

# Sound Measure of Student Growth: *The Iowa Assessments*

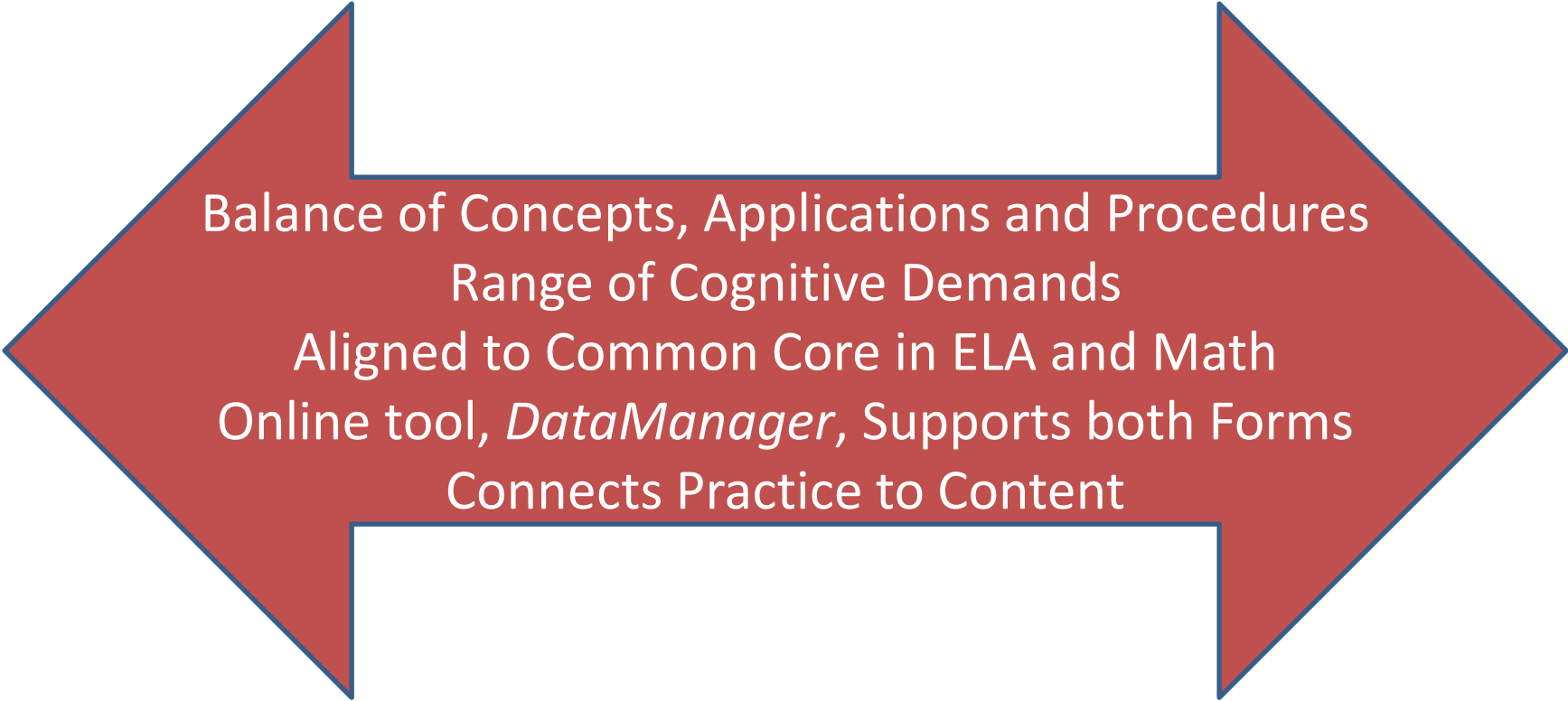


# History of Iowa = A History of Innovation

- 1935: The Iowa Tests introduced by College of Education at The University of Iowa
- Pioneered use of machine-scorable documents using high-speed scanners
- Developed use of machine-scorable booklets for primary grade students
- Introduced multilevel booklets which allow individualized testing
- Offered first individual narrative report
- On-demand, web-based access to test results



