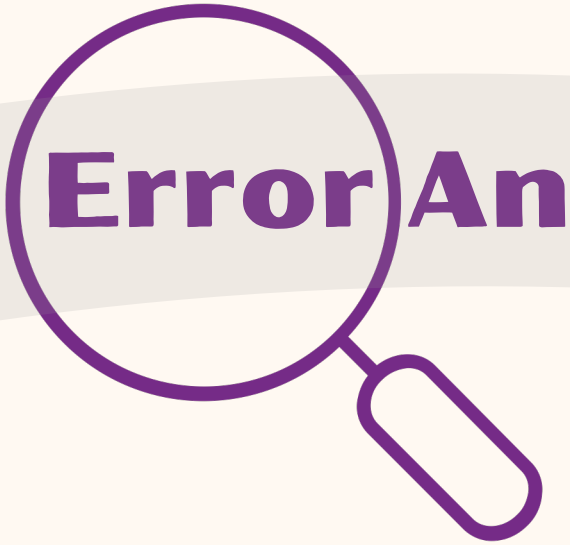
# Error Analysis

# Error Analysis

- Includes determining what errors students are making, why, and what we can do to remedy them.
- Informs instruction.
- ***Determines next steps for supporting individual students.***

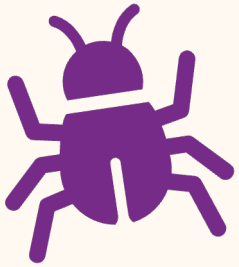
# Error Analysis



- Analyze work samples.
- Conduct diagnostic observations or interviews.

# Error Analysis

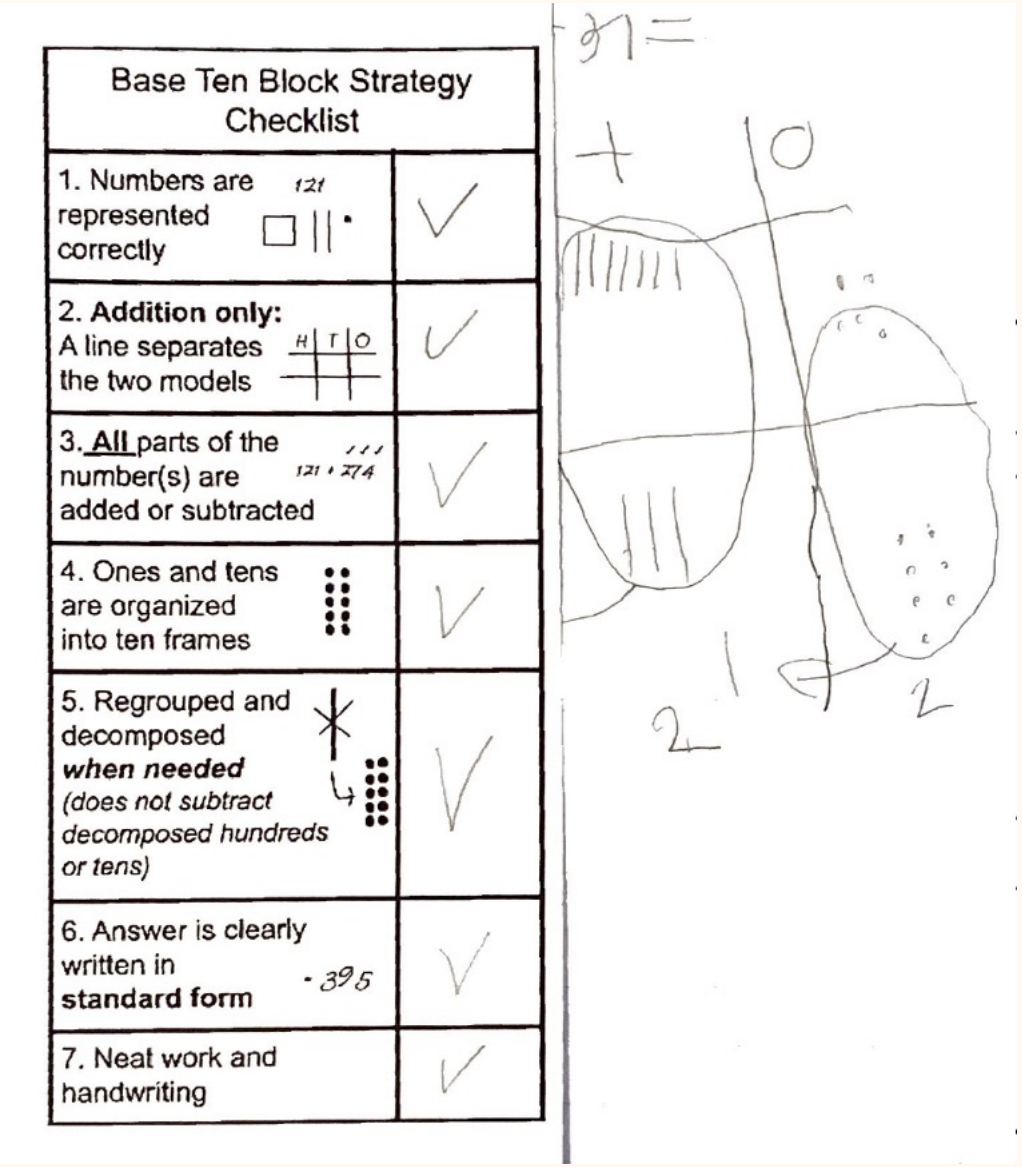
**Slips:** Errors **not** indicative of misconceptions; often remedied with better organization and self-monitoring.



