For a given academic concern, you have collected the following data:

- Interview for ABC
- Review of Work products, records
- Errors, completed, scores
- In class CBM results for peer comparison
- Effective teaching observation for type of instruction

You are attempting to enhance the general education instruction

**4 STEPS when identifying ways to modify instruction using Brief Testing Conditions:**

1. **Determine student’s BASELINE performance**

   ![Baseline Performance Graph](chart)

   - Use in-class data
   - Reading: Give three probes and use median score
   - Math: Give multiple probe for 10 minutes

2. **Generate a hypothesis**

   - That may explain why the child is not learning

3. **Apply Instructional Hierarchy**

4. **Conduct error analysis**

5. **Adjust parameters**

---

**How to select intervention options**

<table>
<thead>
<tr>
<th>What influences a learner's ability to learn</th>
<th>Measurement telling us we have a fluent learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective teaching And its parameters</td>
<td>Correct answers</td>
</tr>
<tr>
<td>Difficulty of Materials</td>
<td>Errors</td>
</tr>
<tr>
<td>Type of Intervention: A &amp; C</td>
<td>Learning Rate</td>
</tr>
<tr>
<td>FLUENT LEARNER</td>
<td>On Task Bx</td>
</tr>
</tbody>
</table>

---

**How is an intervention selected from the vast number of proven interventions in the literature?**

1. Review data, collect baseline performance, and form your hypothesis about why the problem is occurring.
2. Match a few treatments that may solve the problem.
3. Conduct a brief analysis to see which is most effective.

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**4 STEPS when identifying ways to modify instruction using Brief Testing Conditions:**

1. **Determine student’s BASELINE performance**

   - To determine appropriate level

2. **Generate a hypothesis**

   - That may explain why the child is not learning

3. **Apply Instructional Hierarchy**

4. **Conduct error analysis**

5. **Adjust parameters**

---

**Strategies to develop an hypothesis linked to treatment:**

1. **Apply Instructional Hierarchy**
2. **Conduct error analysis**
3. **Adjust parameters**
1. Apply Instructional Hierarchy

STAGES OF LEARNING

- **Acquisition**: Learner first learns how to do the skill and how to do the skill with accuracy.
- **Fluency-Building**: Learner learns how to do accurately and with speed.
- **Generalization**: Learner learns to use the skill to novel contexts.

### USING INSTRUCTIONAL HIERARCHY WITH TEACHING

How Many Steps Depends on Student Skill Level:

- **ACQUISITION**
  - Not yet accurate: Show, practice, feedback, praise after every problem; may need at lower level.

- **FLUENCY-BUILDING**
  - Accurate but not automatic: Show briefly, practice a lot, then feedback and praise/coupon.

- **GENERALIZATION**
  - Have not done it that way before: Assess first, then show, check accuracy and speed.

#### CBA OUTCOME 1:

Accuracy is high with few errors but low rate

1. Has the skill but not enough practice
2. Has not acquired the skill
3. Did not want to do it.

#### CBA OUTCOME 2:

Accuracy is low, a lot of errors and low rate

1. Has not acquired the skill
2. Did not want to do it.

### 2. Error Analysis with CBM

For Math:
- Give multiple probe
- Use specific skill chart and mark correct problems
- Any skills not marked suggest skill deficit

Common errors:
- Inadequate mastery of facts
- Incorrect operations: Accurate facts, but adds rather than subtracts
- Ineffective strategy: Sound operation, correct facts, error in steps in procedure.
Error Analysis

For Reading
- Give oral reading probe (may tape)
- Mark decoding error types
- Have child Retell the story for one minute
- Have child circle or define a few hard looking words
- Ask three Who, why, where, when questions

Conduct Retell and Questions on probe with few errors and instructional level to see if comprehends when reads at normal rate with few errors

Error Analysis

For Writing
- Punctuation errors
- Number of complete sentences
- Number of correct word sequences
  
  (2 adjacent spelled words that are correct within the context of the sentence according to a native speaker of the English language)
- Clarity
- Organization
- Spelling errors

3. Adjusting instructional parameters of effective teaching strategies

BASIC STEP 1: TELL and MODEL THE SKILL
Teacher reads the reading passage aloud to the student to model how the passage would sound when read correctly.

BASIC STEP 2: GUIDED PRACTICE WITH CUES
Teacher asks the student to read 60 words of the passage aloud. Teacher corrects any errors made and assists the student with any unknown words.

BASIC STEP 3: INDEPENDENT PRACTICE
Teacher asks the student to read aloud independently. However, whenever a student is unable to read a word after three seconds, the teacher assists by reading the unknown word.

BASIC STEP 4: MONITOR THE PERFORMANCE
The teacher keeps track of errors made while the student is reading the passage independently. Any mispronounced words, substituted words or overlooked words are scored as errors.

BASIC STEP 5: PROVIDE FEEDBACK
After the student has completed the exercise, the student is told how much work was correctly completed and the number of errors.

