Creating Effective Classroom Assessments

Stuart R. Kahl, Ph.D.
Deborah Farrington, M.Ed.
Ellen Vorenkamp, Ed.D.
Why is this webinar for you?
Why is this webinar for you?

To help you recognize and support effective classroom assessment practices.
Webinar Topics

1. Matching tests to their purposes
Webinar Topics

1. Matching tests to their purposes
2. Alignment of tests and test questions to standards
Webinar Topics

1. Matching tests to their purposes
2. Alignment of tests and test questions to standards
3. Test and item quality
Webinar Topics

1. Matching tests to their purposes
2. Alignment of tests and test questions to standards
3. Test and item quality
4. Promoting teacher training for creating and using effective classroom assessments
Stuart R. Kahl, Ph.D.
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Data Management Tool
Data Management Tool

DATA ANALYSIS

TEST BUILDING

TEST STORAGE

REPORTING

SCORING
Matching tests to their purposes
1. Matching tests to their purposes

Categories of Assessment
1. Matching tests to their purposes

Categories of Assessment

- External Summative Assessments
1. Matching tests to their purposes

Categories of Assessment

- External Summative Assessments
- Interim or Benchmark Tests
1. Matching tests to their purposes

Categories of Assessment

- External Summative Assessments
- Interim or Benchmark Tests
- Summative Classroom Tests
1. Matching tests to their purposes

Categories of Assessment

- External Summative Assessments
- Interim or Benchmark Tests
- Summative Classroom Tests
- Formative Assessment
1. Matching tests to their purposes

Formative Assessment
1. Matching tests to their purposes

**Formative Assessment**
# Formative Assessment

**Learning Target Self-Assessment: Completed**

<table>
<thead>
<tr>
<th>Unit: Economics and Society</th>
<th>Grade Level: 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target:</strong></td>
<td></td>
</tr>
<tr>
<td>I can identify the needs and wants of a society.</td>
<td></td>
</tr>
<tr>
<td><strong>Rate your own mastery over time. Remember that your rating can change over time.</strong></td>
<td></td>
</tr>
<tr>
<td>New to me</td>
<td></td>
</tr>
<tr>
<td>I got this!</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Target:</strong></th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can compare and contrast the changes of different societies’ needs and wants.</td>
<td>1-5-10</td>
<td>1-14-10</td>
<td>1-22-10</td>
</tr>
</tbody>
</table>
1. Matching tests to their purposes

Formative Assessment

**Kirsten.**

Reader Response Criteria

Written By: Miss Bryant’s Class

<table>
<thead>
<tr>
<th>Met Looks</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>• name ✓</td>
<td></td>
</tr>
<tr>
<td>• date ✓</td>
<td></td>
</tr>
<tr>
<td>• opening (dear) ✓</td>
<td></td>
</tr>
<tr>
<td>• closing (sincerely...) ✓</td>
<td></td>
</tr>
<tr>
<td>• title ✓</td>
<td></td>
</tr>
<tr>
<td>• author ✓</td>
<td></td>
</tr>
<tr>
<td>• good penmanship ✓</td>
<td></td>
</tr>
<tr>
<td>• skips spaces</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Almost Met About the Book</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• what’s happening ✓</td>
<td></td>
</tr>
<tr>
<td>• what page you’re on ✓</td>
<td></td>
</tr>
<tr>
<td>• characters ✓</td>
<td></td>
</tr>
<tr>
<td>• give details ✓</td>
<td></td>
</tr>
<tr>
<td>• ask a question ✓</td>
<td></td>
</tr>
<tr>
<td>• genre (fiction...) ✓</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Your Goal Thoughts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• if it’s hard, easy or just right ✓</td>
<td></td>
</tr>
<tr>
<td>• tell us what you dream (when you read) ✓</td>
<td></td>
</tr>
<tr>
<td>• opinion ✓</td>
<td></td>
</tr>
<tr>
<td>• describe feelings about book ✓</td>
<td></td>
</tr>
</tbody>
</table>

Kirsten, the criteria checked are things you did well in your response. Think about “Your Goal, Thoughts.” How might you make text connections to your personal experiences?
1. Matching tests to their purposes

Diagnostic?
1. Matching tests to their purposes

Diagnostic?
1. Matching tests to their purposes

Diagnostic?

