New Approach to Teaching Using Taxonomy

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Content

1. Basic definition

2. Purpose

3. How we go about it

4. Taxonomy/Zone of Proximal Development (ZPD)

5. Scaffolding
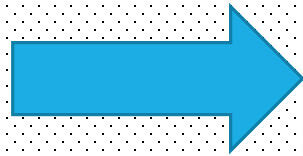
6. Conclusion

Taxonomy Definition

- Definition:
  - "A hierarchical organizational structure for the classification of concepts or things"

- A good taxonomy is:
  - Intuitive
  - Consistent
  - Simple

It refers to the scientific process of categorizing and grouping items.

EXAMPLE →

HIERARCHY OF BIOLOGICAL CLASSIFICATION

SPECIES
GENUS
FAMILY
ORDER
CLASS
PHYLUM
KINGDOM

4

Purpose

The taxonomy facilitates successful and efficient teaching and learning for both teachers and students.

❑ The Educational objectives

■ **Contains three hierarchical models for organizing learning objectives into domains.**

The domains include:

- Cognitive - *the capacity to deduce the thoughts* *or beliefs of another individual*

- Affective - *pertains to the ability to discern* *the* **emotions or feelings** *of another individual.*

- Psychomotor - **physical actions** *that* *come straight from mental activities*

In Summary these correspond to:

- **thinking capabilities.**

- **emotional responses.**

- **physical abilities.**

Learning objectives

- Statements that describe what a student is expected to:
  - know
  - comprehend
  - demonstrate/apply/use/put into practice - at the end of a learning process.

How

do we go about it?

Educational taxonomies and the Zone of Proximal Development (ZPD)

Both educational taxonomies and the Zone of Proximal Development (ZPD) are important concepts in education that can be complementary.

Bloom's Taxonomy:

Educators can create learning objectives and assessments using Bloom's Taxonomy, a hierarchical taxonomy of cognitive skills.

Spans the cognitive spectrum from lower-order (like recalling and comprehending) to higher-order (like assessing, analyzing, and producing).

Zone of Proximal Development (ZPD)

❖ **ZPD** focuses on the range of tasks a learner can perform with guidance but not yet independently.

❖ It emphasizes the importance of scaffolding and providing appropriate support to help students progress.

ZPD Theory

Proposal – Adopt the zone of proximal development (ZPD) Theory developed by Soviet psychologist and social constructivist Lev Vygotsky (1896-1934).

The ZPD has been defined as:

