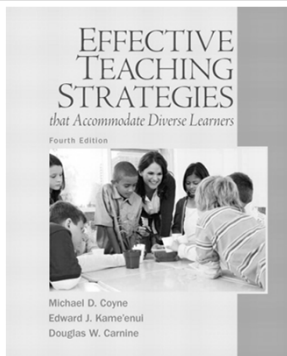


Effective Teaching Strategies that Accommodate Diverse Learners

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Session Description

- This session will describe research-validated instructional strategies that can maximize academic achievement for students experiencing learning difficulties.
- Applied examples will be provided from across content areas (e.g., reading, mathematics, writing, science).

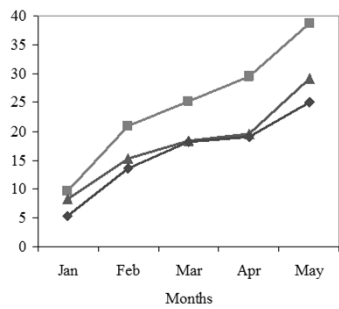


Coyne, M. D., Kame'enui, E. J., & Carnine, D. W. (2011). *Effective teaching strategies that accommodate diverse learners*. (4th Ed.). Columbus, OH: Merrill Publishing Company.

Why do some students learn more, faster?



Observed Growth in Reading Skills



What is the same between these groups?

- Student characteristics
- Reading content
- Teacher expertise
- Learning time

What is different between these groups?

- Quality of instruction

Instructional Perspective on Teaching and Learning

- An instructional perspective involves framing problems in terms of variables that the teacher controls (instruction)
 - Instruction is central to student achievement
 - We can teach the skills, strategies, and content that students need to know to experience success
 - The quality of instruction impacts learning
 - *“The more carefully skills are taught, the greater the possibility that the student will learn them”*
- Learning is under “instructional control.”*

Instructional Perspective on Teaching and Learning

Two Very Different Questions:

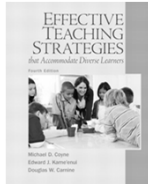
1. “What is it about this **student** that makes her unable to learn?”
2. “What is it about this **instruction** that makes this student unable to learn?”

Instructional Perspective on Teaching and Learning

The term ‘**special education**’ means specialty designed instruction, at no cost to parents, to meet the unique needs of a child with a disability...

- IDEA

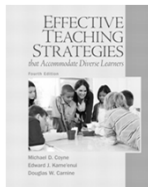
Effective Teaching Strategies that Accommodate Diverse Learners



Six Principles of Instruction

- Big Ideas
- Conspicuous Strategies
- Mediated Scaffolds
- Strategic Integration
- Primed Background Knowledge
- Judicious Review

Effective Teaching Strategies that Accommodate Diverse Learners



Principles of Instruction

- **What to teach**
 - Big Ideas
- **How to teach**
 - Conspicuous (Explicit) Instruction
 - Scaffolded Instruction
 - Opportunities to Practice with Corrective Feedback

Big Ideas

Explosion of information

Schools are pressured to expose students to information on a surface level rather than teach concepts and relationships in ways that result in a depth of understanding

Especially for diverse learners, who have to learn more in less time, teaching for exposure is a recipe for continued failure

Big Ideas

Big ideas are the fundamental concepts and principles that facilitate the most efficient and broadest acquisition of knowledge within an academic area

Big ideas focus attention on the most relevant aspects of a content area and function as anchoring concepts within which "small" ideas can often be taught and understood

Big Ideas

The concept of big ideas...

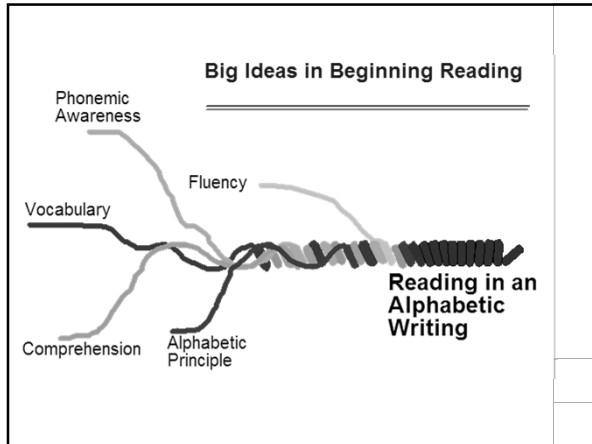
...assumes not all curriculum objectives and related instructional activities contribute equally to learning