# Forms E and F – Test Similarities



Balance of Concepts, Applications and Procedures  
Range of Cognitive Demands  
Aligned to Common Core in ELA and Math  
Online tool, *DataManager*, Supports both Forms  
Connects Practice to Content

# Forms E and F – Technical Similarities



Vertical Scale to Measure Growth

Allows Direct Comparisons to Previous Forms

Parallel Forms allow the Tracking of Students

Forms Support Within- and Across-year Testing

Valid, Reliable and Technically Sound

# Form F -- Enhancements

## Alignment

- Domain coverage at the same level
- Expanded standards covered

## Format

- Paired Passages
- Additional informational texts

## Rigor

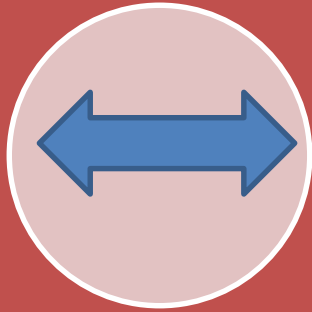
- Using evidence from texts in social studies and science
- Assessing research and inquiry across all areas

✓ Growth Assumptions

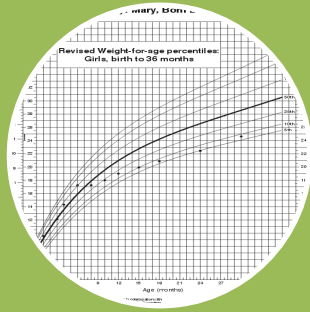
✓ Growth Metrics

✓ Reporting