"The gap between a person's current level of development, assessed by their ability to solve problems independently, and their potential level of development, indicated by their ability to solve problems with adult direction or in collaboration with more capable peers."
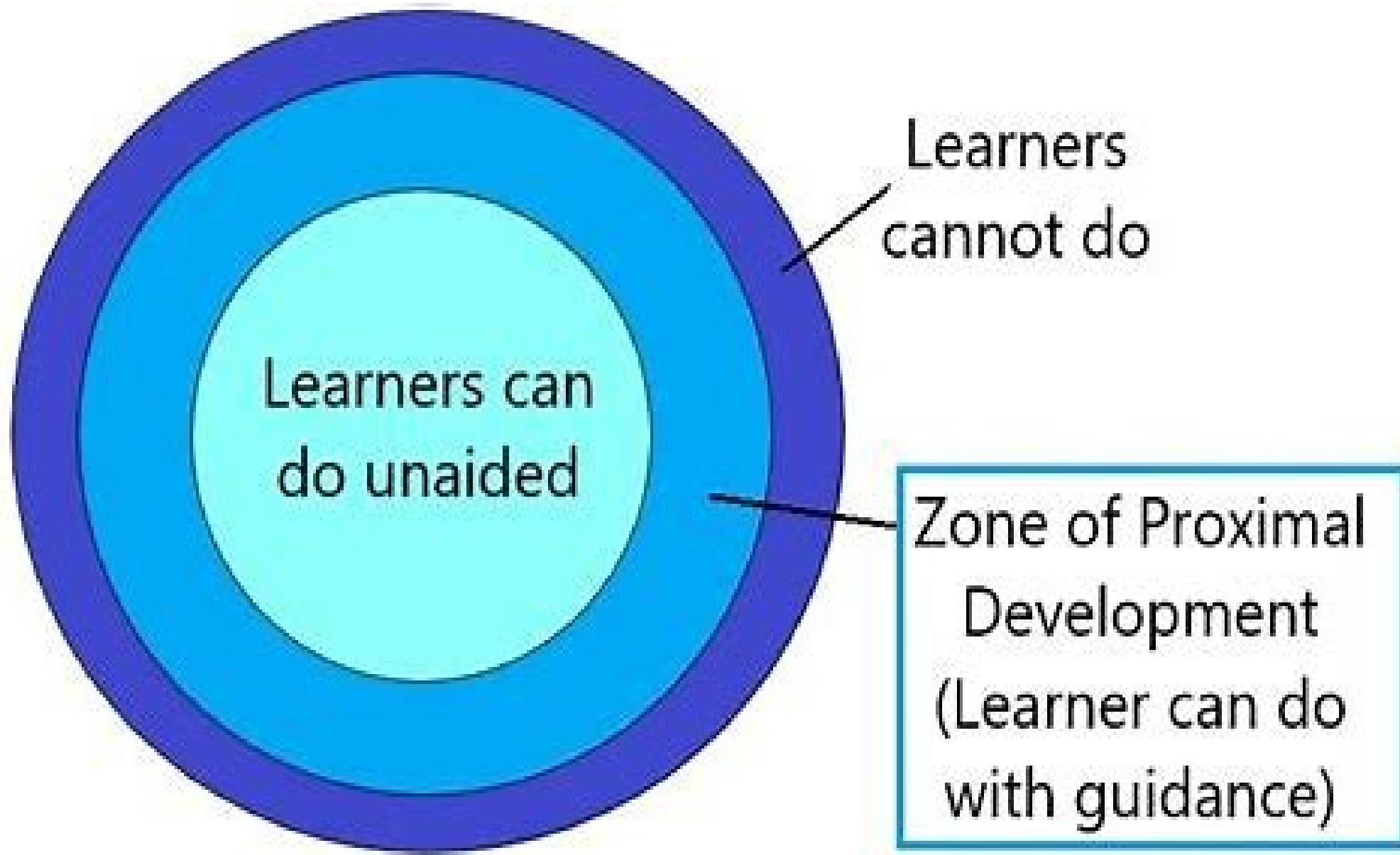
Learners cannot do

