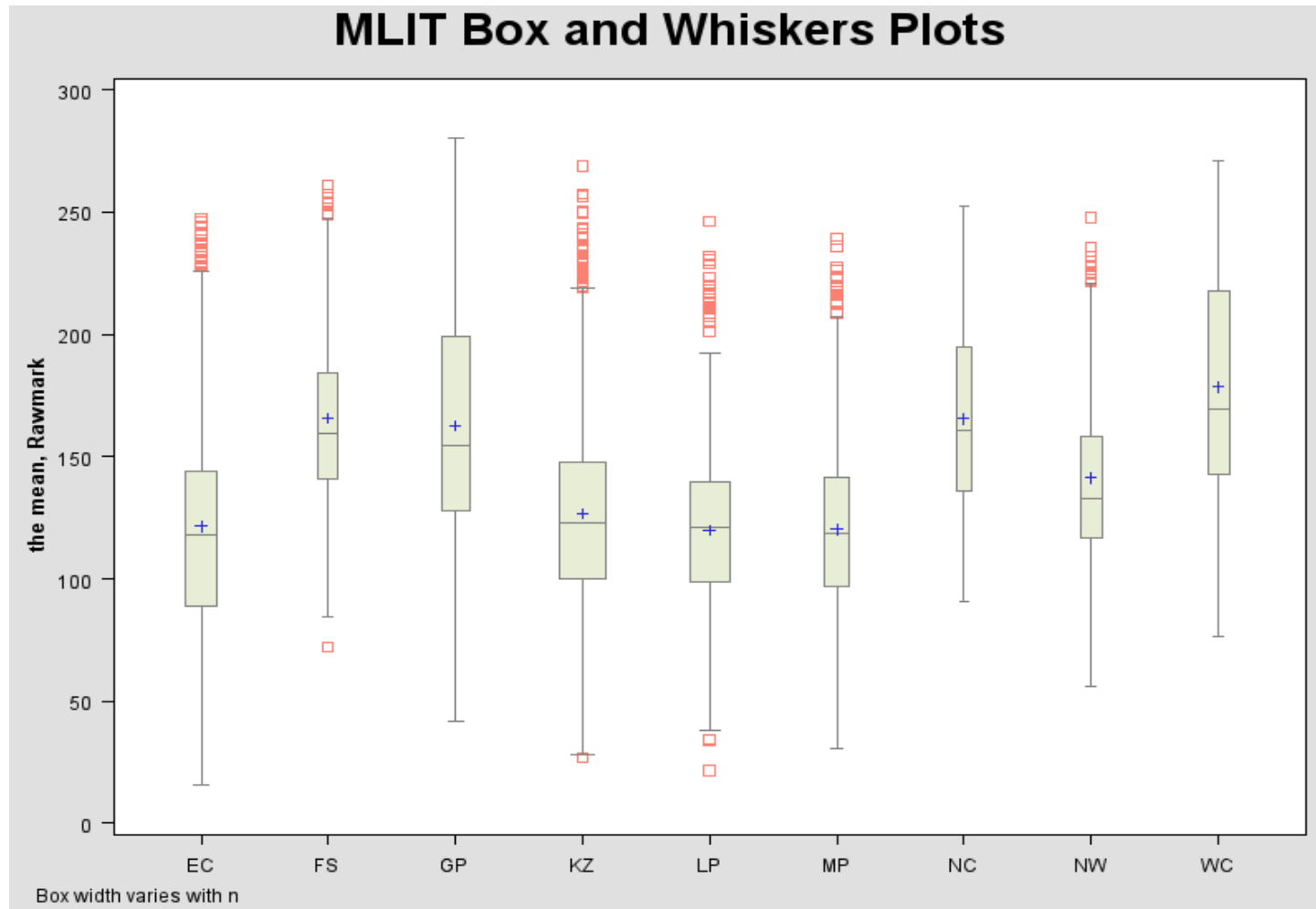
# Where do we come from: Performance in PHS SG

