

# Using Growth Data to Improve Learning, Teaching, and School Functioning

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*Applications of Growth Models to Making Decisions about  
States, Schools, Programs and Students*

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# Overview

- Some things we know about using Growth
- Some important challenges to making Growth more useful



# Some important things we've learned about growth

- Growth is different than Status
- Multiple views of performance are useful
- Use dictates the appropriate growth model
- For accountability, “good enough” growth is a key decision



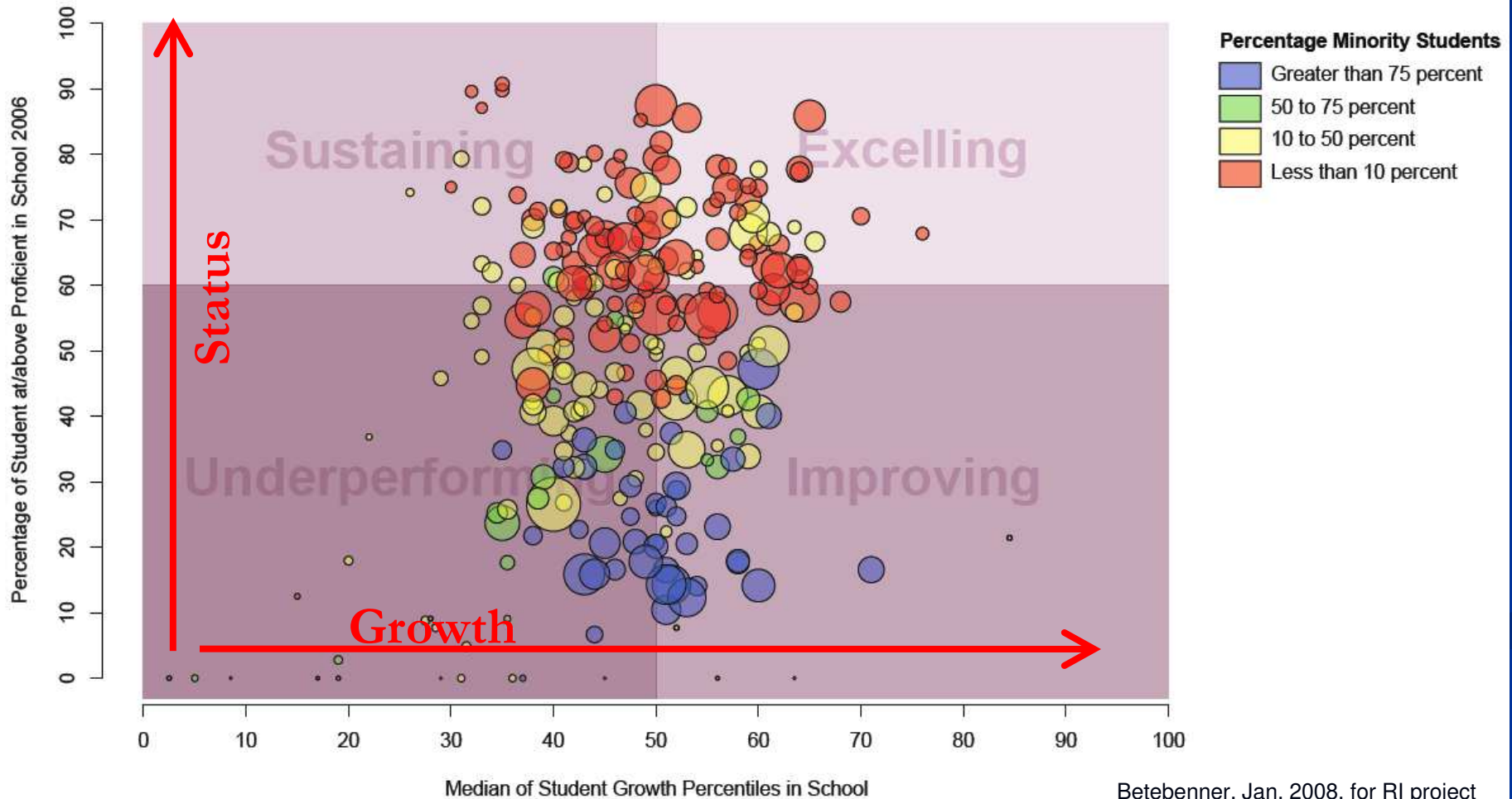
# Four Views of School Performance

(Carlson, 2001; Gong, 2002)	Status	Change
Achievement	“Status”: How high do students in this school score on state assessments?	“Improvement”: Is the performance of successive groups increasing from one year to the next?
Effectiveness	“Growth”: Are individual students learning as they progress from one grade to the next?	“Acceleration”: Is the school becoming <i>more</i> effective or improving more rapidly?



