Learning Metrics Task Force

A *Technical* Perspective on Next Steps

Ray Adams, November 2013

Australian Council *for* Educational Research

Core Goal of the LMTF

The overarching goal of the Learning Metrics Task Force is to catalyse a shift in the global conversation on education from a focus on access to **access *plus* learning**.

We can check/tick this off our list as achieved

Next Steps for the LMTF

- ✓ Importance of access
  - Physical resources, professional resources, social impediments, economic impediments
- ✓ Importance of learning outcomes
  - From retention rates (outputs) to progress in agreed and valued learning metrics (learning outcomes)
- **Importance of data**

I have been struck again and again by how important measurement is to improving the human condition. You can achieve amazing progress if you set a clear goal and find a measure that will drive progress toward that goal—in a feedback loop

Annual letter from Bill Gates 2013
Measuring Progress

Importance of Data: A Common Refrain

Without feedback from precise measurement … invention is doomed to be rare and erratic. With it, invention becomes commonplace.

Starting around 1805, the "Lord Chancellor" micrometer was an excalibur of measurement, slaying the dragon of imprecision for inventors in the industrial revolution.

William Rosen: The Most Powerful Idea in the World: p198

A person without data is just another person with an opinion

Schleicher after Demming

When you know better, you do better

Maya Angelou

The Concern

Things we can measure are given prominence and value over and above things we cannot measure

If we cannot measure all that we value, are we complicit in a narrowing of the goals and practice of education?

The Solutions

Option 1: Measure nothing because we can't measure everything

Option 2: Construct ways of measuring all that we value

If a thing seems like an immeasurable concept then it may just be ill-defined … people don't really know what they mean

Understanding a concept begins with the question: What do you see when there is more of it?

Solution 2

Anything can be measured. This bold assertion is the key to solving many problems in business and life in general. The myth that certain things can't be measured is a significant drain on our nation's economy, public welfare, the environment, and even national security. In fact, the chances are good that some part of your life or your professional responsibilities is greatly harmed by a lack of measurement-by you, your firm, or even your government.

Douglas Hubbard: How to Measure Anything: Finding the Value of Intangibles in Business