# Iowa Growth Model Assumptions



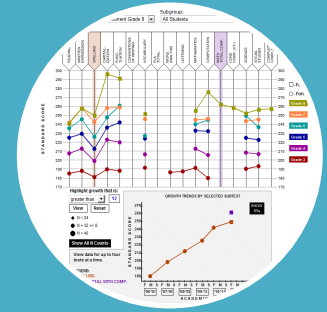
Learning is a continuum



Students start at different places



Growth expectations vary with the starting place

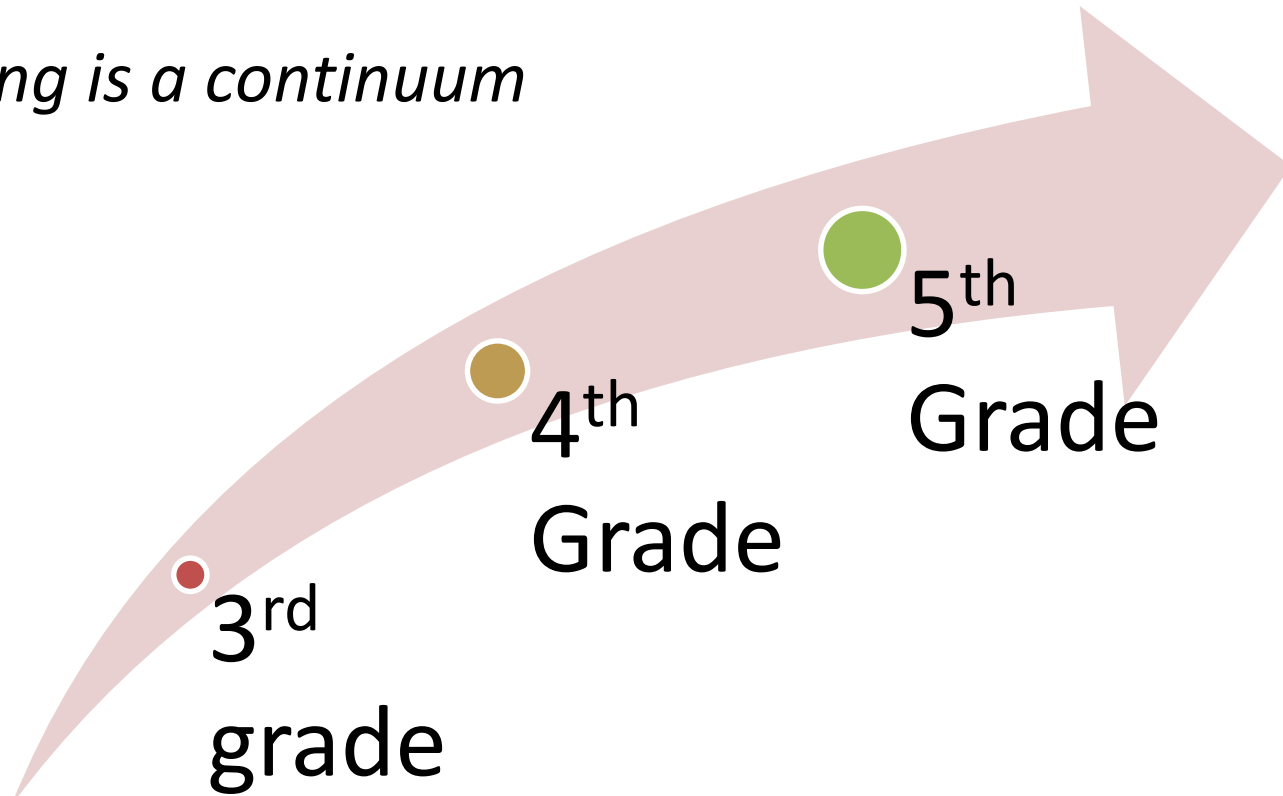


Growth can be measured and reported



# Iowa Growth Model Assumptions

*Learning is a continuum*





# Iowa Growth Model Assumptions

*Students start at different places*



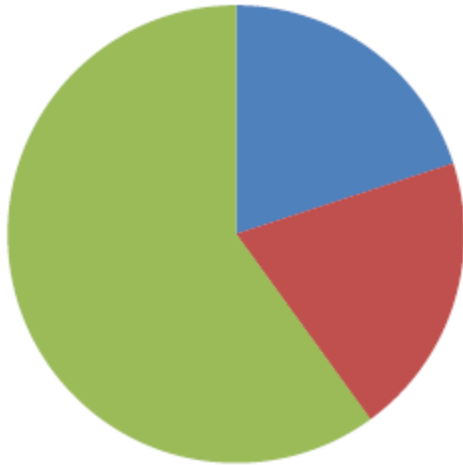
# Iowa Growth Model Assumptions

*Growth expectations vary  
with the starting place*



# Iowa Growth Model Assumptions

*Growth can be measured  
and reported*



- Observed growth
- Expected growth
  - *Exceeding expected*
  - *Meeting expected*
  - *Not meeting expected*
- Growth goals

# Expected Growth

The Iowa Growth Model defines *expected growth* as the amount obtained by a **nationally representative group** of students who took the *Iowa Assessments* at **multiple grade levels**.