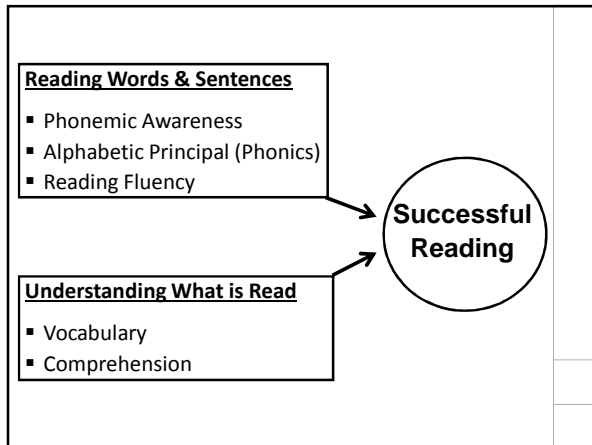
...focuses instruction on the most important ideas and concepts in a subject

...allows for the most effective and efficient use of limited and valuable time



Examples





- ### Dimensions of Phonological Awareness
- rhyming
 - segmenting sentences into words
 - clapping syllables in words
 - blending syllables into words
 - blending sounds into words
 - isolating first sounds
 - isolating last sounds
 - isolating medial sounds
 - phoneme segmentation
 - first sounds substitution
 - syllable manipulation
 - syllable substitution
 - phoneme manipulation

Essential Phonological Awareness Skills

“Big Ideas”

Blending at the phoneme level

- Putting individual sounds together to make a spoken word

/fff/ - /iii/ - /nnn/ → fin

Segmenting at the phoneme level

- Pulling individual sounds apart in a spoken word

fin → /fff/ - /iii/ - /nnn/

Sequence of District-Recommended Textbook
(7th & 8th grade foundational math)

1. Addition/subtraction of whole numbers
2. Addition/subtraction of decimals
3. Multiplication/division of whole numbers
4. Multiplication of decimals
5. Division of decimals
6. Geometry
7. Number theory and equations
8. Addition/subtraction of fractions
9. Multiplication/division of fractions
10. Measurement: Metric units
11. Ratio and proportion
12. Percent
13. Circles and cylinders
14. Probability, statistics, and graphs
15. Integers
16. Measurement: Customary units

(Coyne, Kame'enui & Carnine, 2011)

Sequence of New Curriculum
(7th & 8th grade foundational math)

1. Proportions
 - *Representing common fraction*
 - *Transforming fractions*
 - *Understanding decimals*
 - *Percents*
 - *Ratios*
2. Common measurements
 - *Using fractions*
3. Metrics
4. Geometry
5. Charting numbers and modeling data

(Coyne, Kame'enui & Carnine, 2011)

Other Examples of Big Ideas

Writing

- Composition (Author Role)
- Mechanics (Secretary)

Math (operations)

- Number sense
- Place value
- Equivalence
- Cumulative, Associative, Distributed

Science

- Scientific method (observing patterns, controlling variables)
- Convection

Social Studies

- Problem – solution – effect
- Multiple perspectives
- Factors of group success

(Coyne, Kame'enui & Carnine, 2011)

Big Ideas & Common Core?



Instructional Perspective on Teaching and Learning

What we teach matters

How we teach also matters!

- For students experiencing learning difficulties, how we teach important skills and strategies may be even more important than what we teach.

Conspicuous Instruction

Although some students are able to infer independently the skills and strategies necessary for successful learning, many students, especially those experiencing learning difficulties, will not discover effective or efficient strategies without instruction

The strategies that expert learners rely on are effectively hidden from students experiencing learning difficulties

The role of instruction, therefore, is to let these students "in on the secret" of academic success by making essential concepts, skills, and strategies conspicuous.

Conspicuous Instruction

Conspicuous instruction:

- Teaches concepts, skills, and strategies **directly, explicitly, and systematically** in a series of carefully sequenced steps.
- Uses **clear and consistent language** to reduce confusion and prevent misunderstanding.
- Includes extensive teacher **modeling**. At every stage in the learning process, teachers explain and demonstrate skills and strategies multiple times before asking students to perform them independently.

