



**CELL**

CENTER OF EXCELLENCE IN  
LEADERSHIP OF LEARNING

UNIVERSITY OF INDIANAPOLIS

# QUESTIONING WITH PURPOSE: THE Ws & MORE!

**Presenter:**

**Stacy Knoop**

Literacy Specialist

CELL

**INDIANA EARLY  
COLLEGE SUMMIT**

# Welcome



## Stacy Knoop

B.S., M.S., Doctoral Student

Literacy Specialist

Center of Excellence in Leadership of Learning  
(CELL) at the University of Indianapolis

[knoops@uindy.edu](mailto:knoops@uindy.edu)

**Asking questions in the classroom is a valuable, yet nuanced practice. It provides formative feedback for teachers, helps students identify knowledge gaps, and keeps learners engaged. Research shows that the type and timing of questions dramatically shape how deeply students think—and how well they retain content. Join us to explore research-based strategies for effective questioning to boost the impact on learning in your classroom.**

# Guiding Questions

- Why is questioning an important classroom practice?
- What structures promote whole-class active engagement in answering questions?
- Which question types lead to comprehension and synthesis of content?

# Questioning in Classrooms

- Questions are the second most dominant teaching method (after teacher talk)
- Most questions are closed, with minimal cognitive demand
- Wait time is typically insufficient (average of .7-1.4 seconds)
- Student responses don't always alter the course of the lesson
- Boys are often called on more than girls

# Why ask questions?



# Functions of Questioning

- Assess students' knowledge
  - Inform future instruction
- Stimulate critical thinking
- Promote comprehension
- Generate discussion
- Connect concepts
- Analyze information
- Maintain attention

(Archer & Hughes, 2011; Rosenshine, 2012; Tofade et. al., 2013)



# Answering = Opportunities to Respond (OTRs)

Whole group OTRs have been shown:

- to improve academic **outcomes**
- to reduce disruptive **behaviors**
- to be effective across all grade **levels**

It has been suggested that students have **3-5** opportunities to respond per minute of instruction.

# How do learners respond to questions?



**CELL**

CENTER OF EXCELLENCE IN  
LEADERSHIP OF LEARNING

UNIVERSITY OF INDIANAPOLIS

# Increasing Engagement: Everyone Answers

- Choral responses
- Physical response (point, gesture, etc)
- Tell the answer to a neighbor
- Write the answer on a card and hold it up
- Write a 2-sentence summary of the information
- Technology resources

# Increasing Engagement: Cold Calling

- **More students** volunteer to answer
- Students volunteer to answer **more questions**
- **More involvement** of all students

(Dallimore et al., 2013; Dallimore et al, 2019; Lemov, 2022)

## The power of cold calling & wait times

Created by Doug Lemov & Luke Tayler | Illuminated by @Inner\_Drive | innerdrive.co.uk



Who is doing retrieval practice in the class?

Laura\*, what's the capital of Australia?



What's the capital of Australia, Laura\*?



What's the capital of Australia.....Laura\*?



\* Other names are available

# How can we plan impactful questions?



# Bloom's Taxonomy

- **Knowledge → Remember**
  - What is the capital of Zimbabwe?
- **Comprehension → Understand**
  - Describe the climate of Zimbabwe.
- **Application → Apply**
  - How is the economy of Zimbabwe influenced by its climate?
- **Analysis → Analyze**
  - Compare and contrast Zimbabwe and Egypt.
- **Synthesis → Create**
  - If you were traveling to Zimbabwe, what would you pack and why?
- **Evaluation → Evaluate**
  - Should secondary education be compulsory in Zimbabwe? Why or why not?