- External Summative Assessments
1. Matching tests to their purposes

Diagnostic?

External Summative Assessments

Formative Assessment
1. Matching tests to their purposes

**Diagnostic?**

- External Summative Assessments
- Interim or Benchmark Tests
- Summative Classroom Tests
- Formative Assessment
1. Matching tests to their purposes
1. Matching tests to their purposes

1. Clarify the testing purpose
1. Matching tests to their purposes

1. Clarify the testing purpose

2. Identify the content and skills to be assessed
1. Matching tests to their purposes

1. Clarify the testing purpose
2. Identify the content and skills to be assessed
3. Determine the most appropriate measures
## 1. Matching tests to their purposes

### DATAWISE Item Analysis Report

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<thead>
<tr>
<th>Q#</th>
<th>Correct</th>
<th>Graph</th>
<th>Standard</th>
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<tr>
<td>1</td>
<td>808</td>
<td>226 (22%)</td>
<td>808 (78%)</td>
</tr>
<tr>
<td>2</td>
<td>357</td>
<td>677 (65%)</td>
<td>357 (35%)</td>
</tr>
<tr>
<td>3</td>
<td>802</td>
<td>232 (22%)</td>
<td>802 (78%)</td>
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</table>
1. Matching tests to their purposes

Good Tests are Reliable
1. Matching tests to their purposes

**Good Tests are Reliable**

![Graph showing the relationship between Reliability and Number of Items](image)
1. Matching tests to their purposes

### Assessment Plan

**Name of Assessment:**

**Type of Assessment:**
- [ ] Summative
- [ ] Interim
- [ ] Formative

**Level of Use:**
- [ ] District
- [ ] School
- [ ] Grade Level/Dept.
- [ ] Classroom

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Why?</th>
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<table>
<thead>
<tr>
<th>Administered</th>
<th>When?</th>
<th>Who?</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Data Reported</th>
<th>When?</th>
<th>Who?</th>
<th>How?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Data Analyzed</th>
<th>What?</th>
<th>When?</th>
<th>How?</th>
<th>Who?</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Results Used</th>
<th>How?</th>
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</table>
1. Matching tests to their purposes
1. Matching tests to their purposes
Alignment of tests and test questions to standards
2. Alignment of tests and test questions to standards

Four Kinds of Alignment
2. Alignment of tests and test questions to standards

Four Kinds of Alignment

1. Categorical concurrence
2. Depth of Knowledge
3. Balance of Representation
4. Range of Knowledge
### 2. Alignment of tests and test questions to standards

#### Categorical Concurrence

<table>
<thead>
<tr>
<th>Standards</th>
<th>Items</th>
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<tbody>
<tr>
<td><strong>CATEGORY A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Numbers &amp; Operations</strong></td>
<td></td>
</tr>
<tr>
<td>Standard No. A1</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. A2</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. A3</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. A4</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. A5</td>
<td>?</td>
</tr>
<tr>
<td><strong>CATEGORY B</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Geometry &amp; Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>Standard No. B1</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. B2</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. B3</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. B4</td>
<td>?</td>
</tr>
<tr>
<td>Standard No. B5</td>
<td>?</td>
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</table>
2. Alignment of tests and test questions to standards

Categorical Concordance

<table>
<thead>
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<td>Numbers &amp; Operations</td>
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<td>18</td>
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<td>Standard No. A5</td>
<td>0</td>
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<tr>
<td><strong>CATEGORY B</strong></td>
<td></td>
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<tr>
<td>Geometry &amp; Measurement</td>
<td></td>
</tr>
<tr>
<td>Standard No. B1</td>
<td>36</td>
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<td>Standard No. B2</td>
<td>25</td>
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<tr>
<td>Standard No. B3</td>
<td>0</td>
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<tr>
<td>Standard No. B4</td>
<td>16</td>
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<td>Standard No. B5</td>
<td>37</td>
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</table>
2. Alignment of tests and test questions to standards