Conspicuous Strategies

Research studies have consistently found that explicit instruction produces greater effects than implicit or embedded instruction in which students needed to infer skills or instruction in which skills were left to natural development

Few can deny the personal gratification inherent in possessing an effective strategy for solving problems on one's own, or the terrible frustration inherent in the failure to discover such strategies

Conspicuous Strategies

For higher-performing students, conspicuous strategies may be primarily the difference between learning strategies in a timely fashion or not. For many students with diverse learning needs, and for many students who are normally achieving, conspicuous strategies are quite likely the difference between learning and not learning

Teaching not Testing



Examples

Conspicuous Instruction

Phonemic Awareness: modeling

Example:

"We are going to learn how to say the first sound in a word."

(Put down 2 pictures that begin with different sounds and say the names of the pictures.)

**"My turn to say the first sound in *man*, /mmm/.
Mmman begins with /mmm/."**

"Everyone, say the first sound in *man*, /mmm/."



Conspicuous Instruction


Phonemic Awareness: modeling

Non-Example:

"We are going to learn how to say the first sound in a word."

(Put down 2 pictures that begin with different sounds and say the names of the pictures.)

"Who can tell me the first sounds in these pictures?"



Conspicuous Instruction


Phonemic Awareness: clear and consistent wording

Example:

"The first sound in *Mmman* is /mmm/. Everyone, say the first sound in *man*, /mmm/."

Non-Example:


"*Man* starts with the same sound as the first sounds in *mountain*, *map*, and *Miranda*. Does anyone know other words that begin with the same sound as *man*?"



Mathematics

Teach:

"I'll show you how to write the equation for this problem"




Point to the two on the number line
 "Two plus three equals five" point to the 5 on the number line

Write the equation "**2 + 3 = 5**"

Practice:

"Now it's your turn to write the equation for this problem"

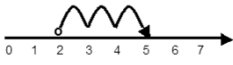


(Coyne, Kame'enui & Carnine, 2011)

Mathematics

Teach:

"I'll show you how to write the equation for this problem"



First, I'll see where the circle started. The circle started at two, so I'll write "2".

2

Now, I'll see how many places the circled moved forward by counting the loops with my finger...1...2...3. So I'll write "plus 3".

2 + 3

Now, I'll see where the circle ended. The circle ended at five so I'll write "equals 5".

2 + 3 = 5

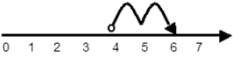
I'll read the whole equation for this problem. "Two plus three equals five."

(Coyno, Kame'enui & Carnine, 2011)

Mathematics

Practice:

"Now its your turn to write the equation for this problem"



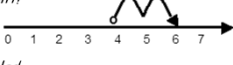
(Coyno, Kame'enui & Carnine, 2011)

Mathematics

Practice:

Now it's your turn to write the equation for a problem. First, you'll figure out where the circle started. Where did the circle start? That's right! The circle started at four, so you'll write "4".

4



Now, you'll figure out how many places the circled moved forward by counting the loops with your finger. How many places did the circle move forward? That's right! So you'll write "plus 2".

4 + 2

Now, you'll figure out where the circle ended. Where did the circle end? That's right! The circle ended at six so you'll write "equals 6".

4 + 2 = 6

Read the whole equation for this problem. That's right! "Four plus two equals six."

Scaffolded Instruction

Students with intensive learning needs require substantial supports to gain cognitive access to the complexities of information.

Instructional scaffolding is support that teachers and materials provide learners during instruction.

Scaffolds are mediated by the specific needs of the learner and are gradually withdrawn once mastery is demonstrated so that students can begin to apply skills independently.

Scaffolded Instruction

Scaffolded instruction:

- Introduces concepts and skills **systematically**, beginning with easier tasks and progressing to more difficult tasks over time.
- Careful and intentional **example selection:**
 - Introduction?
 - Guided Practice?
 - Independent Practice?

Scaffolded Instruction

Scaffolded instruction:

- Reinforces and builds on previously taught and learned information.
- Introduces a **manageable amount of information** at a time and separates potential confusing concepts.
- Includes **material supports** such as graphic organizers, procedural facilitators, and concrete manipulatives.