# Expected Growth *(aka Estimated Growth)*

Within an  
Academic Year

Fall  
Grade 4

Spring  
Grade 4

Across Two  
Academic Years

Fall  
Grade 4

Fall  
Grade 5

Across Multiple  
Academic Years

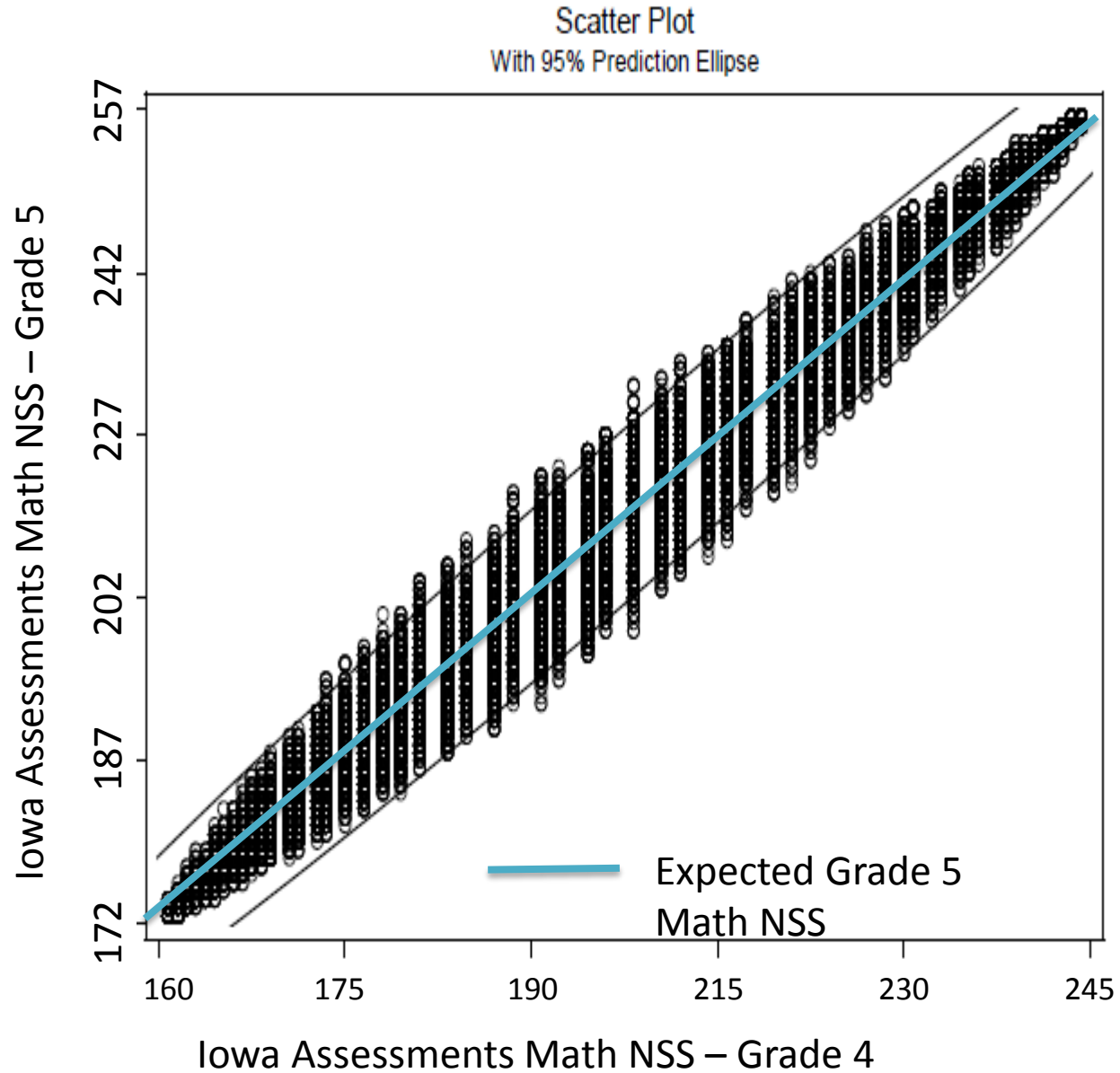
Fall  
Grade 4

Fall  
Grade 6

# How is Expected Growth Calculated?

Expected Growth Example					
	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012
3 <sup>rd</sup> grade	Research Study September to May				
4 <sup>th</sup> grade			Research Study September to May		
5 <sup>th</sup> grade					Research Study