Learners can do unaided

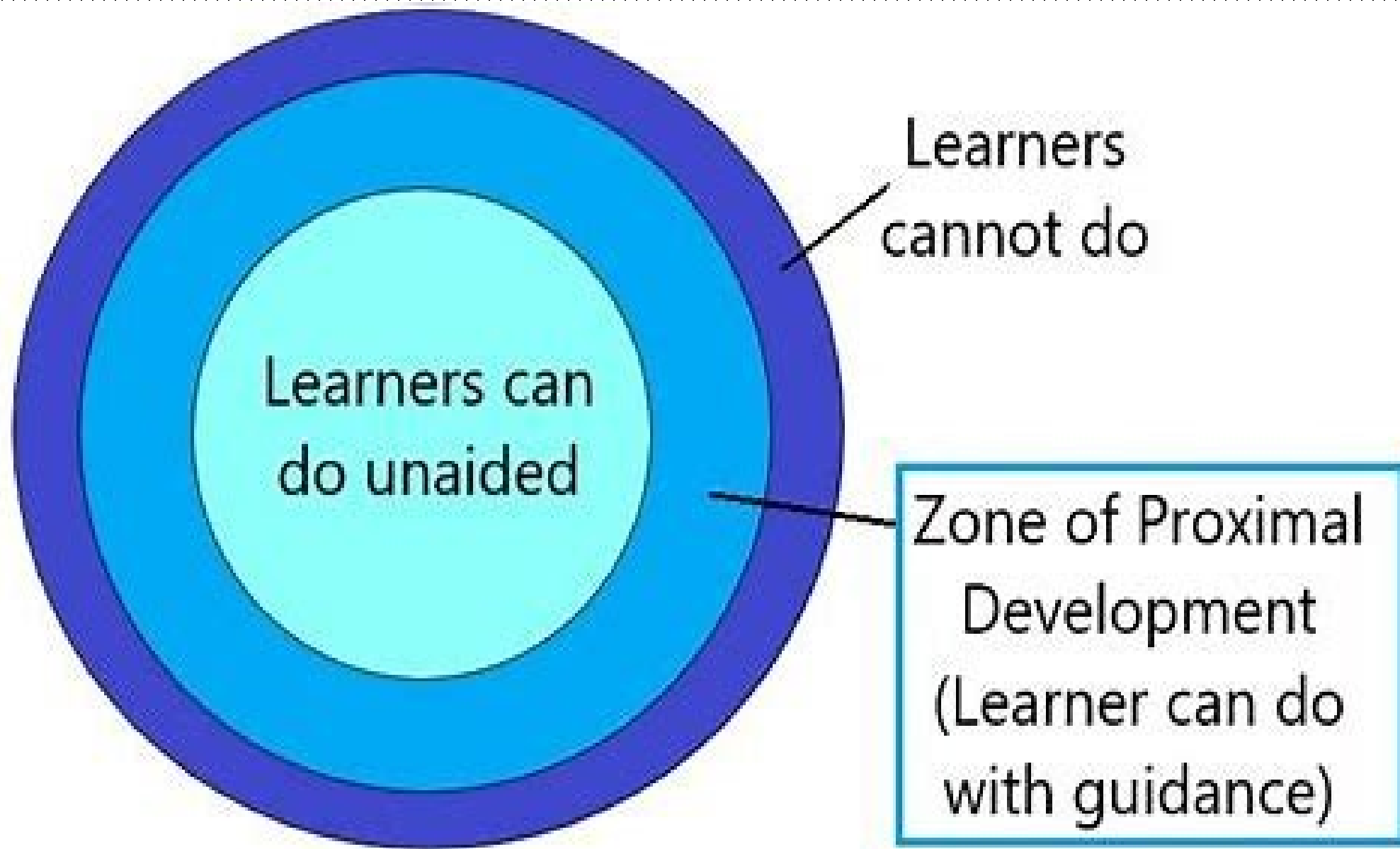Zone of Proximal Development (Learner can do with guidance)

Note:

❖ For teachers, the ZPD is the space between current teaching knowledge and potential new levels with assistance.

