Within reach: empowering faculty to create co-constructed learning experiences

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Agenda

- Learning objectives
- **Activity 1**: warm up
- **Why** are we talking about this topic?
- Context & **definition** of ZPD (Zone of Proximal Development)
- **Examples** of ZPD
- ZPD and equitable learning
- **Activity 2**
- Conclusion
- Q& A
- Gratitude

Learning objectives

- **Defining and explaining** the Zone of Proximal Development (ZPD)

- **Discussing** ZPD **examples** to scaffold successful learning experiences for learners

- **Reflecting on** your own teaching and scaffolding strategies to support learners within their ZPD

Activity: Write your answer in the Chat or Padlet

- What is one effective teaching **strategy** you have observed that helps learners **transition** from what <u>they do not know</u> to **understanding** a <u>new concept</u> or skill?

- https://padlet.com/linaeg2016/what-is-one-effective-teaching-strategy-you-have-observed-th-tdqxvms327kell9h

The Why: Narrative Medicine Students

- Narrative medicine students- first year

- My observations
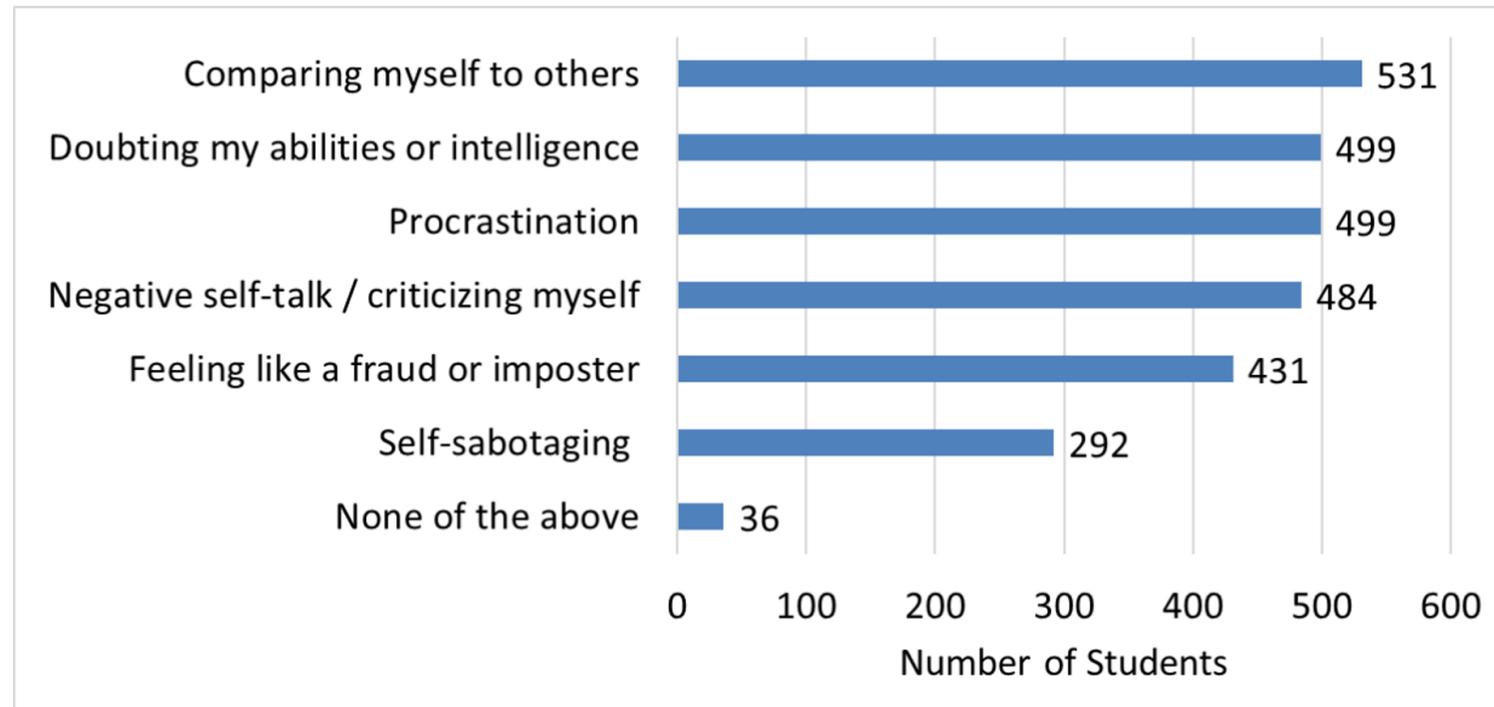 - Imposter syndrome
  - High level of anxiety