## Physical Science Box and Whiskers Plots

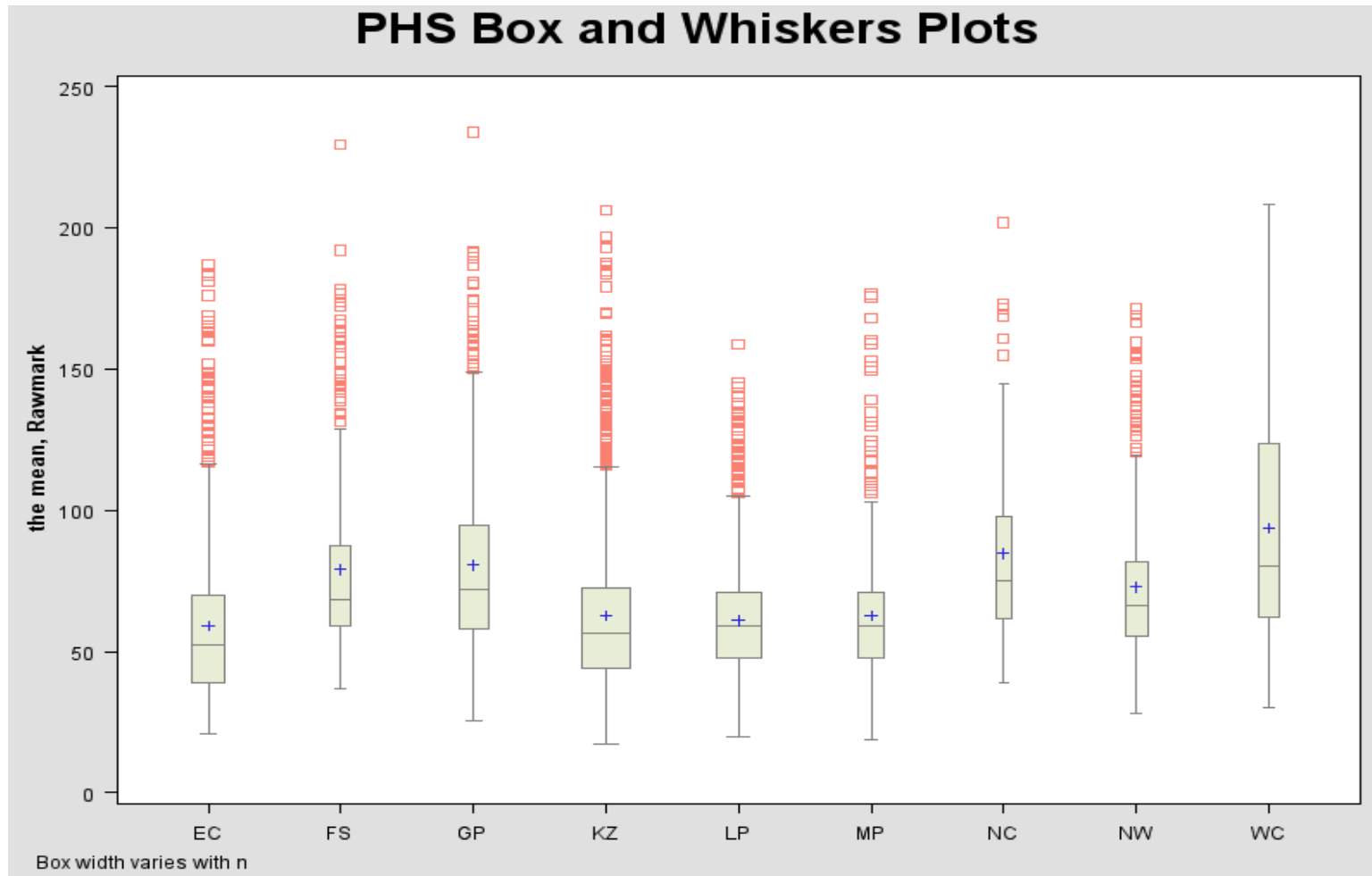
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# Where do we come from: Performance in MATHS LIT



# Where do we come from: Performance in PHS





# Where do we come from: Performance of the Best Schools

Subject	Level	2004'	2005'	2006'	2007'	2008'	Percentages
ACC	HG	111	63	49	36	35	<b>97</b>
	SG	296	145	108	91	55	<b>60</b>
MATH	HG	93	50	43	33	32	<b>97</b>
	SG	420	278	213	178	149	<b>84</b>
PHS	HG	156	110	102	91	85	<b>93</b>
	SG	307	153	109	86	60	<b>70</b>
BIO/LIF	HG	250	188	166	141	119	<b>84</b>
	SG	397	223	172	131	90	<b>69</b>
BEC/BU S	HG	161	90	60	51	37	<b>73</b>
	SG	317	127	41	29	11	<b>38</b>
HIS	HG	99	64	52	45	30	<b>67</b>
	SG	208	81	40	28	5	<b>18</b>
GEO	HG	240	155	131	115	95	<b>83</b>
	SG	254	131	79	64	46	<b>72</b>