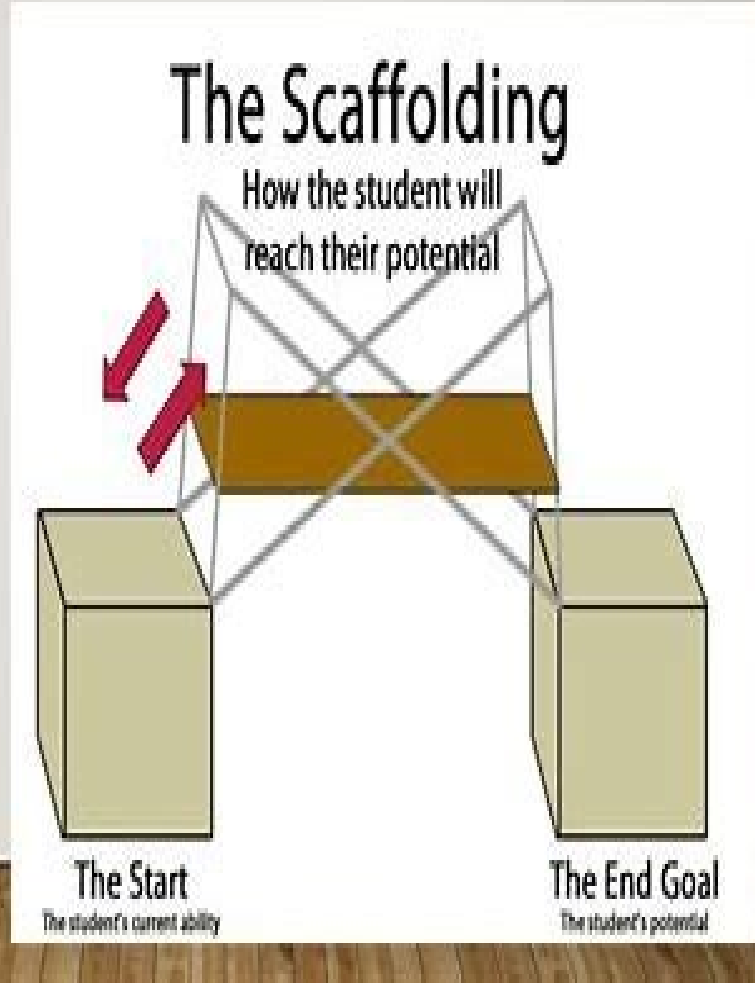❖ Willingness to learn enables ZPD progression.

Scaffolding Theory

ZPD is now akin with the term "scaffolding".

Scaffolding is a procedure "that enables a learner to solve a task or achieve a goal that would be beyond his unassisted efforts."

Learners cannot do

Learners can do unaided

Zone of Proximal Development (Learner can do with guidance)

21

The Scaffolding

How the student will reach their potential

The Start
The student's current ability

The End Goal
The student's potential

role:
...nce is
...gent on what
...vice is doing
...hat teacher
...;
...to turn the
...the novice to
...m the task solo

Scaffolding is a set of activities supplied by the teacher to help the learner go through the zone of proximal development.

Using Scaffolding in the Classroom

Know Each Student's ZPD:
Understanding your students' present level of knowledge is essential.

