Case Studies: Using Assessment to Inform Instruction

Elementary Math

Elementary Language Arts

Middle School Social Studies

Middle School Physical Education

High School Math

High School Social Studies

High School English

High School Health

High School Biology

High School Band

High School Choir

Learning Targets:
- I can add multi-digit numbers using place value strategies.
- I can explain my thinking using numbers and words.

Context & Learning Targets
Students are learning to **solve multi-step word problems involving addition and subtraction within 1,000** and are expected to **explain their reasoning** using words, numbers, or pictures.

Assessment Description
Students completed an **in-class quiz** with 6 word problems requiring two steps each. Students showed work in a provided space and wrote a brief explanation of how they solved one selected problem.

Grading Practices
The teacher graded the quiz holistically:
- 70% of the score was based on **correct final answers**
- 30% was based on the **clarity of the written explanation**
- No rubric was used for explanations; the teacher relied on her sense of whether the explanation was "clear and logical for a strong third grader"
- Partial credit was inconsistently applied

Student Results
- 3 students: F
- 5 students: D
- 8 students: C
- 6 students: B
- 2 students: A

Discussion Prompts:
1. Validity and Reliability of the Assessment:
- To what extent is the assessment **valid?** Please justify your response.
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2. Prior Knowledge, Motivation, and Pre/Formative Assessment:
- What **prior knowledge**, **skills**, and/or **student interests or motivational factors** would be important for the teacher to understand in relation to the learning targets?
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4. Instructional Next Steps
- Describe **whole-group instructional adjustments** the teacher might make.
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<p style="text-align:center">**Case Study: Elementary Language Arts (homepage)**</p>
<p style="text-align:center">4th Grade Reading – Identifying Main Idea</p>

Context & Learning Targets

Students are learning to **write a clear opinion paragraph** supporting a claim with at least two reasons and relevant details.

Assessment Description

Students wrote a one-paragraph response to the prompt: *"Should students have homework? Why or why not?"* Students had 30 minutes and could not use notes.

Grading Practices

The teacher used a rubric but applied it loosely:

- Organization (10 points)
- Reasons (10 points)
- Writing Conventions (10 points)
- The teacher gave higher scores to paragraphs that:
  - Used "strong vocabulary"
  - Sounded "mature"
  - Reflected opinions she personally agreed with

  Feedback was minimal and mostly consisted of checkmarks and point totals.

Student Results

- 2 students: F
- 4 students: D
- 6 students: C
- 5 students: B
- 3 students: A

  English learners generally scored lower, especially on organization.

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7th Grade Social Studies – Causes of the American Revolution

Learning Targets:
- I can explain multiple causes of the American Revolution.
- I can use historical evidence to support my explanations.

Context & Learning Targets
Students are learning to **analyze multiple perspectives on a historical event** and **use evidence to support claims**.

Assessment Description
Students wrote a **two-page essay** answering: *"Was the American Revolution justified?"*
Students were encouraged—but not required—to cite sources from class materials.

Grading Practices
The teacher graded based on:
- Strength of argument
- Use of historical evidence
- Writing mechanics

However:
- No rubric was provided
- The teacher admitted valuing "passion" and "voice"
- Essays that reflected patriotic viewpoints tended to score higher

Student Results
- 1 student: F
- 3 students: D
- 7 students: C
- 6 students: B
- 4 students: A

Several essays with factual inaccuracies still earned high grades if well written.

Discussion Prompts:

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6th Grade PE – Cardiovascular Fitness

Learning Targets:
- I can demonstrate cardiovascular endurance.
- I can explain how exercise impacts heart health.

Context & Learning Targets
Students are learning about **cardiovascular endurance**, proper technique, and **personal fitness goal setting**.

Assessment Description
Students completed the **PACER test** (Progressive Aerobic Cardiovascular Endurance Run) and submitted a short written reflection about effort and improvement.

Grading Practices
Grades were calculated as follows:
- 70% based on number of PACER laps completed
- 30% based on reflection
- The teacher expected "serious effort," defined informally as:
  - Visible exertion
  - Students not stopping early
  - Reflective answers that emphasized personal responsibility

  No accommodations were made for asthma or injuries.

Student Results
- 2 students: F
- 3 students: D
- 5 students: C
- 10 students: B
- 6 students: A

  Some students with medical conditions scored poorly despite strong reflections.

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Algebra I – Solving Linear Equations

Learning Targets:
- I can solve one-step and multi-step linear equations.
- I can model real-world situations using equations.