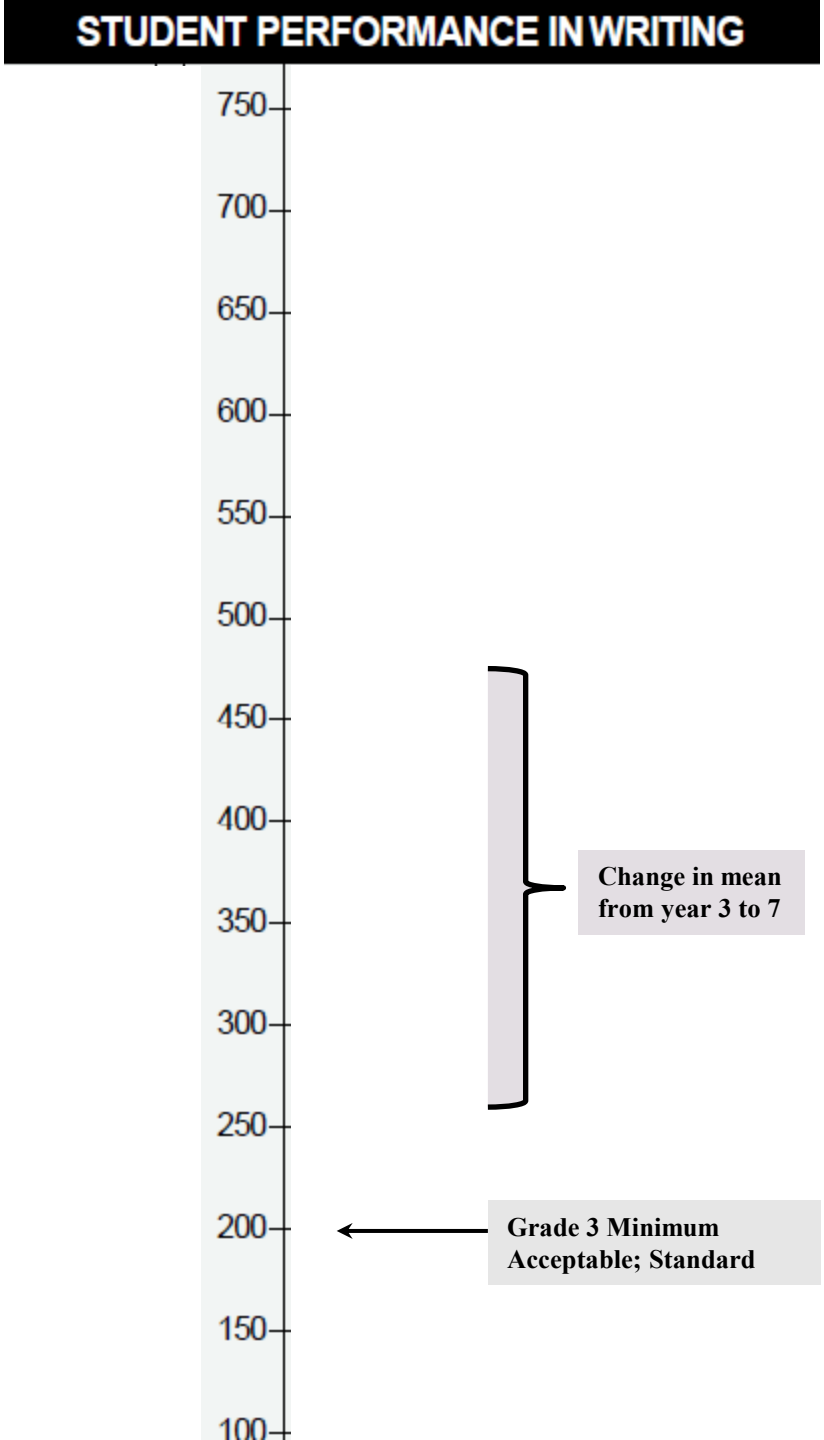
The Way Forward

- Continue the argument for the value of quality data
- Develop learning metrics
- Learning metrics can form the backbone of outcome indicator régimes
  - Current LMTF are the beginnings of such a régime