Learners can do unaided

Learners cannot do

Zone of Proximal Development (Learner can do with guidance)
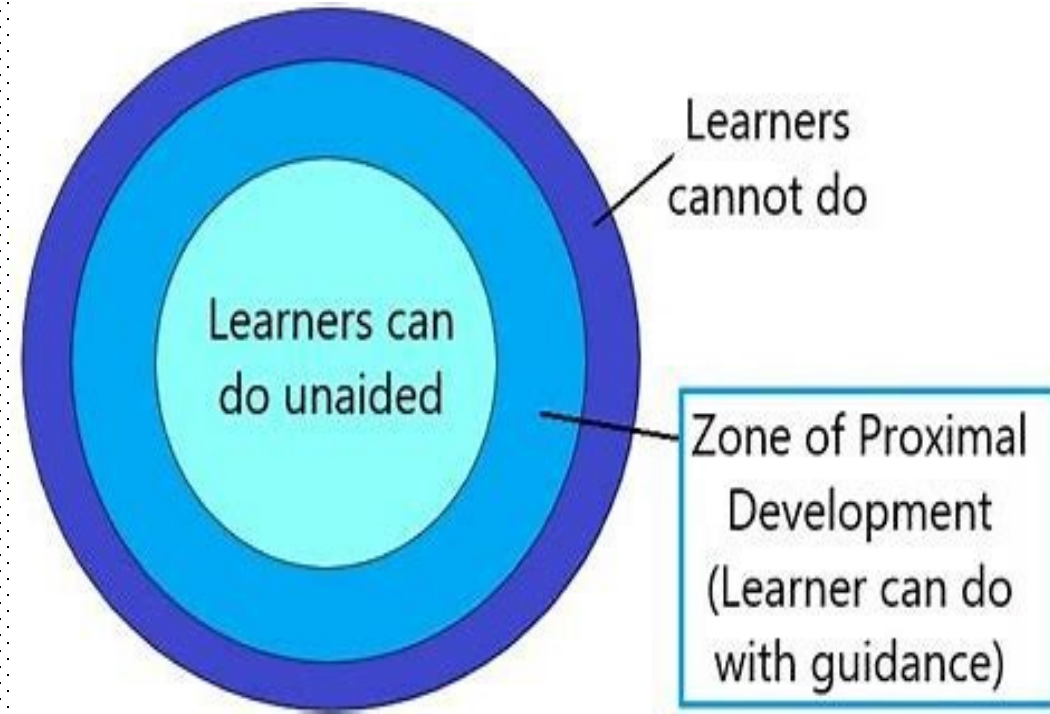
Encourage Group Work:
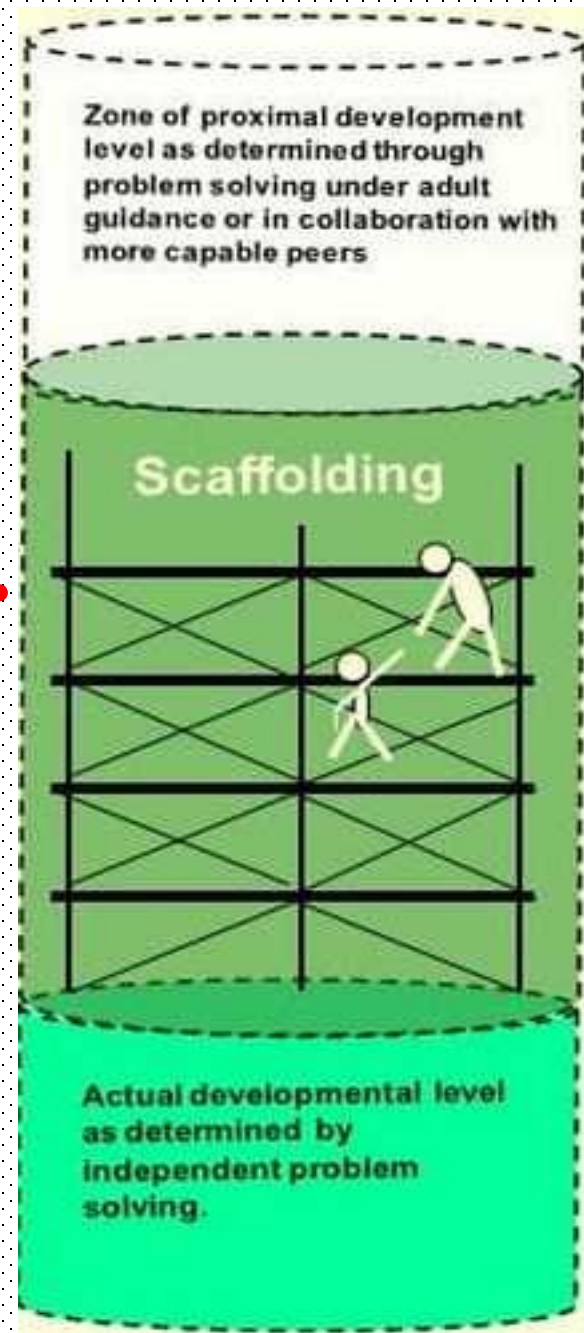*Group students based on skill sets and learning levels to maximize learning opportunities.*

Don't Offer Too Much Help:

Allow the student think through the problem, then offer precise recommendations on the next step. Keep asking questions to improve understanding.

