The topic of this month's Teaching Tip is effective ways to ask and answer questions during class. Various methods for faculty to use when asking questions and strategies for how to respond are discussed. Teaching Tips are designed to provide ideas, share educational resources, and promote faculty conversation across campus.

Faculty often use questions to engage and challenge their students. However, effective questioning requires careful design to ensure alignment with learning objectives and thoughtful planning to select methods that engage students (Cornell University, n.d.). Different question formats include asking students to: 1) explain the cause of an event or situation, 2) describe how to do something, 3) contrast and compare situations, ideas, people, or objects, and 4) apply reasoning to make a prediction (Cornell University, n.d.). After you create specific questions, the following methods could be used to integrate questions into your class.

Questioning Methods

- **Think-Pair-Share:** When using this method, faculty give students several minutes to think about their answer, exchange thoughts with a classmate (pair), and then call on pairs to share their answers or ideas with the entire class. Two pairs can also form a four person small group for further discussion; this method is called think-square-share.
- **Write-Pair-Share:** Similar to the preceding methods, the writing component encourages individual involvement. Faculty could provide note cards for this activity and collect them at the end of class as a way to take attendance and/or award participation points.
- **Warm Calls:** This method attempts to minimize the problems associated with cold and hot calls (Cheung, 2022). With cold calls, the professor selects random students to answer a question which many perceive as very stressful. Hot calls occur when the professor calls on only those students who raise their hands which are often the same people excluding many from discussions. When using warm calls, the professor asks the question, allows students time to think about or write down their answers before sharing their answers with a classmate (Cheung, 2022). Next, the faculty calls on random students and then invites others to share their answers to involve more students.
- **In-class Polls:** Created before class, polls allow faculty to survey students anonymously. This type of questioning is especially useful for controversial topics when students may not want to disclose their position publicly. A variety of web tools are available; popular ones include Google forms, Kahoot, Poll Everywhere, and iClickers. Pre/post class results can be used to promote class discussion and provide formative feedback so faculty can make teaching adjustments.

- **Minute Papers:** This method provides formative feedback usually at the end of a class. Faculty must provide a clear prompt. Examples could include: 1*) What was most confusing about today's class? 2) Write three key things you learned today. 3) How might you apply what you learned today in a real-world situation?* (International Teaching Learning Cooperative, n.d.). At the designated time, faculty collect the papers and review them to identify common misunderstandings which can be clarified at the next class period, via an email, or in an online discussion forum.
- **MIP/MUD Papers:** This method is similar to one minute papers. I have used this assignment for required readings. Prior to class, students select one article from several posted within EduCat. They are required to submit a short paper addressing the MIP (most important points) and the MUD (muddiest or most unclear) points into an EduCat drop box. I read their assignments before class and use common MIP/MUD points to lead class discussions. Please see the Scholarly Teacher Infographics for additional Minute Paper suggestions and many other instructional ideas.

Faculty have likely experienced not being able to answer a question during class or struggled with how to address to incorrect student responses. For these potentially awkward situations, consider the following suggestions.

Answering Strategies:

- **Smile-Breathe-Think-Talk:** These four simple steps act to regulate the nervous system's response triggered when answering questions (Saucier et al., 2021). Smiling helps us to connect, breathing brings a feeling of calmness, and the pause provides time needed to think of an answer before speaking.
- **Be mindful of your body language:** Are you displaying positive nonverbal communication versus showing annoyance, disinterest, or anxiety by conveying negative behaviors? Positive behaviors include: smiling, taking a small step toward the student, active listening (direct eye contact and nodding, and positive hand motions (thumbs up, silent clapping). Be aware of negative behaviors such as crossing your arms, frowning, or turning your body away (Saucier et al., 2021).
- **Ways to productively say you don't know:** Ok…… I confess this situation will often trigger my anxiety. If the student's question has a factual answer, the faculty can ask the class to brainstorm or conduct a quick web search. One strategy that I often use after class is to research the answer myself and then email students the answer with a link to a reference. Or, I might begin the next class with PowerPoint slide listing the question and explain the answer. Another option is to create a related Q & A discussion board within EduCat for questions not answered or inadequately addressed during class.
- **Incorrect student responses:** First, sincerely thank the student for offering an answer which helps to validate their anxiety and conveys that you are open to answering questions (Saucier, et al., 2021). Next, acknowledge any part of the answer that is correct and use the response as a teachable moment (University of Texas Libraries, n.d.). Ask the student about their thought process and invite other students to

comment. For example, "Thank-you for your answer. I'm sure others were thinking that too. What do others think? OK, now let's look at X more closely."

As we end the semester, please note the Center for Teaching and Learning (CTL) staff and Teaching Learning Scholar are available to assist with all of your summer and fall course design and instructional technology needs. To schedule an appointment, go to CTL appointments or email ctl@nmu.edu.

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