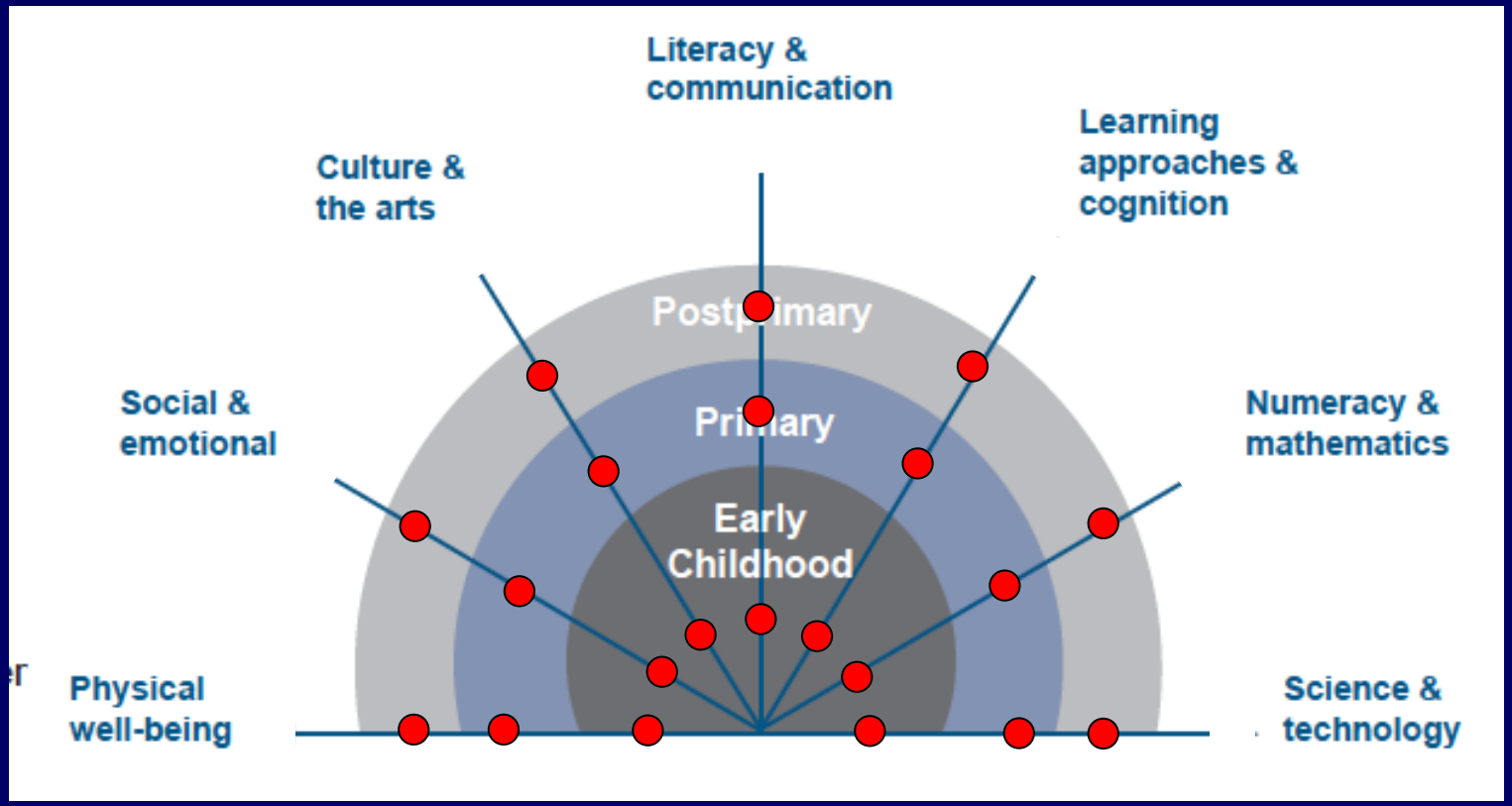
Indicators follow Learning Metrics

Areas of Measurement	Description of Indicators
Learning for All:	Combine measures of completion and learning (reading proficiency at the end of primary school) into one indicator.
Age and Education Matter for Learning:	Measure timely entry, progression and completion of schooling, and population-based indicators to capture those who do not enter or those who leave school early.
Reading:	Measure foundational skills by Grade 3 and proficiency by the end of primary school.
Numeracy:	Measure basic skills by end of primary and proficiency by lower secondary school.
Ready to Learn:	Measure acceptable levels of early learning and development across a subset of domains by the time a child enters primary school.
Citizen of the World:	Measure among youth the demonstration of values and skills necessary for success in their communities, countries and the world.
Breadth of Learning Opportunities:	Track exposure to learning opportunities across all seven domains of learning.

