



HSTEM

Being Human in STEM

Facilitator Guide: Minute Paper

Process	Description	Your Plan
Transparency	This activity is an important tool for gathering information about how students are understanding and making sense of the course content, and where they need additional support. Share with students that in addition to gathering just-in-time information about their learning, the research also indicates that by responding to these meta-cognitive prompts, students are reaping benefits from condensing and reflecting on their learning. Identifying what is confusing to you helps you recognize where you need to focus your studying or questions or ask in office hours.	
Connection	Share with students that you value their feedback and want to ensure that your teaching is helping them to process and make sense of the information. Additionally, in line with the community that you are seeking to foster in the class, this activity allows you to share the connections and applications that other peers in the class see to the material.	
Modeling	To model how students might respond to this activity, you could share hypothetical responses to a prompt at the end of a class session that precedes a class meeting in which they will be asked to submit a minute paper response. Alternatively, and with student consent, you could share examples of past students' responses to the minute paper prompt related to a particular class session and discuss if those responses resulted in	

	any modifications to how you approached teaching the next class session.	
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Action Steps:

- Time Required: 2 minutes at the end of class. Materials required: Index cards or half-sheets of paper for gathering students’ responses. This activity can also be completed digitally and in anonymous or identified fashion.
- At the end of a class session, present students with a prompt or set of prompts to choose from, and then provide them with one minute to respond. Gather their responses as they exit the classroom or lab.
- Some prompts to draw from, based on your teaching context and goals:
 - What are you confused about from today’s class? What was the muddiest point from today’s class?
 - What are you wondering about after today’s class?
 - What is the most important thing you learned in class today?
 - What is a connection that you see between today’s class material and information from previous units in the course?
 - What explanation or activity was most helpful from today’s class, and why?
 - What is a real-life example of what we talked about in class today?
 - Propose a movie or song title, or a joke that relates to today’s class material.
- Read through the minute paper responses after class (or a reasonable sampling for a large class), or enlist a teaching assistant to do so and summarize the themes. In the next class, you can address common misconceptions or share the insights and applications that students identified in their responses. Judicious sharing of student-suggested jokes and titles can also provide a moment of humor into the class. While students may not include their names on their responses, we have heard from students that it helps them feel seen and supported when their contributions are recognized in class, even anonymously.

References:

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). Jossey-Bass Publishers.

Stead, D. R. (2005). A review of the one-minute paper. *Active Learning in Higher Education*, 6(2), 118–131. <https://doi.org/10.1177/1469787405054237>