

Teaching with the Brain in Mind - Workshop

PART I: WARM UP – 10 minutes

For this activity, you will be asked to enter a randomly assigned breakout room. When there, introduce yourselves quickly to each other and decide on your group's one best answer to the following question. Be ready to report your response (a, b, c, d) when you return to the main room.

Researchers have recently characterized ten learning techniques as to whether they provide high, moderate, or low utility, based on each technique's relative efficacy, ease of use, and applicability to a broad range of learning situations. Studies of successful learning strategies have shown which two are the most effective?

- a. Practice tests and spacing learning over time
- b. Self-explanation and mnemonics
- c. Highlighting and rereading
- d. Summarizing and debating

PART II: GROUP CHALLENGE – 50 minutes

Stephen is a faculty member at Local Medical University. He is giving a lecture next week on the topic of acid-base balance. This will be the second time he has given the lecture. Last year the students had significant difficulty understanding the concepts he lectured on and did poorly on the test questions he had written over the topic. On the end of course evaluation, many students commented that while they appreciated Stephen's enthusiasm for teaching, they were unable to follow his ideas and felt overwhelmed by the complexity of his diagrams and explanations.

Wanda is also a faculty member at Local Medical University. She works with students on the hospital ward as an attending physician. She prefers to "cold call" students on rounds. She has noticed students frequently struggle to interpret blood chemistries and blood gases. When she gives students the option to "phone a friend" and ask another student on the team for help, they seem embarrassed and reluctant to do so. On the end of rotation evaluations, many students commented that while they felt Wanda was a stellar clinician, they were intimidated by her teaching style and overwhelmed by the complexity of the patients on the ward.

Both Stephen and Wanda come to your faculty development group for help with their evaluations.

In your breakout group, discuss both Stephen and Wanda's challenges from the perspective of the six Science of Learning areas reviewed in the morning session. Your goal is to come up with 3 concrete solutions from each perspective – one for Stephen, one for Wanda, and one for the Health Sciences curricular program as a whole. Ask your designated note taker to capture key ideas in the Google Doc— simply write in what you can in the open boxes and hit "save" before exiting:

- a. Cognitive Load Theory: <http://bit.ly/HMICTL>
- b. Desirable Difficulties: <http://bit.ly/HMIDifficult>

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- c. Teaching for Transfer: <http://bit.ly/HMITransfer>
- d. Deliberate Practice: <http://bit.ly/HMIExpertise>
- e. Affective Learning: <http://bit.ly/HMIEmotion>
- f. Social Learning: <http://bit.ly/HMISocio>

After 30 minutes of discussion, we will return to the main room and ask groups to share ideas. We will then vote on which ideas we want to fund as part of the Dean of Local Medical University's new education initiative.

PART III: INDIVIDUAL APPLICATION – 15 minutes

Individual Writing

A. Describe a problem or challenge that you face in your teaching context; be as concrete as you can. These challenges may occur to you as you look at the Science of Learning table, or as you reflect on past experiences, conversations with colleagues, or on course evaluations you have received. *E.g., "in course evaluations, students say my course is disorganized," "students in my clinical context seem to remember nothing from their pre-clinical coursework," "I have a hard time teaching students to 'think outside the box'"*

B. Of the 6 principles we're focusing on in this portion of the session, which might be particularly helpful in addressing your problem? Share your response in the chat.

PART IV: NEXT STEPS (5 minutes)

C. Takeaway: what's one thing you plan to try out this month/semester, as a result of today's session?

Additional resources to consult from the Harvard Initiative on Teaching and Learning (HILT):

Instructional Moves: <https://instructionalmoves.gse.harvard.edu/>

ABLConnect: <https://ablconnect.harvard.edu/>

Into Practice: <https://vpal.harvard.edu/intopractice>

HILT 2018 Conference Proceedings: <https://hilt.harvard.edu/conference2018/>