Have Students Think Aloud:

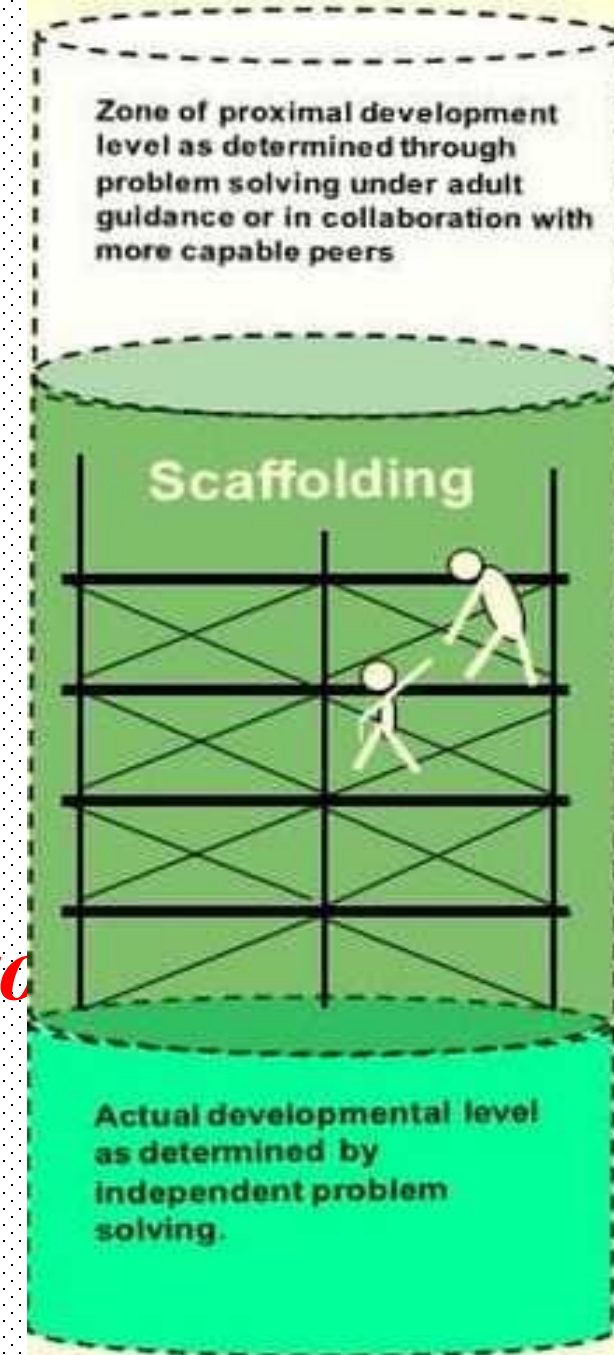*Evaluate students' mental processes to identify their current skill level (ZPD) and promote active learning*
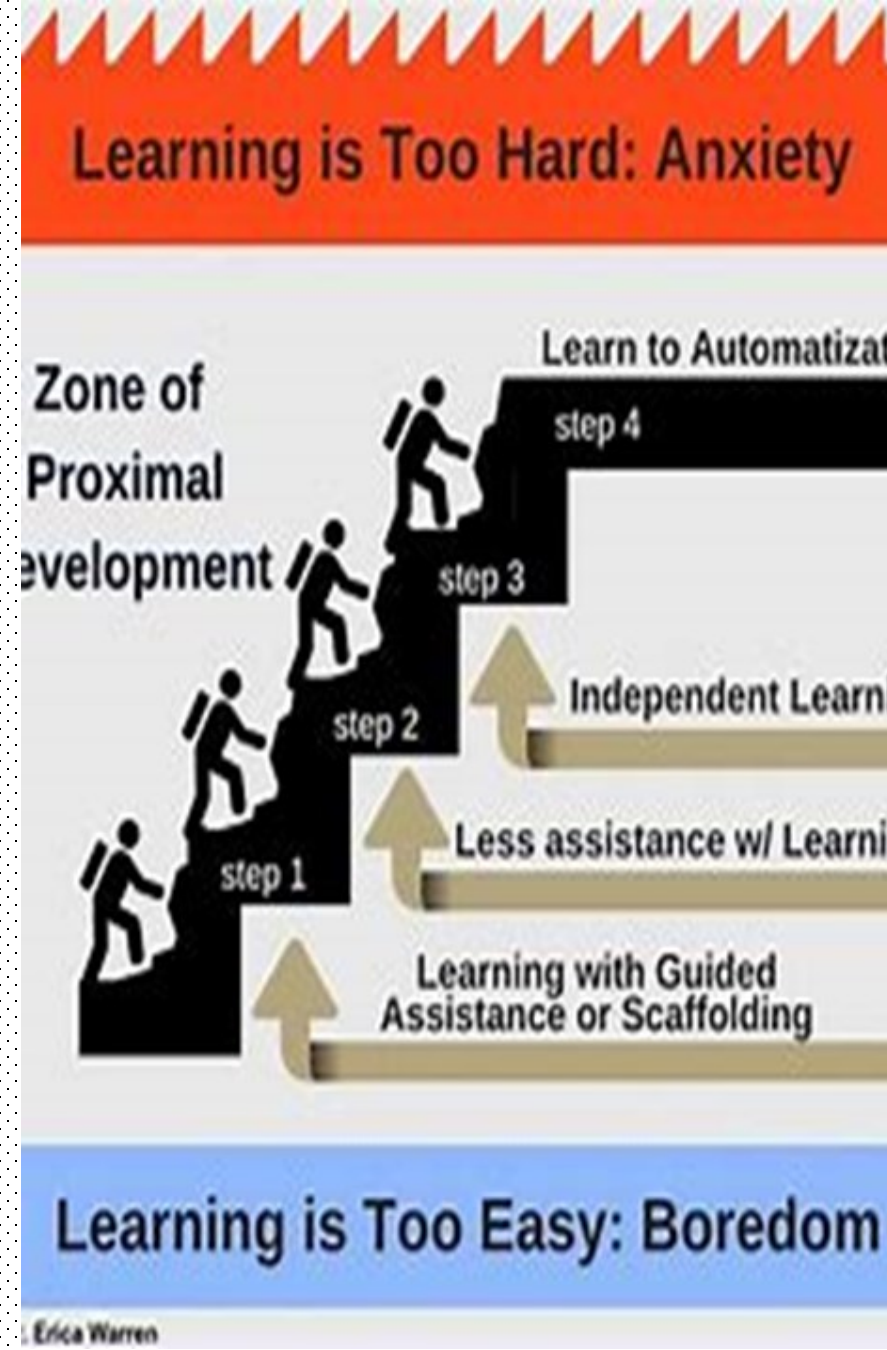