The Why:
Wellness and Basic Needs Data Report, OHSU (2025)

- Q15: Imposter Phenomenon

- **"Do any of the following regularly cause you stress or difficulty? Check all that apply."**

Comparing myself to others — 531
Doubting my abilities or intelligence — 499
Procrastination — 499
Negative self-talk / criticizing myself — 484
Feeling like a fraud or imposter — 431
Self-sabotaging — 292
None of the above — 36

Number of Students

The Why

- <mark>ZPD: Zone of Proximal Development</mark>
  - "It's the difference between pushing students into frustration and guiding them into a zone of achievable challenge. *"Exploring Vygotsky's Zone of Proximal Development,"* 2025, para. 1).

Background: Vygotsky, sociocultural theory and co-construction of knowledge

- **Social constructivism:** Individuals grow by interactions (Kim, 2024)

- Vygotsky stressed that **"Social interactions lead to cognitive development"** (Sanders & Welk, 2005, p. 203).

- Knowledge is constructed through **interactions between learners** (Jones & Brader-Araje as cited in Sanders & Welk, 2005).

Background: Vygotsky, sociocultural theory and co-construction of knowledge

- Vygotsky, 1978:
  - Learning: "profoundly **social process**" (p.131).

- Kim (2024, p.33):

  - **Internalization** of knowledge via social interaction

  - Vygotsky's principles & medical education

ZPD solving the paradox of teaching
(Wass & Golding 2014)

- **Issue/paradox** of teaching:

  - Too easy or too difficult?

  - ZPD: Assistance

- "The ZPD, in particular, is considered one of Vygotsky's **most important contributions** to education" (p. 672).
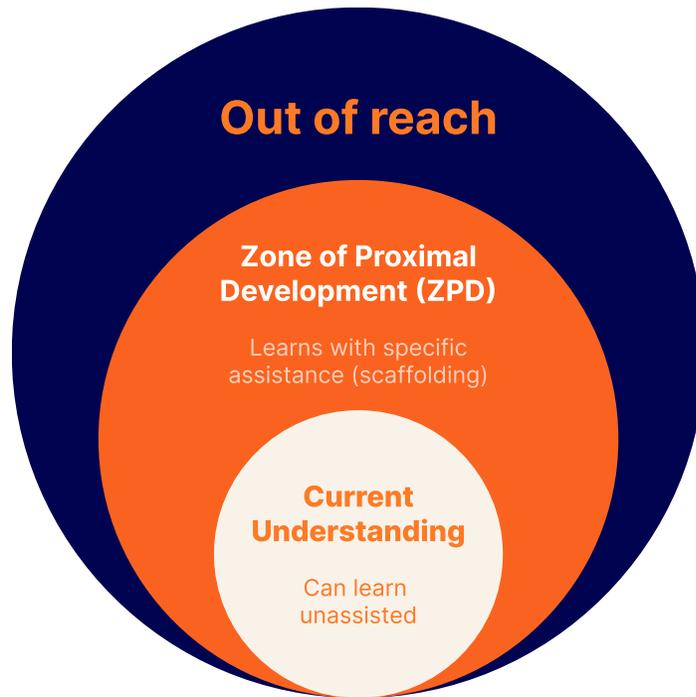
Definition of ZPD:
Zone of Proximal Development

- "The **distance** between the **actual** developmental level... and the level of **potential** development, as determined through problem solving under adult **guidance** or in **collaboration** with a more capable **peer.**"(Vygotsky 1978, 86 & 131.)

Out of reach

Zone of Proximal Development (ZPD)

Learns with specific assistance (scaffolding)

Current Understanding

Can learn unassisted

What that means...