BASIC STEP 7: PROVIDE THE REINFORCEMENT
If the student’s score met or exceeded his or her goal, the teacher gives praise, token, or reward.
Changing the parameter for TELL and SHOW

How many times: two times then student do it
How long: one step at a time then ✔
How much: model before every step before one problem
When: model after TELL and before independent seatwork
How much effort: one part of the complex skill

Changing the parameter for PRACTICE***

How many times: two times a day
How long: 30 seconds to 15 minutes
How much: Short skills
When: immediately after instruction “special” homework
How much effort: response topography (write, say, point) percent unknown and known basic tool skills

Changing the parameter for Reinforcement

How many times: every worksheet or after five worksheets
How long: earn one minute free time or ten minutes computer time
How much: ten M&Ms or two coupons or praise
When: immediately get M&M get a token/ coupon
How much effort: fold paper in half

Changing the parameter for FEEDBACK

How many times
How long
How much
When:
How much effort

4 STEPS when identifying ways to modify instruction using Brief Testing Conditions:

1. Determine student’s **BASELINE performance** to determine appropriate level (In-class data)
2. Generate a **hypothesis** that may explain why the child is not learning
3. Select an **intervention/variable** that is linked to your hypothesis
IF student has a high number of errors & few accurate

**Antecedent**
- Assess prerequisite skills
- Match level of difficulty
- Slice back skills /task analysis
- Model more
- Time limit or shorten time
- Change type of response
  - say, point, write, line
- Verbal or visual prompt
  - checklist or steps or another child’s correct work w/steps
- Discrimination tasks
  - right/wrong with 2-4 choices

**Consequences**
- Error correction
  - 3 second time delay
  - overcorrection
- Feedback each time
  - Reinforce with praise, points

If student can do accurately but is slow

**Antecedent**
- Told a Goal
- Increase pace (to inc responses)
- Short probes throughout the day
- Time limit given
- Response Cards

**Consequences**
- Graph scores
- Public posting (stars)
- If random errors:
  - RF, beat score based on correct and error criterion, overcorrect errors

If student can do accurately and quickly but is choosing not to do the work:

**Antecedent**
- Told a Goal
- Choice (of tasks, odd or even)
- Spaced trials with breaks
- Task variation
- Time limit given

**Consequences**
- Reinforce: alter amount, type, delay, effort
  - Mystery motivator
  - Beat the score
  - Lottery
  - Token economy
  - Reward movement charts
  - Overcorrecting errors
  - Response cost
  - Earn a break
  - Extinction of RF for no work

4 STEPS when identifying ways to modify instruction using Brief Testing Conditions:

1. **Determine student’s BASELINE performance**
   to determine appropriate level (In-class data)

2. **Generate a hypothesis**
   that may explain why the child is not learning

3. **Select an intervention/variable**
   that is linked to your hypothesis

4. **Assess intervention using minute probes**
   to determine what works for that child to further support your hypothesis

### Benefits

1. **Addressing the function of the problem**
2. **Presenting the teacher with a proven intervention**
3. **Can assess from least to most intrusive or labor intensive treatments**
4. **Spend your time organizing materials, writing out steps, training teacher with a proven intervention**

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**BRIEF FUNCTIONAL ASSESSMENT WITH CBA**

**Goal:** 40-60 words/min

![Graph showing baseline, model, practice, and reward for Reading Goal: 40-60 words/min.](image)

**Benefits**

1. Addressing the function of the problem
2. Presenting the teacher with a proven intervention
3. Can assess from least to most intrusive or labor intensive treatments
4. Spend your time organizing materials, writing out steps, training teacher with a proven intervention
Decoding skills
- Phoneme awareness training (Beginning sounds, sound out words)
- Phonic instruction (say letter sounds)

Most Frequent words
- 22 list, irregular, and Dolch word list

Word practice:
- listen preview
- repeated reading
- overcorrection (3 times word and repeat sentence)

Vocabulary:
- Errors: Sandwich/folding in/CBAID
- Teacher selected

Comprehension training (STEVE’S CLASS)
- learn purpose of reading
- develop story/concept maps
- generate questions before summarize
- Think aloud
- reciprocal teaching: what know, what want to know & what found out

Math
- Cover copy and compare
- Strategy Coach cards
- Brief skill probes
- constant time delay with beating your score
- Teach reciprocals: (2 + 3= 5; 5-2 =3; 5-3=2;2 x 3=6;3 x 2 = 6; 6 + 2 = 3; 6 + 3 = 2.)

Color highlighting/ color coding
- Students “think aloud” or try to state the steps in a way that allows other students to understand what they did.
- Calculators to check the accuracy of computation.
- Alter reading if that is the problem.

Spelling
- add a word - 10 words, keep misspelled until 2 days correct
- Cue with error part or word circled
- Overcorrection
- Imitation plus model - child correct “teacher” mistake
- Portion of words given a day and practiced

Writing
- Explicit teaching of steps
- think sheet or prompt card
- Explicit teaching of conventions of writing
- text structure, webs or story maps
- Guided feedback
- Brainstorm on specifics (e.g. increasing different types of action words
- Tokens for increasing specific operational defined writing concepts or meeting a score on a LIKERT SCALES
1. Apply instructional hierarchy: Is this an Accuracy or fluency problem?

2. Conduct Error analysis

3. Alter parameters of effective teaching
   - Tell, model, practice
   - Feedback, reinforce
   - How many times, How long or much
   - When, How much effort

**MULTIPLICATION**
- Multiply two digits with regrouping [√]
- Multiply one digit with regrouping [√]
- Multiply two digits no regrouping [√]
- Multiply one digit no regrouping [√]

**SUBTRACTION**
- Subtract three columns with trading [√]
- Subtract three columns with trading and zero [√]
- Subtract two columns with trading [√]
- Subtract three columns no trading [√]
- Subtract two columns no trading [√]

**ADDITION**
- Add three columns regrouping [√]
- Add two columns regrouping [√]
- Add one column regrouping [√]
- Add three columns no regrouping [√]
- Add two columns no regrouping [√]

**RESULTS FROM AN ERROR ANALYSIS PROBE**

**BRIEFLY TEST A FEW INTERVENTIONS**