

The Goals and Uses of Value-Added Models

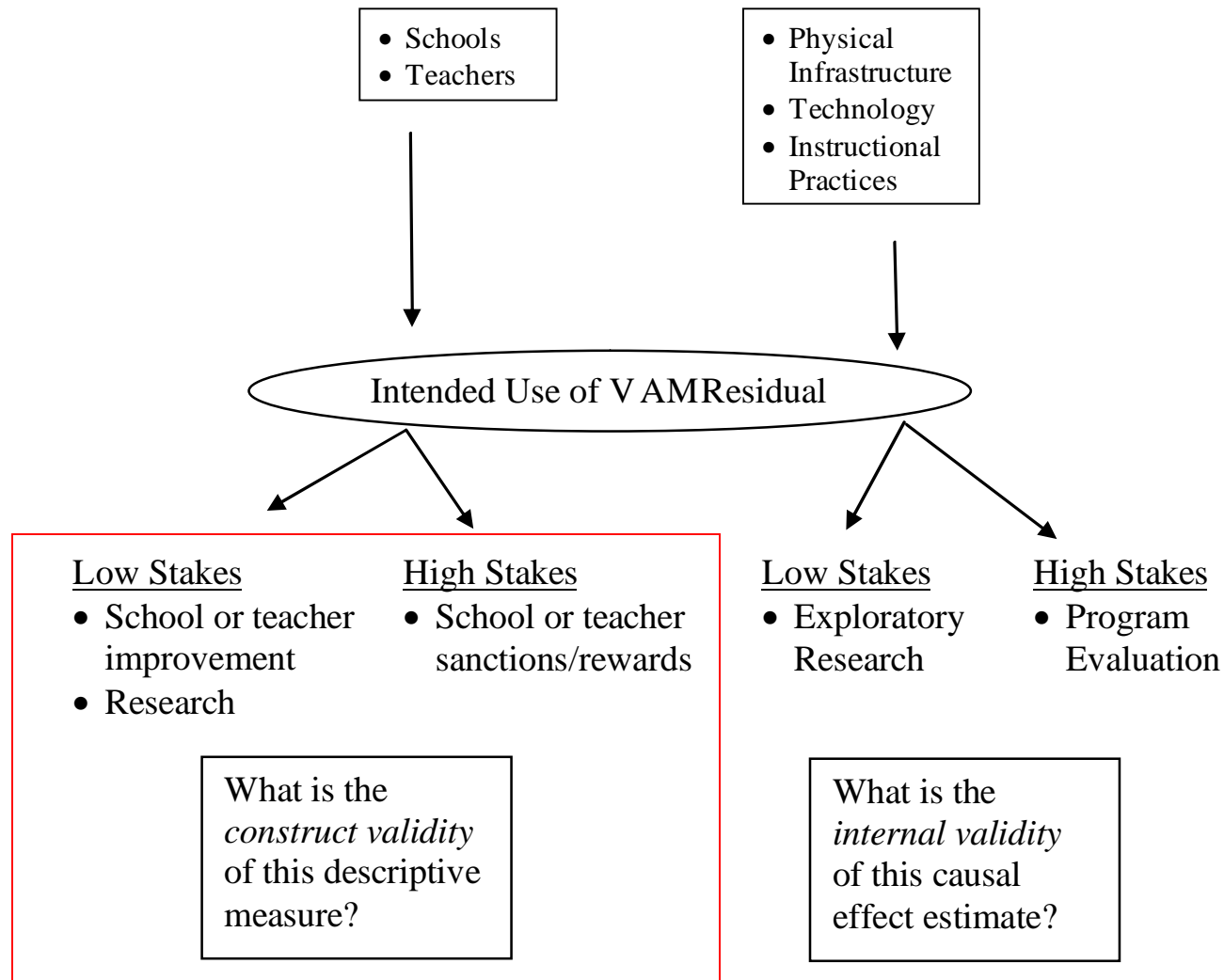
Derek Briggs
University of Colorado
November 13, 2008

Presentation for the NRC Committee on
Value-Added Methodology for Instructional
Improvement, Program Evaluation and
Accountability.