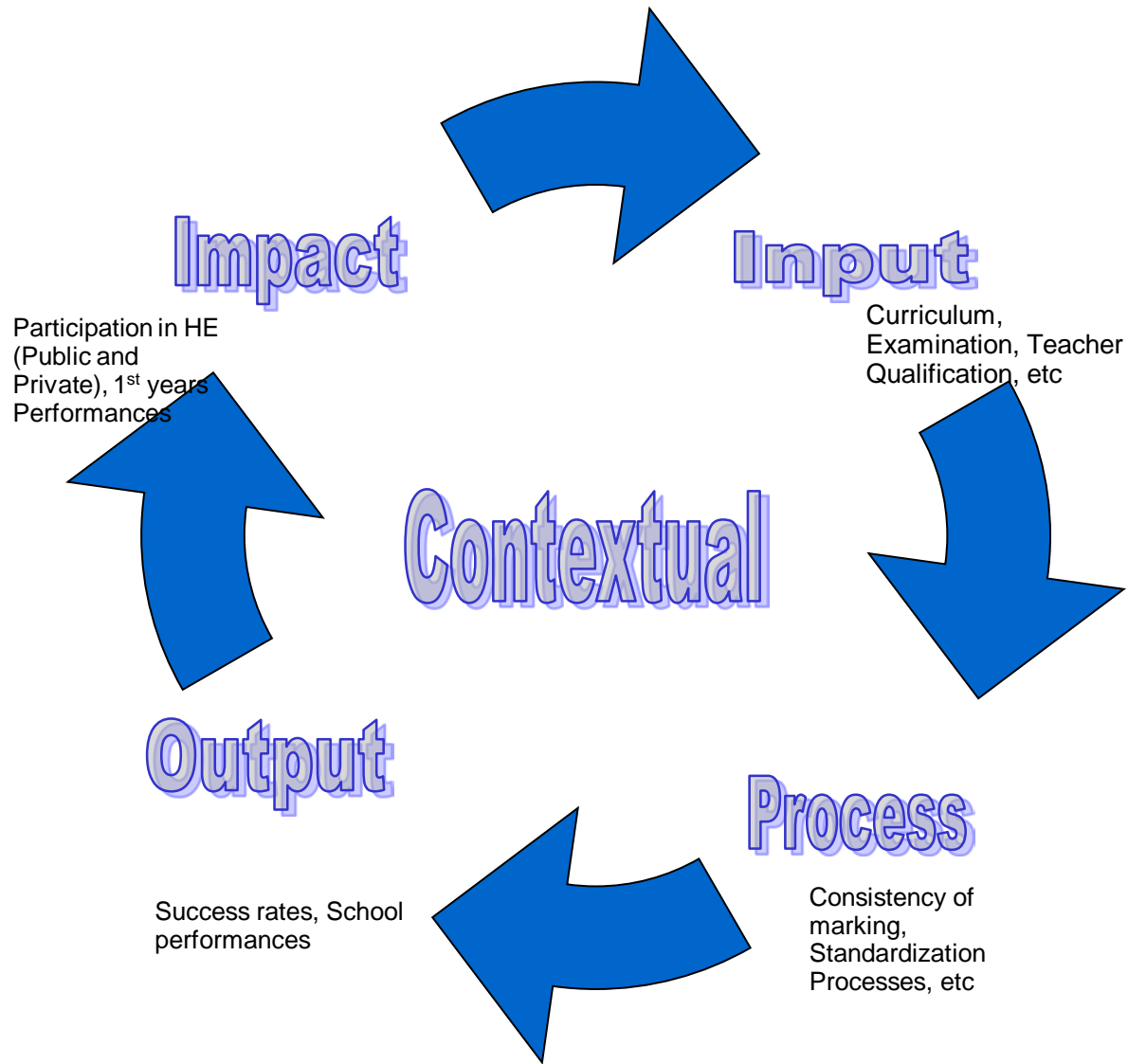
# Assaf Questions

- Where are we now
- Where do we want to be
- How do we get there
- **Where do we come from**

# Purpose of the Research

- To provide Umalusi's Assessment and Statistics Committee with information on the *comparability* of the old NATED 550 and new *National Curriculum Statement* curricula, and on the comparative *difficulty of the exams* associated with each.
- Feed into Indicators Project

# Quality Indicators



# Conclusion

- HEI must know the NCS
  - Intended versus assessed curricula
  - Maintaining Standards
    - Compared learner curricula and exam – but cannot guarantee performance
      - Results indicate the differences not what should be in the curriculum
    - Reports/2009/IRT
- At 1<sup>st</sup> year level start at were the students are at .....(Marshall)
- Identify indicators and how to measure them
  - Shifting of goal posts/target
- Recommendations must be informed by research (evidence based)
  - Paper 3 and Geometry

# Conclusion

- Same calendar as the School
  - SADEC countries release results in Feb, March
    - Quality and standards verification processes
- Understanding the Purpose of NSC
  - Understanding/knowing what your 1<sup>st</sup> year 'lack'
    - Start your programmes in SEP –use the first three months for 'catch-up'
    - You have to know where they are 'at' not assume where they 'should be'.

Thank You

**Liz@umalusi.org.za**

**Emmanuel@umalusi.org.za**