# Multiple views of performance can be useful

**2006–2007 Rhode Island Math School Results:  
Student Growth versus Student Achievement by Percent Minority**



Betebenner, Jan. 2008, for RI project

# Use dictates the appropriate growth/measurement model

- Accountability
  - Relation to goal/criterion
- Program & personnel evaluation
  - Attribution, “like” comparison
- Instruction
  - Diagnosis and feedback

Goldschmidt, 2004



# Deciding “good enough” growth a central issue

	Empirically-based	Policy-based
Normative		
Absolute		

What is the Criterion?

Will it be Conditioned? On what?

Gong & Hill, 2004





# Some challenges to making more useful growth measures

- Define desired growth in terms of content, in relation to curriculum
- Interpret in terms of scale, content, and curriculum
- Focus on strong uses across levels, then match measurement





# Define desired growth

- Growth is increase in performance on the same thing, towards mastery.
- Growth is learning one topic and then learning a more advanced topic in a sequence of content.
- Growth is increase in expertise on the same thing (e.g., a more powerful mental model, increased fluency, greater independence).
- Growth is increase in integration across content and skills.
- Growth is increase of knowledge and skills outside the defined areas.

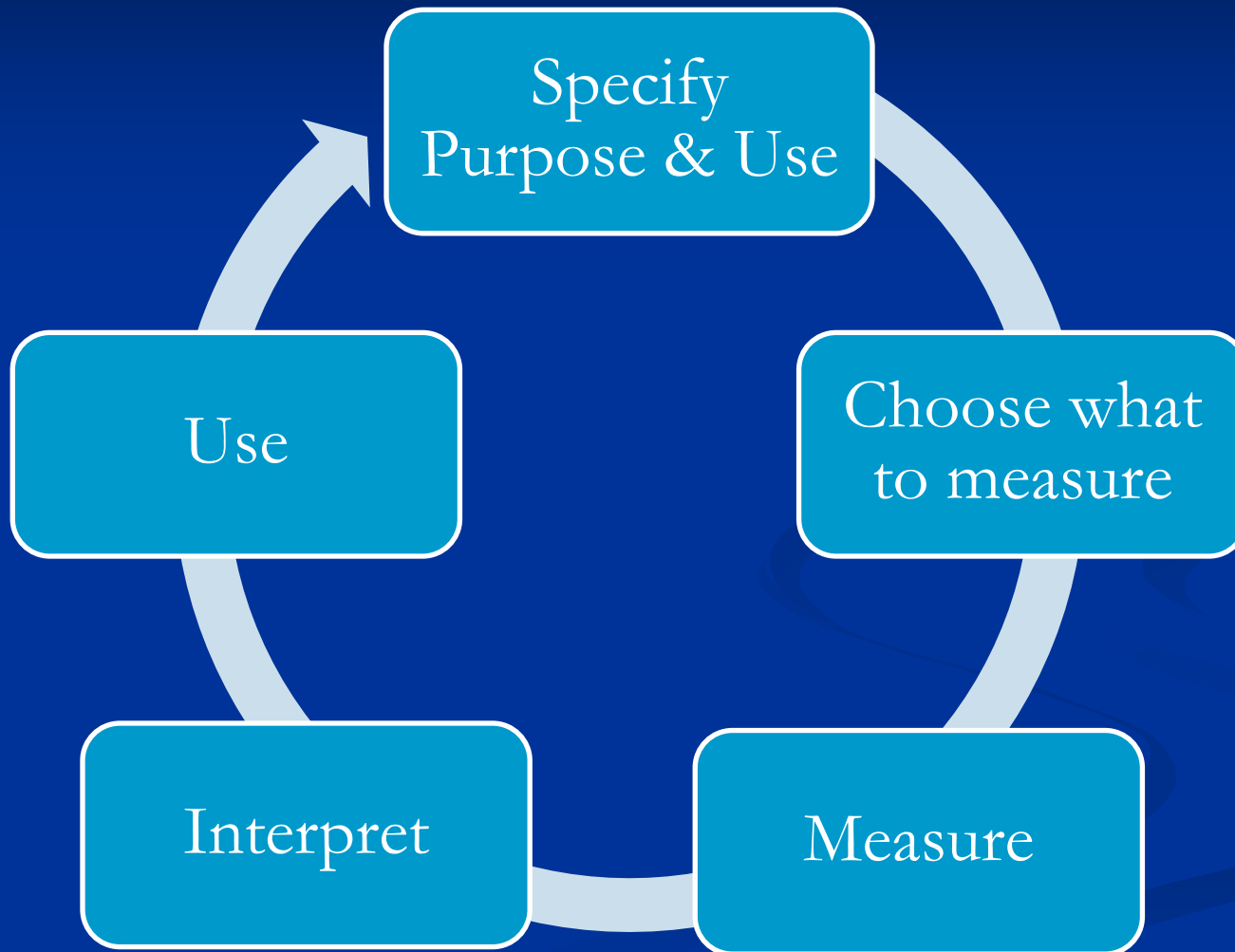


# Bases for Interpretation

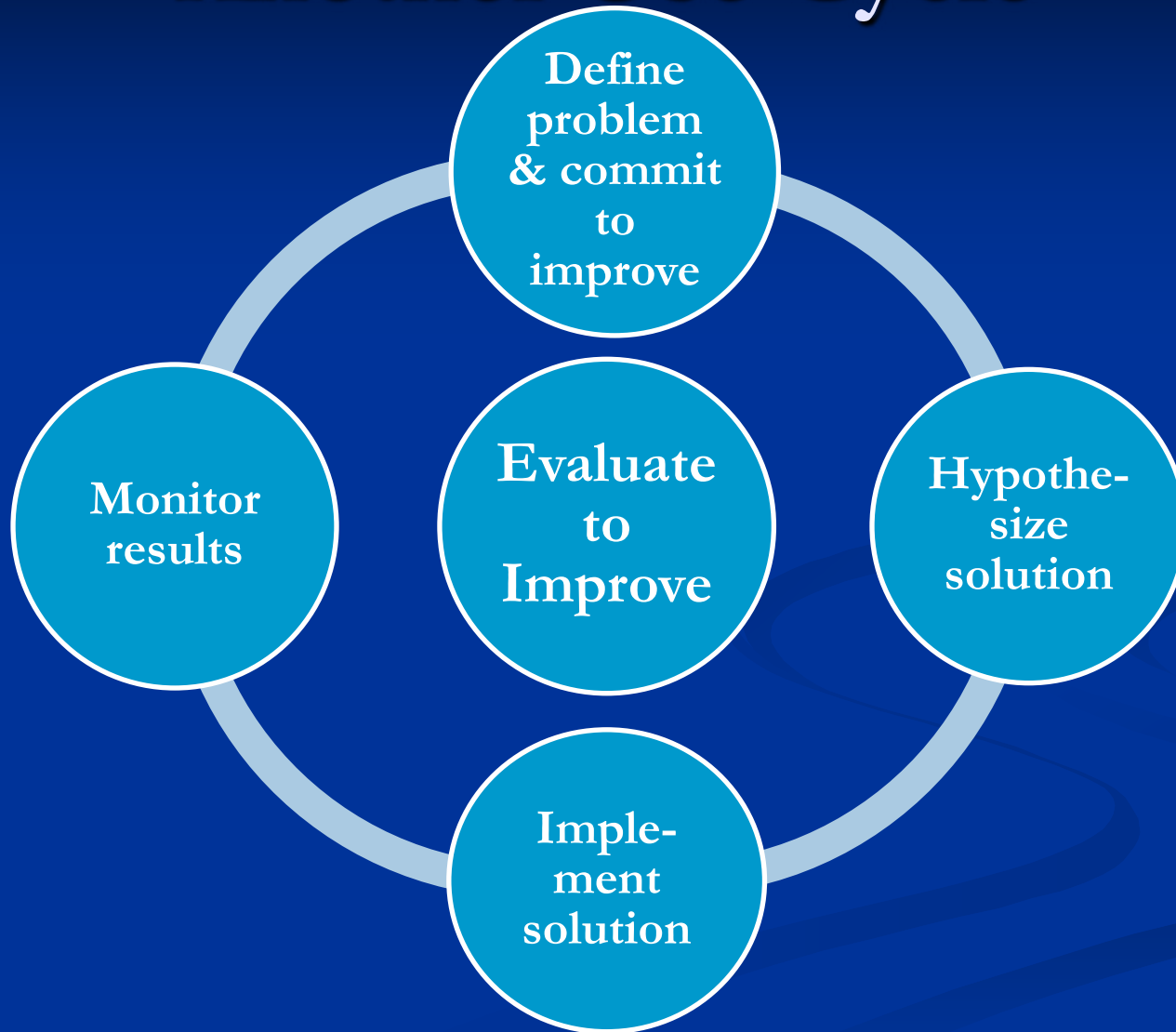
- Scale
- Content/skill analysis
  - Design, e.g., standards-based
  - Cognitive analysis
- Curriculum/instructional referenced
  - “Leveled” performances
- Experimental design



# A Use Cycle



# Another Use Cycle



# Levels of Decisions & Actions

- Coherent assessment information that leads to action
- Comprehensive systems include all functions, levels

	Level of Action			
Function	National/ State	District	School	Classroom /Individual
Signal				
Evaluate				
Inform				

Gong, 2008; Stiggins, 2008



# Example

- State – Proficiency-based Graduation Requirement
- District – Dropout
- School – Support program



# References

All available at [www.nciea.org](http://www.nciea.org) (“Publications & Presentations”) unless published elsewhere.

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# For more information:

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