**Bugs:** Errors that **are** indicative of misconceptions. Look for error **patterns**.

# Slips

- Teach students to organize their work, write neatly, and check for mistakes.
- Introduce self-monitoring checklists.



| Base Ten Block Strategy Checklist | |
|---|---|
| 1. Numbers are represented correctly | ✓ |
| 2. **Addition only:** A line separates the two models (H T O) | ✓ |
| 3. **All** parts of the number(s) are added or subtracted (121 + 274) | ✓ |
| 4. Ones and tens are organized into ten frames | ✓ |
| 5. Regrouped and decomposed ***when needed*** *(does not subtract decomposed hundreds or tens)* | ✓ |
| 6. Answer is clearly written in **standard form** (395) | ✓ |
| 7. Neat work and handwriting | ✓ |

# Slips

- Teach students to organize their work, write neatly, and check for mistakes.
- Introduce self-monitoring checklists.

Turn in this checklist with your assignment.

Name _____
Date _____

| | | | |
|---|---|---|---|
| 1. My digits are written in place-value columns. | Y | ? | N |
| 2. Others can read my numerals. | Y | ? | N |
| 3. Sometimes I was stuck. | Y | ? | N |
| 4. I checked my answers. | Y | ? | N |

5. Describe a situation in which this computation could be used.

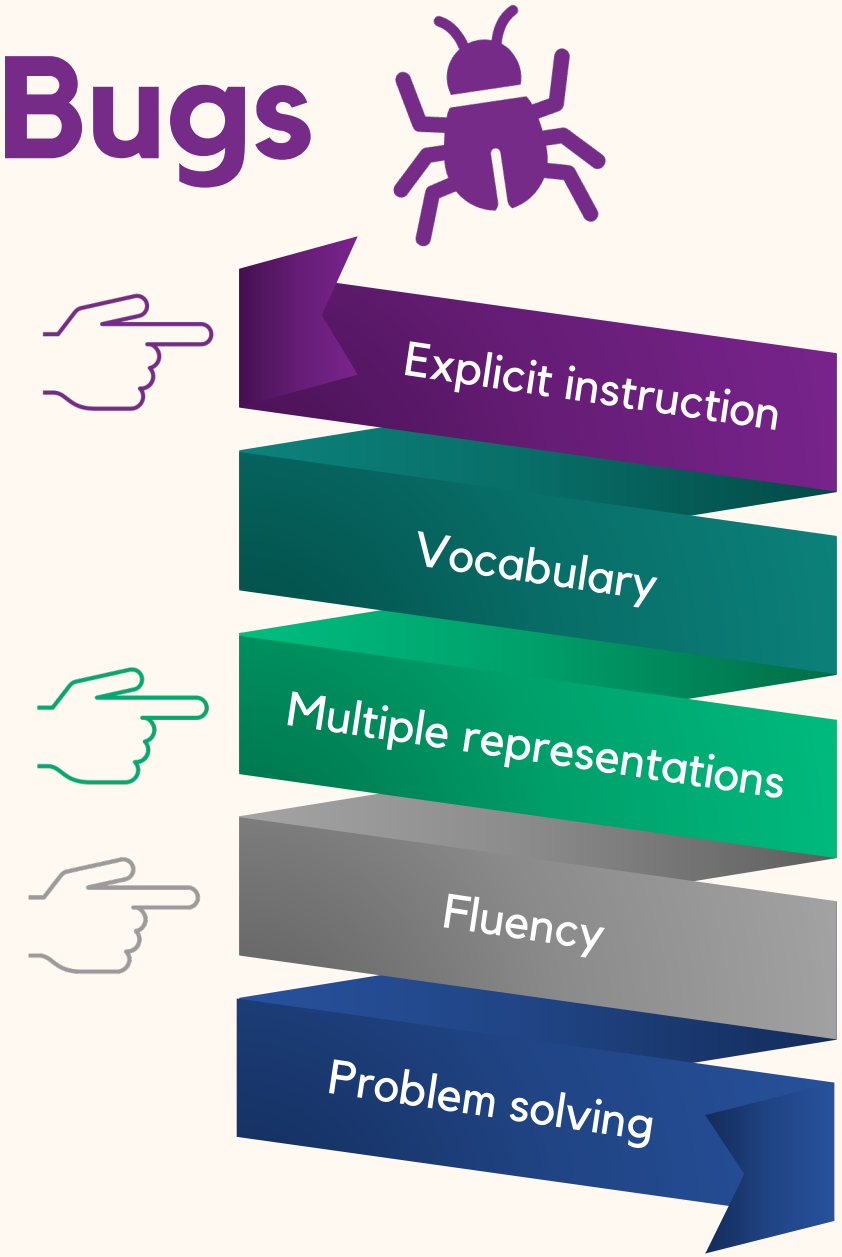
