TEACHING NOTES

APPLYING SESSION TO INSTRUCTION

The session is not over! A critical phase of learning anything new is *application*—when the learner takes new knowledge and applies it. There is some application included in the session, but, as with all professional learning for instructors, the rubber meets the road (or trail) when instructors apply what they've learned to their teaching and when they keep thinking about it and discussing it with their peers. If you want your instructors to try out new activities/approaches, program leader support is crucial. Even if instructors are excited by new ideas, it's easy for them, especially veteran instructors, to keep doing what they've been doing successfully and not try out new activities/approaches. Following are a variety of follow-up activities and discussions to dig deeper into the topic and help you facilitate thoughtful implementation:

- **Staff brainstorm on what they and you can do to encourage incorporation of discussion strategies.** After the session reflection, your staff will have already written ideas they have about implementation into their instruction. You can tap into these and other ideas through a brainstorm of what they might do and how you can support them in doing it.
- **Sharing ideas about how to create a culture of discussion.** Offer more time for staff to brainstorm and share their ideas. You might want to create a poster list of ideas and post it in your staff room for them to add to.
- **Discussing implementation of discussion routines** During your next student program, invite each of your instructors to try out one or more of the discussion routines featured in the session and have them write in their journals about how it went. Then, during a meeting, lead your instructors in a discussion about the routine at the end of the program. Following are some suggested questions on which to focus a reflection or discussion:
    - *What were some interesting learner ideas that came up?*
    - *What surprised you?*
    - *Did you notice evidence of learner meaning-making?*
    - *What was successful about the activity?*
    - *What might you do differently the next time you lead it and why?*
    - *How did you incorporate the routine into learners' other field experiences? What ideas do you have about incorporating it in the future?*
- **Watch the BEETLES discussion strategy videos.** Choose one BEETLES video to watch together as a staff, using the corresponding How to Use Videos for Building Reflective Practice guide. We don't recommend watching all the videos at one time; rather, space them out and give instructors opportunities to apply new ideas to their teaching practice.
- **Instructor observations.** If you conduct observations of instructors, discuss how you might incorporate elements from this session into the observations.

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- **Using *Culturally Responsive Teaching & the Brain*, by Zaretta Hammond, to help your staff improve their understanding and implementation of culturally responsive teaching.** (For more ideas, see *Culturally Responsive Teaching & the Brain: Book Study Guide [Facilitator's Version]* https://www.filepicker.io/api/file/mJHNhJxRRMGoHXjotzGG).
    - **Read and discuss Chapter 1: Climbing Out of the Gap: Understanding the Nature of the Achievement Gap.**
    - **Explore the Ready for Rigor Framework.** Make a copy of the Ready for Rigor Framework (pages 14–15 in the book) for each participant and invite them to read it.
    - **Show Slide 25 (again):** *Ready for Rigor Framework*. **Share how this framework for culturally responsive teaching mirrors some of what has been discussed related to discussions:**
        - Zaretta Hammond outlines a framework of what is needed to help dependent learners become more independent learners.
        - She calls this the Ready for Rigor Framework, and it includes these four core practices: Community of Learners and Learning Environment, Awareness, Learning Partnerships, and Information Processing.
        - Discussion—and the skills and tools that come with it—can play a critical role in implementing this framework in order to nurture culturally responsive learning environments.

          Community of Learners and Learning Environment:
            - creating an atmosphere that is low in stress and conducive to learning
            - making space for student voice and agency
            - building a community of learners supporting each other with distributed expertise

          Awareness:
            - instructors becoming aware of their own unconscious biases that may affect the way they interact with students, such as who they call on during discussions

          Learning Partnerships:
            - instructors shifting their relationship to be partners in learning with students

          Information Processing:
            - engaging with students in instructional conversations to help them process content
            - helping students make connections between what they know and what they are learning
    - **Give time for your staff to discuss these four core practices further.** Refer to the book for clarification as needed.

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- **Continuing a discussion.** If there was a topic that came up during the session that you had to cut off and it seems that your staff is interested in and would benefit from continuing the discussion, set aside some time to do so.
- **Model the Think-Pair-Share routine while leading a discussion with your staff about delivery of content in a discussion.** Share that the following questions are important for science discussions because how we use and introduce content can completely change the flow and nature of a discussion. Introducing content can ignite learners' curiosity and wonder or shut it down. Model the routine.
    - Ask:
        - *How does content delivery influence a discussion?*
        - *When might it be appropriate or not appropriate to directly deliver content to students?*
    - **Think:** Think silently to yourself about these questions. You may want to record notes or sketches.
    - **Pair:** Discuss your thoughts with a partner. Remember to switch roles so each partner gets a chance to share their ideas.
    - **Share:** Lead a whole-group discussion about the questions, using the Discussion Map.
- **Read and discuss the *Talk Science Primer*.** The *Talk Science Primer*, by Sarah Michaels and Cathy O'Connor, TERC, is available at: https://inquiryproject.terc.edu/shared/pd/TalkScience_Primer.pdf
- **Make a discussion routine chart.** Together, make a chart of different discussion routines, including the advantages, challenges, and uses of each.
    - Title the first column of the chart "Routines," the second column "Advantages," the third column "Challenges," and the fourth column "Uses."
    - Lead your group to fill in the chart by brainstorming a list of routines, their advantages, challenges, and uses.
    - Make this list available to the team on chart paper or by creating a handout so they can use it when choosing which discussion routines to learn/use.
    - This is an application in which instructors immediately apply what they have learned, think more deeply about each routine, and practice making informed choices about what to do with their learners.
- **Discuss research findings on discussion.** The information on the *Research Related to Discussion* handout can be discussed and rediscussed over many months or years. It's worth spending time discussing the information during short staff meetings or longer training sessions or retreats. We

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recommend assigning your staff to read one of the topics and then thinking about it for a week or so of instruction before discussing what the research shows and how to apply it to their teaching practice.

- **Brainstorm site-specific broad questions for discussion**. Assign your instructors to brainstorm and record broad questions that could serve as good discussion prompts in the specific program and locations of your site. Collect these in a binder for all to share and use.
- **Follow up with the *Evidence and Explanations* session.** Once staff are feeling more comfortable with leading learner science discussions, use the *Evidence and Explanations* Professional Learning Session to continue discussing building a culture of science discussion and encouraging more learner discussion.

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