We aim to teach tasks that are just beyond what students cannot do alone, **but achievable with guidance**; instruction is most effective when it targets this **ZPD** (Zone of Proximal Development) (Wass & Golding, 2014).

Educators' role

Sanders and Welk (2005) clarify educators' role:

- **Support** learners

- **Facilitate** collaborative process

- **Encourage** the student to reach "a higher level of understanding" (p.203)

- Via scaffolding/crafting learning experiences

Educators include:

- Faculty

- Near-peer tutors
  - Senior medical student's **near-peer program**
  - Increased **confidence** for learners (Hall, Border, & Powell, 2013)

- Mentors
  - Mentor-mentee relationship: a **critical ZPD context** (Chow et al., 2024)
  - Study: Transformation of trainees' professional identities

Identifying ZPD and prior learning

- My experience with identifying prior learning
  - Listening to identify prior learning & (**co-constructing knowledge**)
    - My **learning objectives** are clear to me as an educator
  - When?
    - Beginning of learning session
    - End
    - Students' comments
  - Examples
    - Photo
    - Open-ended questions
    - Automated quizzes (no grades)
    - Reflection (written, video)

Scaffolding for ZPD

- "**Scaffolding** is the support, guidance, advice, prompts, direction or resources a learner is given that enables them to complete a task otherwise out of reach" (Davis & Miyake 2004 as cited in Wass & Golding, 2014, p. 676)

    o Readings, **feedback while learning**, and peer support (Wass & Golding, 2014)

    o More (modeling, instructors' prompt, others)

ZPD Examples

- **Vygotsky (1978)**
  - Modeling
    - **Assistance** can be:
      - <u>Repeating steps</u> (instructors **model** and learners repeat)
      - Initiating solutions and letting the learner finish

- **Sanders & Welk** (2005) explained modeling in clinical settings
  - Verbal or nonverbal behaviors
  - Educator: role model+ respect
  - Learners imitate

ZPD Examples

Wass & Golding (2014, p. 88) expanded application of ZPD:

1) Instructor's prompts

2) Providing a framework

3) Providing a list of evaluative questions

4) Structuring a task *(scaffolding)*

Instructor's prompts Example

Imagine you are evaluating a patient who presents with shortness of breath, ankle swelling, and fatigue.

- Using your understanding of cardiac physiology, **explain** how changes in preload, afterload, and contractility contribute to these symptoms.

- Then, **describe** one compensatory mechanism the body uses in heart failure and **discuss** whether it is ultimately helpful or harmful.

Providing a framework
Example

- **Collecting Patient History**
  - Interview a standardized patient (SP) presenting with abdominal pain.
  - Use the **SOCRATES** mnemonic:
    - **S**ite
    - **O**nset
    - **C**haracter
    - **R**adiation
    - **A**ssociated symptoms
    - **T**ime course
    - **E**xacerbating/relieving factors
    - **S**everity

Evaluative Questions Example
Topic: Abdominal Pain Clinical Task

Understanding and Application

1. What key findings from the patient's history and examination guided your leading diagnosis?

2. Which parts of the SOCRATES framework was most useful in narrowing your differential?

3. If you repeated this task, what additional questions or tests would you include?

Clinical Reasoning

1. How did you decide which diagnosis was most likely?

2. Did you consider any cognitive biases(e.g., anchoring, premature closure) that might have influenced your reasoning?

3. How did you narrow your differential using ROS? (Review of systems)

4. How did you prioritize the most urgent or life-threatening possibilities?

On Evaluative Questions

- **Sanders & Welk (2005):**

  - Evaluative Questions help identify
    - Where the students are in the ZPD
    - How much assistance

- **Evaluative questions can be:**
  - Close ended
  - Open-ended
  - 1 answer
  - Many answers
  - **They advise against unplanned questions—no progress in learning.**

In short, scaffolding for ZPD--

Remember you are identifying when:

- **Learners:**

    o Cannot do the task on their own

    o <u>Assistance</u> to do the task independently (Wass & Golding, 2014, p. 676)

Scaffolding ZPD leads to equitable learning experience

- Making "challenging content more accessible"

("*Exploring Vygotsky's Zone of Proximal Development,*" n.d.)