Depth of Knowledge
2. Alignment of tests and test questions to standards

Depth of Knowledge

1. Recall and Reproduction
2. Skills and Concepts
3. Strategic Thinking
4. Extended Thinking
2. Alignment of tests and test questions to standards

Balance of Representation

<table>
<thead>
<tr>
<th>Standards</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CATEGORY A</strong></td>
<td></td>
</tr>
<tr>
<td>Numbers &amp; Operations</td>
<td></td>
</tr>
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<td>Standard No. A1</td>
<td>5</td>
</tr>
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<td>Standard No. A2</td>
<td>6</td>
</tr>
<tr>
<td>Standard No. A3</td>
<td>12</td>
</tr>
<tr>
<td>Standard No. A4</td>
<td>5</td>
</tr>
<tr>
<td>Standard No. A5</td>
<td>4</td>
</tr>
<tr>
<td><strong>CATEGORY B</strong></td>
<td></td>
</tr>
<tr>
<td>Geometry &amp; Measurement</td>
<td></td>
</tr>
<tr>
<td>Standard No. B1</td>
<td>6</td>
</tr>
<tr>
<td>Standard No. B2</td>
<td>6</td>
</tr>
<tr>
<td>Standard No. B3</td>
<td>6</td>
</tr>
<tr>
<td>Standard No. B4</td>
<td>7</td>
</tr>
<tr>
<td>Standard No. B5</td>
<td>7</td>
</tr>
</tbody>
</table>
2. Alignment of tests and test questions to standards

Range of Knowledge

4.4.6 A Data Analysis

4.4.6 A.2 Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data.
2. Alignment of tests and test questions to standards

Range of Knowledge

4.4.6 A Data Analysis

4.4.6 A.2 Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data.
2. Alignment of tests and test questions to standards

Range of Knowledge

4.4.6 A Data Analysis

4.4.6 A.2 Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data.
Range of Knowledge

4.4.6 A.2 Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data.
2. Alignment of tests and test questions to standards
2. Alignment of tests and test questions to standards
Test and test item quality
Construct- Irrelevant Factors

Mr. Zadervak’s class is raising money for a field trip to Six Flags in Agawam, Massachusetts. They need a total of $165. They earned $87 at a yard sale they had in October.

How much money do they need to earn to pay for the trip in March?

(a) $78
(b) $82
(c) $88
(d) $122
Construct- Irrelevant Factors

Mr. Zadervak’s class is raising money for a field trip to Six Flags in Agawam, Massachusetts. They need a total of $165. They earned $87 at a yard sale they had in October.

How much money do they need to earn to pay for the trip in March?

(a) $78
(b) $82
(c) $88
(d) $122

Mr. Baker’s class is raising money for a field trip to Six Flags. They need a total of $165. They earned $87 at a yard sale.

How much money do they need to earn to pay for the trip?

(a) $78
(b) $82
(c) $88
(d) $122
What is the function of a neuron?

(a) It takes oxygen to the cells.
(b) It secretes digestive enzymes.
(c) It cleanses the blood.
(d) It receives signals from the internal and external environments.
What is the function of a neuron?

(a) It takes oxygen to the cells.
(b) It secretes digestive enzymes.
(c) It cleanses the blood.
(d) **It receives signals from the internal and external environments.**
3. Tests and Test Item Quality

Which of the following is a system of government in which the power to govern is shared between national and state governments?
Which of the following is a system of government in which the power to govern is shared between national and state governments?

(a) democracy
(b) republic
(c) federalism
(d) National Football League
Multiple Choice

Which of the following best characterizes a republic?

(a) majority rule either directly or through representatives
(b) rule according to law under a constitution
(c) authority shared between national and state levels
(d) government controlled by a single ruler
3. Tests and Test Item Quality

Multiple Choice

Which of the following best characterizes a republic?

(a) majority rule either directly or through representatives
(b) rule according to law under a constitution
(c) authority shared between national and state levels
(d) government controlled by a single ruler

Open Ended

What is a republic?
Multiple choice myth:

A multiple choice item should address a single skill or concept.
Multiple choice myth:

A multiple choice item should address a single skill or concept.