Zone of proximal development level as determined through problem solving under adult guidance or in collaboration with more capable peers

Scaffolding

Actual developmental level as determined by independent problem solving.

❖**Identify the ZPD**: *Determine which tasks students can complete with assistance but not on their own. This is their ZPD*.

❖**Provide Scaffolding:** *Offer support through hints, prompts, modeling, or breaking tasks into smaller steps. This helps students tackle tasks within their ZPD.*

Zone of proximal development level as determined through problem solving under adult guidance or in collaboration with more capable peers

Scaffolding

Actual developmental level as determined by independent problem solving.

❖**Gradually Reduce Support:**

As students become more competent, slowly reduce the level of assistance. This helps them gain independence.

Learning is Too Hard: Anxiety

Zone of Proximal Development

Learn to Automatiza[tion]
step 4

step 3

Independent Learn[ing]

step 2

Less assistance w/ Learni[ng]

step 1

Learning with Guided Assistance or Scaffolding

Learning is Too Easy: Boredom

. Erica Warren

❖**Encourage Collaboration:**
Group and assign students to mentors who can guide them. Collaborative learning is very beneficial within the ZPD.

❖**Monitor Progress**: Continually analyze and alter the degree of challenge and support based on student achievement.

Focusing on tasks inside the ZPD helps students achieve more, increasing confidence and competence.

Thank you