Examples

Phonics: Decoding

m	u	d
---	---	---

Watch me read this word. I'll touch each letter and say its sound. I won't stop between sounds. /mmm/-/uuu/-/d/
Now I'll say it fast – mud The word is mud.

Now its your turn to read this word. I'll touch each letter and you say its sound. Don't stop between sounds.
/mmm/-/uuu/-/d/ Now say it fast – mud You read the word mud!

Phonics: Decoding

f		
---	--	--

Now its your turn to read this word on your own. I'll touch each letter and you say its sound. Don't stop between sounds.

/fff/-/iii/-/nnn/ Now say it fast – fin You read the word fin!

Word Study Skill: Phonics

Teaching Vowels
Use Charts 7 and 8 or write the following on the board.

Charts 7 and 8

be <u>a</u> n	fe <u>a</u> ther	bo <u>o</u> k	so <u>o</u> n
be <u>e</u> k	re <u>e</u> dy	co <u>o</u> k	bo <u>o</u> t

Teach:
Use these examples to introduce students to the vowel combination "oo"

- I wanted to watch my little brother, so I made him walk ahead of me.
- Jeff didn't like to walk, so he ran instead.
- He was so excited when he saw the bears that he squealed loudly.
- The noise scared the bear, and he shook the bars on his cage.
- I loved the zoo the first time I saw it, so I understood how Jeff felt.

Social Studies: Multiple Perspectives

<p>Problem: "Not enough jobs."</p> <p>Solution: "Build an airport."</p> <p>Effect: "People get jobs at the airport."</p>	→	<p>Problem: "Airplanes cause a lot of noise."</p> <p>Solution: "People try to sell their houses."</p> <p>Effect: "The noise of the airplanes makes it difficult for people to sell their homes and they lose money."</p>
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(Coyne, Kameenui & Carnine, 2011)

Multiple Opportunities to Practice with Corrective Feedback

To become proficient in the application of newly acquired skills and strategies, students need multiple opportunities to practice

Instruction should maximize student opportunities to "respond"

- Rapid pacing to optimize engagement
- Group responses
- Small groups, Peer practice

Multiple Opportunities to Practice with Corrective Feedback

High quality feedback is immediate, individualized, and content specific.

Specific positive reinforcement

“Great job reading the word “moon”

A key feature of instructional feedback is error correction.

- Provide correct answer
- Provide additional opportunity
- Come back to missed example later in lesson



Examples

Reading: Letter Sounds & Combinations

t	m
<u>ee</u>	a
p	<u>oy</u> i
s	o
<u>ar</u>	n
<u>sh</u>	l

Reading Comprehension: Vocabulary

Picture Activity - Examples & Non-Examples: *Fleet*

In this activity, students decide if pictures are examples or non-examples of the target word.

Introducing the activity

- Let's play a game about our magic word fleet. I'll show you some pictures. If you think the picture shows something really fast, or fleet, put your thumbs up like this and whisper, "That's fleet!" If the picture doesn't show something fleet, put your thumbs down like this and don't say anything.

Picture Activity - Examples & Non-Examples: *Fleet*

Showing the pictures

Show the picture (running kids) Do these kids look fast or fleet?



If you put your thumb up like this and said, "That's fleet", you're right! The kids in this picture look fast, or fleet. "The fleet boys ran out of the water."

Picture Activity - Examples & Non-Examples: *Fleet*

Show the picture (turtle) Does this turtle look fast, or fleet?



If you put your thumb down like this, you're right! The turtle doesn't look fast, or fleet. "The turtle moved very slowly over the ground."

Picture Activity - Examples & Non-Examples:
Fleet

Show the picture (cheetah) Does this cheetah look fast, or fleet?



If you put your thumb up like this and said "That's fleet", you're right! The cheetah in this picture looks fast, or fleet. "Cheetahs are fleet animals."

Picture Activity - Examples & Non-Examples:
Fleet

Show the picture (jets) Do these jets look fast, or fleet?



If you put your thumb up like this and said "That's fleet", you're right! The jets in this picture look fast, or fleet. "The fleet jets streaked across the sky."

Picture Activity - Examples & Non-Examples:
Fleet

Show the picture (baby) Does this baby look fast, or fleet?