## Are the verbs key?

List

Illustrate

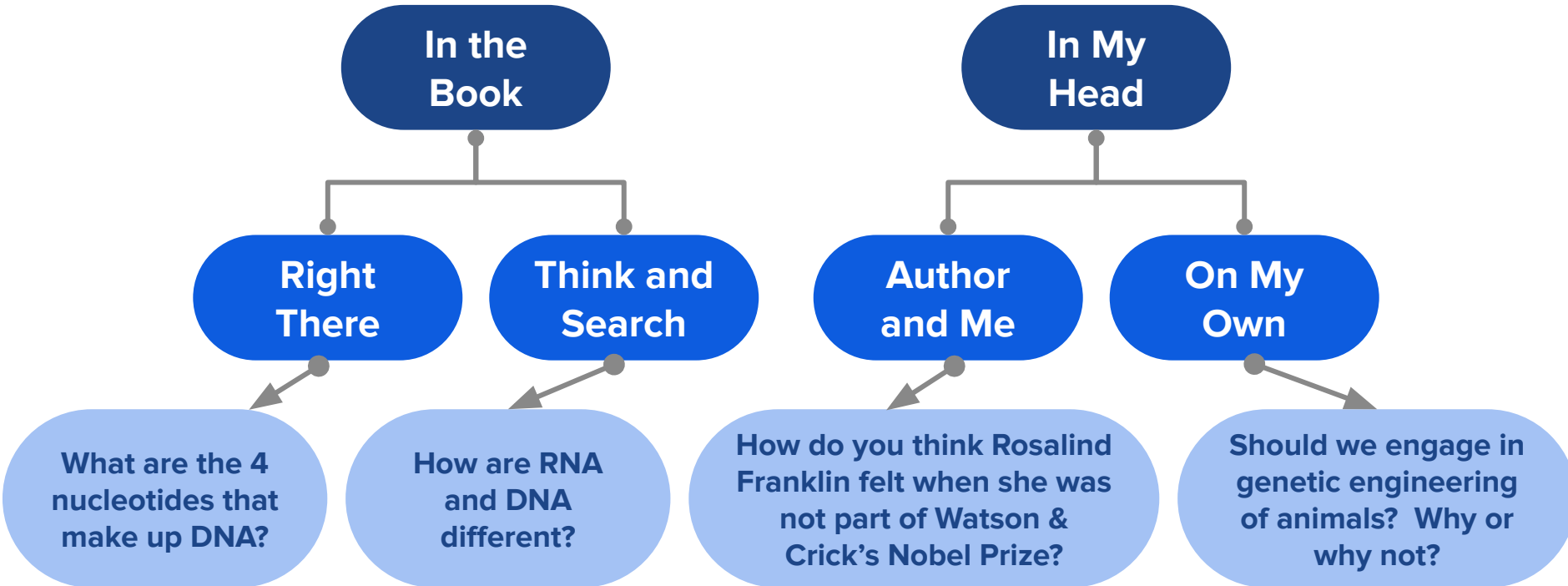
Identify

Produce

Plan



# QAR: Question Answer Relationship



# Question Types

## Factual

- Straight-forward answers; may include content vocabulary

## Convergent

- Require bringing information together from various sources;  
Help resolve misconceptions

## Divergent

- Have multiple plausible answers; spark discussions & debates

## Evaluative

- Analyze something from multiple perspectives

# Guiding Questions

- Why is questioning an important classroom practice?
- What structures promote whole-class active engagement in answering questions?
- Which question types lead to comprehension and synthesis of content?

# Reflecting

- Name 1 thing you heard today that aligns with your current practices.
- Name 1 thing that you found interesting or surprising.
- Name 1 way you'll apply today's learning during the 26-27 school year.



**CELL**

CENTER OF EXCELLENCE IN  
LEADERSHIP OF LEARNING

UNIVERSITY OF INDIANAPOLIS

**EARLY COLLEGE  
SUMMIT EXCLUSIVE**

Use code:

**EARLYCOLLEGEVIP**

Save through June 30

# YOU TAUGHT IT. SO WHY DIDN'T IT **STICK?**

Science of Learning  
Micro-Credential



[cell.uindy.edu/  
LearningThatSticks](https://cell.uindy.edu/LearningThatSticks)



8-week  
online course



Flexible,  
self-paced learning



Research-backed  
strategies



Develop more  
effective learners

# References

- Archer A. L., & Hughes C. A. (2011). *Explicit instruction: Effective and efficient teaching*. New York: Guilford Press.
- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain* (pp. 1103-1133). New York: Longman.
- Carpenter, S. K., & Toftness, A. R. (2017). The effect of prequestions on learning from video presentations. *Journal of Applied Research in Memory and Cognition*, 6(1), 104–109. <https://doi.org/10.1016/j.jarmac.2016.07.014>
- Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2013). Impact of cold-calling on student voluntary participation. *Journal of Management Education*, 37(3), 305–341.
- Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2019). Leveling the playing field: How cold-calling affects class discussion gender equity. *Journal of Education and Learning*, 8(2), 14. <https://doi.org/10.5539/jel.v8n2p14>
- Hattie, J. (2023). *Visible learning: The sequel: A synthesis of over 2,100 meta-analyses relating to achievement* (1st ed.). Routledge.
- Ingram, J., & Elliott, V. (2016). A critical analysis of the role of wait time in classroom interactions and the effects on student and teacher interactional behaviours. *Cambridge Journal of Education*, 46(1), 37–53. <https://doi.org/10.1080/0305764X.2015.1009365>

# References

InnerDrive. (2026). *4 questions to check students' knowledge and understanding*.