Higher order thinking skills
3. Tests and Test Item Quality

Sample Constructed Response Item

Dylan shaded part of this square green to represent a fraction.

Dylan explained that he shaded the square to represent the fraction \( \frac{2}{3} \), because he shaded 2 parts green out of a total of 3 parts.

What is the mistake in Dylan’s explanation?
3. Tests and Test Item Quality
You would have divided the square into equal parts, but think again about what fraction it would show.
3. Tests and Test Item Quality

Compare the relative motions of molecules in these three states of matter:

**States of Matter**

| Solid | Liquid | Gas |

Also explain how the molecular motion of each affects shape and volume of the substance.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Response demonstrates thorough understanding by accurately describes the relative speeds of molecules of the three states and the characteristics of shape and volume of all three.</td>
</tr>
<tr>
<td>3</td>
<td>Response demonstrates general understanding by describing relative speeds of molecules and most characteristics of shape and volume.</td>
</tr>
<tr>
<td>2</td>
<td>Response demonstrates partial understanding by comparing speeds of molecules only or by describing approximately half of the motions and volume/shape characteristics.</td>
</tr>
<tr>
<td>1</td>
<td>Response shows minimal understanding by general statement about relative speed of molecules or about shape or volume OR by providing minimal motion, volume, or shape information.</td>
</tr>
<tr>
<td>0</td>
<td>Response is totally incorrect, irrelevant, or blank.</td>
</tr>
</tbody>
</table>

**Scorer Notes:**
- **Solid:** slowest molecular motion, fixed volume and shape
- **Liquid:** speed of motion in between others, fixed volume, adapts to shape of container
- **Gas:** fastest molecular motion, expands to fit available space
3. Tests and Test Item Quality

Scaffolding
Scaffolding
3. Tests and Test Item Quality

Carefully evaluate assessment items
3. Tests and Test Item Quality

Carefully evaluate assessment items
Promoting teacher training for creating and using effective classroom assessments
Michigan
Michigan

Wayne County
Michigan

Wayne County
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

Assessment Literacy

“The knowledge about assessing what students know and can do, how to interpret the results from these assessments, and how to apply these results to improve student learning and program effectiveness.”

—Webb
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

Implementation Plan

Goal(s)  Timeline  Resources  Evaluation
4. Promoting teacher training for effective classroom assessments

**Implementation Plan**

- Goal(s)
- Timeline
- Resources
- Evaluation

**Developing Effective Assessments**
4. Promoting teacher training for effective classroom assessments

Realistic Expectations
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

Realistic Expectations

- Clock
- Money
4. Promoting teacher training for effective classroom assessments

Realistic Expectations

Success!
4. Promoting teacher training for effective classroom assessments

Administrator Support
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

Assessment Information

Students Who Took Both Tests

Math 6th Grade Cumulative 2 Topics 8 1013 and 15 2011 12

Proficiency Over Standards Analysis

Results Over Standards

Measured Progress ©2012
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

“The purpose of assessment is to become your own assessor.”

Howard Gardner
4. Promoting teacher training for effective classroom assessments

Requires Ongoing Collaboration
4. Promoting teacher training for effective classroom assessments

Learning Teams

Elementary School: Grade specific
Middle and High School: Content or course specific
Teaching and Learning Cycle

4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
TRAINING NEEDS
4. Promoting teacher training for effective classroom assessments

TRAINING NEEDS

Data Management Tool  Assessment Literacy
4. Promoting teacher training for effective classroom assessments

Training Needs

- Data Management Tool
- Assessment Literacy

Relevancy for Implementation
4. Promoting teacher training for effective classroom assessments

Build Teacher Capacity
4. Promoting teacher training for effective classroom assessments

Build Teacher Capacity

- Enhance assessment literacy skills
- Ensure quality of classroom assessments
- Increase validity of data
- Improve teacher efficacy and student achievement
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments

Good tests are reliable and valid.
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
4. Promoting teacher training for effective classroom assessments
Thank you!

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