Context & Learning Targets

Students are learning to **solve quadratic equations using multiple methods** and **explain why a method works**.

Assessment Description

Students completed a unit test with:
- 15 multiple-choice questions
- 3 short-answer problems requiring explanation

Grading Practices
- Multiple-choice: machine-scored
- Short answers: teacher-scored

The teacher:
- Gave full points only if explanations matched the *exact wording* used in class
- Deducted points for minor algebra errors even when reasoning was correct
- Did not provide partial-credit guidelines

Student Results
- 4 students: F
- 6 students: D
- 7 students: C
- 8 students: B
- 3 students: A
    Students performed much better on procedural questions than conceptual ones.

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Learning Targets:
- I can analyze historical documents.
- I can make an evidence-based argument.

Context & Learning Targets

Students are learning to **interpret primary sources** and **analyze cause-and-effect relationships**.

Assessment Description

Students completed a **document-based question (DBQ)** with five historical documents and a timed essay response.

Grading Practices

The teacher:
- Used an AP-style rubric but modified criteria informally
- Prioritized essay length and structure
- Provided little weight to document analysis compared to thesis strength
- Students were not shown exemplars.

Student Results
- 2 students: F
- 5 students: D
- 6 students: C
- 7 students: B
- 5 students: A
  Short but accurate essays tended to score lower.

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Learning Targets:
- I can identify a theme in a literary text.
- I can support my analysis with textual evidence.

Context & Learning Targets

Students are learning to **analyze theme in literature** and **support claims with textual evidence**.

Assessment Description

Students wrote a literary analysis essay on a novel studied in class.

Grading Practices

The teacher graded based on:
- Depth of interpretation
- Use of quotes
- Writing quality

However:
- No rubric was shared
- The teacher penalized essays that disagreed with her interpretation
- Grammar mistakes heavily influenced final grades

Student Results
- 3 students: F
- 4 students: D
- 8 students: C
- 6 students: B
- 4 students: A

Creative but unconventional interpretations were scored lower.

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Learning Targets:
- I can analyze nutritional information.
- I can make informed health decisions.

Context & Learning Targets
Students are learning to **evaluate health choices** and **apply decision-making strategies**.

Assessment Description
Students created a **personal health action plan** related to sleep, nutrition, or stress management.

Grading Practices
The teacher graded based on:
- Completeness
- Realism of goals
- Personal reflection
  The teacher favored plans that aligned with her own health beliefs (e.g., early sleep schedules, limited screen time).

Student Results
- 1 student: F
- 2 students: D
- 6 students: C
- 9 students: B
- 10 students: A
  Students with nontraditional schedules scored lower.

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Assessment:
Lab report explaining the process and analyzing experimental results.

Context & Learning Targets
Students are learning to **design investigations**, **collect data**, and **draw evidence-based conclusions**.

Assessment Description
Students completed a **lab report** after a genetics simulation activity.

Grading Practices
The teacher:

- Provided a checklist instead of a rubric
- Graded harshly on formatting and grammar
- Expected a "correct" conclusion even if student data differed

Student Results

- 4 students: F
- 5 students: D
- 6 students: C
- 7 students: B
- 4 students: A
  Students who followed procedures but got unexpected results scored poorly.

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4. Instructional Next Steps

- Describe **whole-group instructional adjustments** the teacher might make.
- Describe **individual or differentiated instructional strategies** for students who are struggling and for students who are ready for extension.

Context:
Concert Band – Performance Preparation

Learning Targets:
- I can perform my part accurately and expressively.
- I can reflect on my practice strategies.

Context & Learning Targets
Students are learning to **perform music accurately and expressively**.

Assessment Description
Students completed a **solo performance** during class.

Grading Practices
Grades were based on:
- Accuracy
- Tone
- Expression

However:
- No written rubric was provided
- The director graded more leniently for advanced musicians
- Performance anxiety was not accounted for

Student Results
- 1 student: F
- 2 students: D
- 5 students: C
- 8 students: B
- 7 students: A

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Case Study 11: High School Choir ()
Concert Choir – Sight Singing

Learning Targets:
- I can read vocal music accurately.
- I can maintain pitch and rhythm independently.

Context & Learning Targets
Students are learning **vocal technique and sight-reading skills**.

Assessment Description
Students completed an **individual sight-reading assessment**.

Grading Practices
The teacher:
- Gave one overall score
- Considered posture and confidence
- Penalized students who stopped and restarted
  No formative practice data was used.

Student Results
- 3 students: F
- 4 students: D
- 6 students: C
- 6 students: B
- 5 students: A

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