<https://www.innerdrive.co.uk/blog/rosenshine-check-understanding/#:~:text=In%20a%20study%2C%20researchers%20examined,multiple%20scenarios%20or%20alternative%20ideas>

Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory into Practice*, 4 (Autumn).

Lemov, D. (2022, September 20). *Combining cold call and wait time*. Teach Like a Champion.

<https://teachlikeachampion.org/blog/combining-cold-call-and-wait-time-a-video-to-go-with-the-great-illustration/>

Peabody College, Vanderbilt University . (2023, May 25). *Page 6: Opportunities to respond*. IRIS Center.

<https://iris.peabody.vanderbilt.edu/module/bi2-elem/cresource/q1/p06/>

Raphael, T.E. and Au, K.H. (2005), QAR: Enhancing comprehension and test taking across grades and content areas. *The Reading*

*Teacher*, 59: 206-221. <https://doi-org.libproxy.clemson.edu/10.1598/RT.59.3.1>

Rosenshine, B. (2012). Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20.

# References

- Shanmugavelu, G., Ariffin, K., Vadivelu, M., Mahayudin, Z., & Arasi R.K. Sundaram, M. (2020). Questioning techniques and teachers' role in the classroom. *Shanlax International Journal of Education*, 8(4), 45-49.
- Tofade, T., Elsner, J., & Haines, S. T. (2013). Best practice strategies for effective use of questions as a teaching tool. *American journal of pharmaceutical education*, 77(7), 155. <https://doi.org/10.5688/ajpe777155>
- Van Camp, A. M., Wehby, J. H., Martin, B. L. N., Wright, J. R., & Sutherland, K. S. (2020). Increasing opportunities to respond to intensify academic and behavioral interventions: A meta-analysis. *School Psychology Review*, 49(1), 31–46. <https://doi.org/10.1080/2372966X.2020.1717369>
- Watson, C., Plump, J., & Durham, J. (2022). Gender bias in the middle level classroom: The intersection of observation, teacher self-perceptions, and student perceptions. *Journal of Research in Education*, 31(1), 124–150.
- Yang, M. (2006). A critical review of research on questioning in education: Limitations of its positivistic basis. *Asia Pacific Education Review*, 7(2), 195-204.

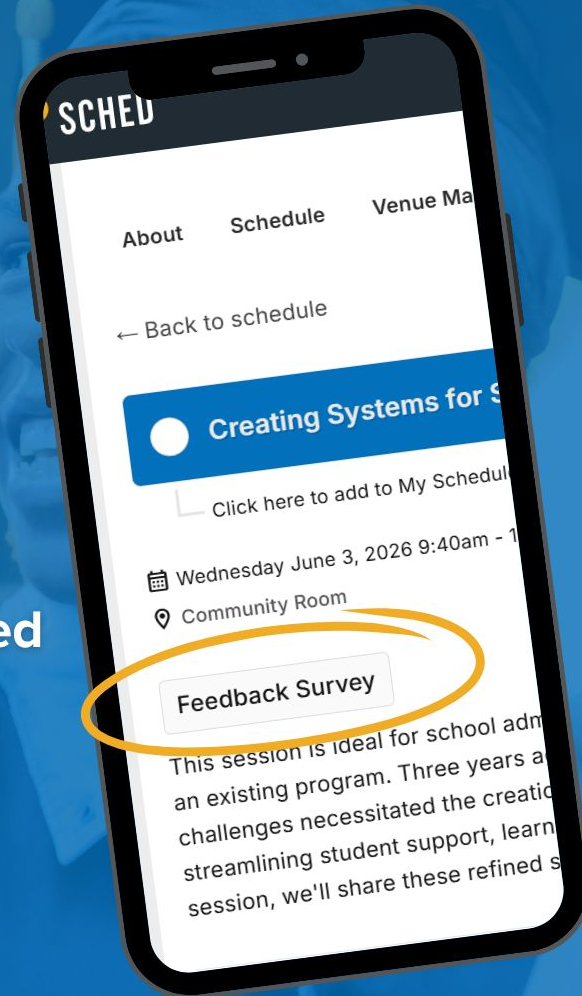
CELL

CENTER OF EXCELLENCE IN  
LEADERSHIP OF LEARNING

UNIVERSITY OF INDIANAPOLIS

## SURVEY REMINDER

Please complete a survey in Sched  
for each session you attend.



INDIANA EARLY  
COLLEGE SUMMIT