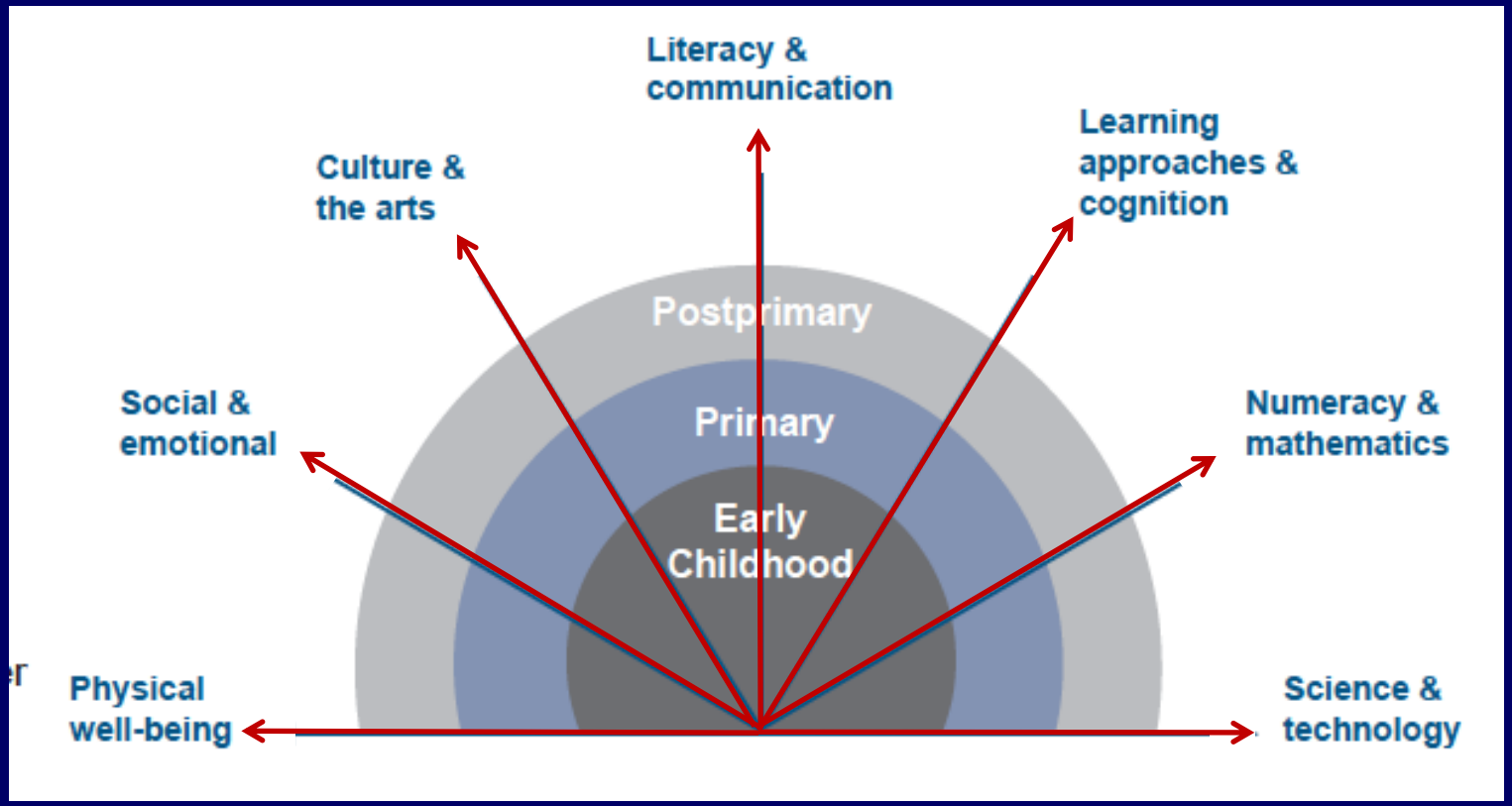
- To be meaningfully operationalised the highlighted terms need learning metrics


STUDENT PERFORMANCE IN WRITING
750
700
650
600
550
500
450
400
350
300
250
200
150
100
Change in mean from year 3 to 7
Grade 3 Minimum Acceptable; Standard

Current View of the 7 Domains



Metric View of the 7 Domains



The Technical Challenges -- 1

- Credibility
  - Agreement on what should be measured
    - the learning metric
  - Acceptance of comparability
    - technical rigour
    - methodological/method influences
    - corruption
  - Agreement on standards
    - successful completion?
    - age appropriate?

Data are only as good as the system (or process) that collects them.

Analysis is only as good as the data on which it is based and the skills and experience of the analyst.

The Technical Challenges -- 2

- Under-utilisation of the data
  - need to focus on covariates
    - equity
    - policy formation
    - impact of policy
- Interpretation with an understanding of context

You may have heard the world is made up of atoms and molecules, but it's really made up of stories. When you sit with an individual that's been here, you can give quantitative data a qualitative overlay.

William Turner 16th century British scientist and naturalist

Value of a learning metric

- Developing agreement around what educational growth means
  - or at least engage in meaningful discussion
- Focus on growth
  - success is about growth, rather than meeting an arbitrary standard
    - after all, what do successful completion and age appropriate mean?
- Monitor growth for all
  - the core of equity

Marguerite's three wishes

- Test questions that 15 year olds in emerging and developing economies can actually answer
- A test that emerging and developing economies can afford
- A test that contributes to learning for all

Ray's three wishes

- **A set of learning metrics that describe the educational growth we value.**

- **A shared endeavour to enhance the capacity of all to develop and use learning metrics and to fruitfully utilise learning assessment results to monitor the effectiveness of policy through its impact on learning growth for all.**

- **A recognition that learning assessment systems are very cheap when compared to the cost of other policy implementation and the cost of making uninformed decisions.**