# Expected Growth Example – Grade 4 to Grade 5



# Observed Growth *(aka Gain Score, Change)*

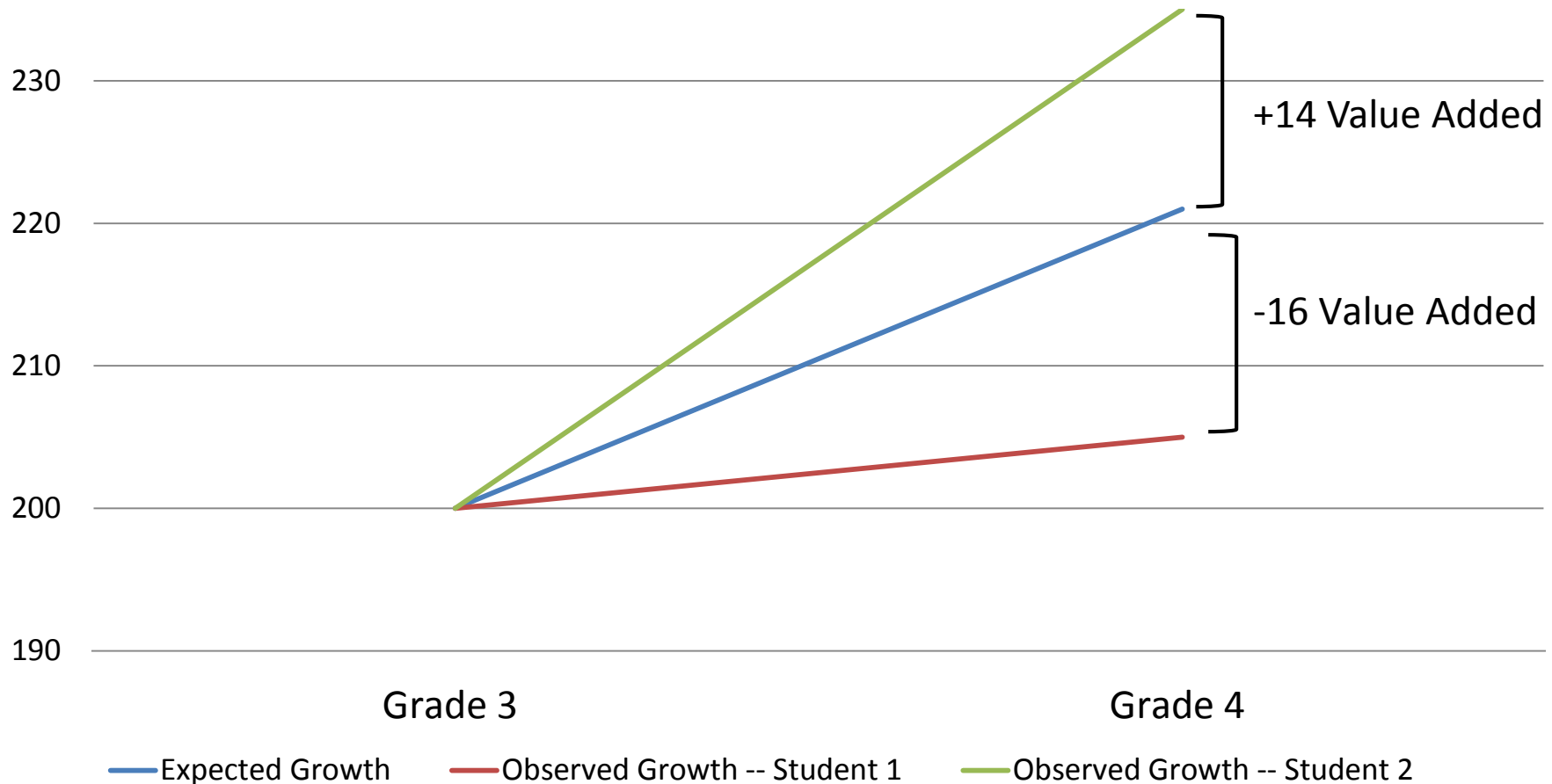




# Observed – Expected (*aka Value-Added*)

- The difference between the observed and the expected is value-added.
- The increment of growth that is different than expected.
- If the value is positive, then the student has exceeded expectations in growth.
- If the value is zero, then the student has met the expectations in growth.
- If the value is negative, then the student has failed to meet the expectations for growth.

# Expected, Observed, and Value-Added



**Starting Place  
Grade 3**



**160 176 181 181 207**



**Grade 3**

**160 176 181 181 207**  
**↓ ↓ ↓ ↓ ↓**

**Expected Grade 4**

**172 192 199 199 230**



**Grade 3**

**160 176 181 181 207**  
**↓ ↓ ↓ ↓ ↓**

**Expected Grade 4**

**172 192 199 199 230**

**Observed Grade 4**

**175 192 190 210 232**



**Expected Grade 4**

**172 192 199 199 230**

**Observed Grade 4**

**175 192 190 210 232**

**Exceeds**



**Meets**



**Does Not Meet**





# MEASURING GROWTH WITH THE IOWA ASSESSMENTS

A Black and Gold Paper

## Abstract

The primary interpretations, statistical foundations, and data for the Iowa Growth Model are described in this overview for practitioners. Use of growth measures on individuals and groups for student and program evaluation is discussed and illustrated with sample data and reports.

Catherine Welch and Stephen Dunbar