VAM Inputs and Outputs

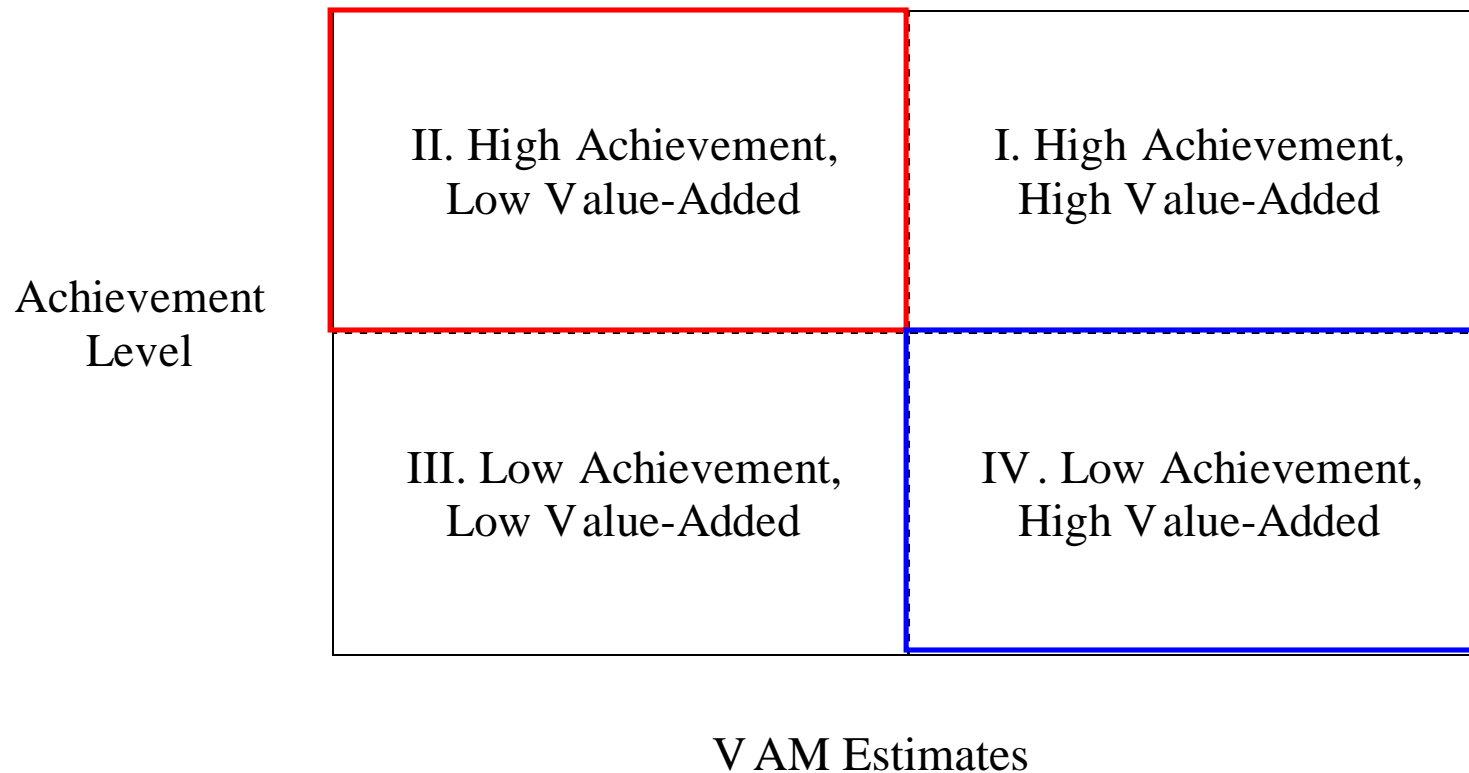
- Using the longitudinal test scores of students as inputs, a value-added model is used to estimate as an output a numeric “residual” associated with a specific *educational intervention*.
- An educational intervention is a resource or activity implemented to increase student achievement
 - Traditional interventions are *manipulable*
 - Can schools and teachers be conceptualized as interventions?

Interpretations of VAM Residuals



“Frequently Asked Questions”

Is VAM consistent with NCLB?



Is VAM consistent with NCLB?

Two Key Issues (High Stakes)

1. Establishing the reliability of school classifications on basis of VAM residuals.
2. Reconciling criterion and norm-referenced interpretations of school performance.

How Much Data? How Complex the Model?

Year	Grade				
	3	4	5	6	7
2003	X				
2004		X			
2005					
2006					
2007					

How Much Data? How Complex the Model?

Year	Grade				
	3	4	5	6	7
2003	X				
2004		X			
2005			X		
2006				X	
2007					X

How Much Data? How Complex the Model?

Year	Grade				
	3	4	5	6	7
2003	X	X	X	X	X
2004	X	X	X	X	X
2005	X	X	X	X	X
2006	X	X	X	X	X
2007	X	X	X	X	X

How Much Data? How Complex the Model?

Year	Grade				
	3	4	5	6	7
2003	X,Y	X,Y	X,Y	X,Y	X,Y
2004	X,Y	X,Y	X,Y	X,Y	X,Y
2005	X,Y	X,Y	X,Y	X,Y	X,Y
2006	X,Y	X,Y	X,Y	X,Y	X,Y
2007	X,Y	X,Y	X,Y	X,Y	X,Y

Quality of Large-Scale Assessments?

1. Learning Progressions
2. The Desirability of Vertical Scales
3. Multidimensionality

Everything is Relative

"Democracy is good. I say this because other systems are worse."

-- **Jawahar Lal Nehru**

- **If the absence of VAM = NCLB (present day incarnation), three cheers for VAM.**
- **But maybe we aren't thinking hard enough about the preferred alternative.**

Reasons for Concern

- Great potential for misuse:

http://battelleforkids.com/home/value_added/AboutValue-Adde

“Value-added analysis provides important diagnostic information not previously available with traditional achievement reporting/”

Questions VAM Residuals Don't Answer Very Well

1. Did my child make a year's worth of progress in a year?
2. Is my child growing appropriately toward meeting state standards?
3. Did my child grow as much this year as last year?
4. Are teachers and schools becoming more effective over time?

Source: Betebenner, 2006, 2008