_____

_____

Comments

Ashlock (2010)

# Bugs




- Step-by-step modeling, guided practice, and timely feedback.
- Hands-on manipulatives and visuals.
- Brief, daily fluency practice (once the student is proficient with the skill).

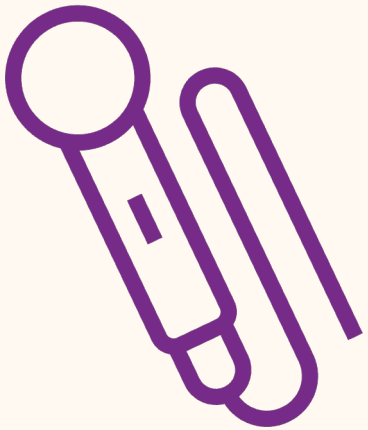
# Diagnostic Observations and Interviews

- Provide a clearer picture of students' thinking.
- Serve as an opportunity for gathering information, not instruction.

## Tips

- Accept students' responses without judgment.
- Keep responses neutral.
- Ask probing questions about incorrect *and* correct answers.

# Diagnostic Observations and Interviews



## Use a simple script.

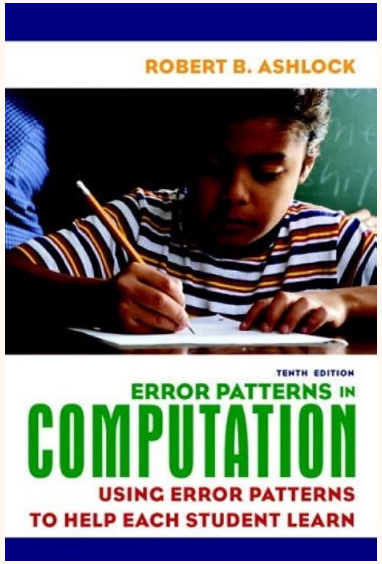
*Read the problem, please.*

*What is the question asking you to do?*

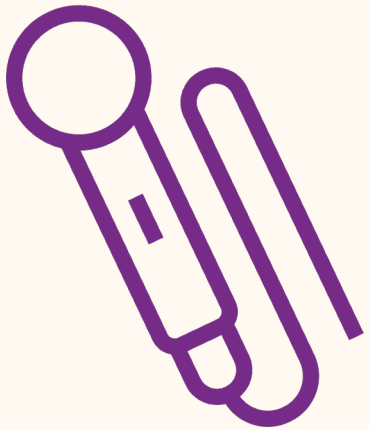
*How are you going to find the answer?*

*Do the work and tell me about your thinking as you work.*

*Write down your answer.*



# Diagnostic Observations and Interviews



*How did you get your answer? I may have missed something.*

*If you had to teach someone else to solve this problem, what would you tell them?*

*This time, I'll hold the pencil. You act as the teacher and tell me what to do.*

Ashlock (2010)