If you put your thumb down like this, you're right! The baby doesn't look fast, or fleet. "The little baby had just learned to crawl."

Providing Individual Turns (Choose a picture game)

- Let's play another game about our magic word fleet. You'll get to choose a picture and tell whether it shows something really fast, or fleet.
- Mix up and place the fleet pictures (examples & non-examples) face down on the table. Have individual students choose a picture and turn it over. Ask: **Does this picture show something that is fleet?**



Scaffolding Student Responses & Error Correction

If student answers <u>correctly</u> , say:	Yes, that's right! (and follow up) Why does/doesn't this picture show something that is <u>fleet</u>? (Students should say something like: "Jets are really fast/ <u>fleet</u> !" or "A baby is slow!")
If student answers <u>incorrectly</u> , say:	This picture does/doesn't show something that is <u>fleet</u> , because it does/doesn't show something that is fast. Let's try again, does this picture show something that is <u>fleet</u> ?

Tell About a Picture- Fleet

Scaffolding Student Responses & Error Correction

If the student says a sentence <u>without the target word</u> , say:	"Great sentence! Can you say it again using our magic word, <u>fleet</u> ?" If not, model a sentence and ask the student to repeat it.
If the student says a <u>very short sentence</u> , say:	"Great job telling about the picture! Can you tell me a little more?" If not, model a sentence and ask the student to repeat it.
If the student <u>cannot say a sentence on their own</u> , say:	"Can you say, 'The boys are fleet!'"

Principles of Effective Instruction

Explicit Instruction

- Clear and concise language
- Modeling of skills and strategies

Scaffolded Instruction

- Careful example selection (easy to hard)
- Reasonable amount of information
- Material scaffolds

Opportunities to Practice with Corrective Feedback

- Maximize opportunities to respond
- Specific feedback

Curriculum example: Identifying the Main Idea

Example:

Tell students that it is impossible to remember everything that they read – especially when they are reading expository text. Explain that learning how to identify the most important, or main, idea of a passage will make it easier for them to remember what they read. Point out that a main idea can be summed up in one sentence.

Say: "We are going to figure out the main idea of a group of sentences. There are two steps in thinking of a main-idea sentence. First we name the person in the paragraph. Second, we will tell the main thing that the person did in all the sentences."

(From Honig, Diamond, & Gutlohn, 2000)

Curriculum example: Identifying the Main Idea

Example (cont.):

Albert Einstein enjoyed sailing. He liked to play the violin. He had fun putting together jigsaw puzzles. He liked riding his bicycle everywhere.

Say: "I'll come up with a sentence that tells the main idea. First, I have to name the person the sentences are about. That's easy. The sentences are about Albert Einstein. Then, I have to figure out how all the things that Albert Einstein did are related to each other. Hmm, I think he enjoyed all of them. That's it, that's the main idea: Albert Einstein enjoyed doing many different things."

(The teacher then models applying the strategy and thinking aloud to two other different passages.)

Curriculum example: Identifying the Main Idea

Example (cont.):

When Benjamin Banneker was twenty-one, he took apart a pocket watch to see how it worked. He built a clock entirely out of wood, carving all the gears by hand. He also built the first American-made striking clock.

Teacher: "Now you are going to practice telling the main idea. (Reads the paragraph aloud as students follow along.) What is the first step?"

Student: "First, I name the person in the sentences."

Teacher: "Yes, that's right. Who is the person?"

Student: The person is Benjamin Banneker

Teacher: "Great job naming the person. Now, what is the second step?"

Curriculum example: Identifying the Main Idea

Example (cont.):

Student: The next step is to tell what the person did in the first sentence.

*Teacher: "The next step is to tell what the person did in **all** the sentences. What is the second step?"*

Student: "Oh yeah, the next step is to tell what the person did in all the sentences. Let's see, all the sentences seem to be about clocks or making clocks. I think the main idea sentence would be Benjamin Banneker built clocks."

Teacher: "Very good! Excellent job telling the main idea!"

(The teacher then gives students opportunities to practice in other different passages.)

Instructional Perspective on Teaching and Learning

- Developing instructional lessons, tools, and materials
- Modifying instructional lessons, tools, and materials
- Selecting instructional lessons, tools, and materials



Examples

Case Studies

The greatest danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it.

Michelangelo