- Culturally Responsive learning (Gay, 2010)
  - Building on **prior learning**
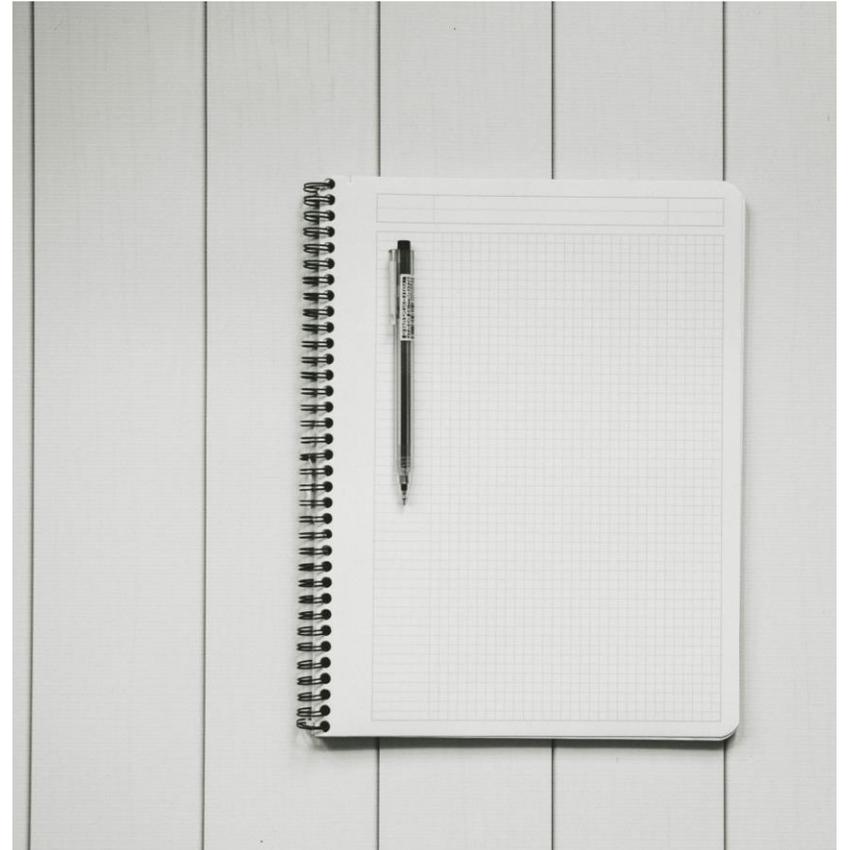- Co-construction of knowledge

Summary before our activity

Assistance can be:

- Modeling
- Initiating solutions and letting the learner finish
- Instructor's prompts
- Providing a framework
- Sharing a list of evaluative questions
- Structuring a task /scaffolding
- Readings
- Peer Support
- Feedback while learning

(Vygotsky,1978; Sanders & Welk, 2005; Wass & Golding, 2014)

Activity 2: **Reflecting on** your own teaching to support learners within their ZPD

- **10 minutes** *(last 2 minutes: will send a reminder to choose your group representative)*

- **Group:** introduce yourself, meet, talk, discuss, and <mark>nominate a speaking person to report a summary</mark> of your discussion (the questions will be shared in a PDF with the summary of strategies in the chat)

  - **What 2-3 strategies do you already implement that support learners' Zone of Proximal Development (ZPD), even if you did not previously recognize them as such?**

  OR

  - **What would you like to implement from ZPD strategies we discussed that aligns with your teaching style and curriculum limitations?**

Activity 2: **Reflecting** on your own teaching to support learners withing their ZPD

• *Each Group reports back to everyone with a summary of their discussion!*

Conclusion

- Goal: Balance
  - Not too hard and not too easy
- How can I help my students be in the ZPD?
  - Asking this question reflect equitable and engaging approach to teaching
  - Consult the strategies and references in this presentation

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Survey and feedback

- https://ohsu.ca1.qualtrics.com/jfe/form/SV_2ftNETywYq02iLc

Q&A

- Contact me: gomaa@ohsu.edu
- Thank you