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Peer-Led Team Learning Strategies in Engineering Pathways

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Peer-Led Team Learning (PLTL) Strategies

An NSF Project with the COA

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PLTL Overview

Peer-Leader Training Course

- Train Peer-Leaders on difference between mentor/tutor and Peer Leader
- Focuses on leadership skills
- Provides technology resources tutorial
- Provided suggested teaching and learning strategies for PLTL activities

Overview of Teaching Strategies

Think-Pair-Share

3-Step Interview

Round-Robin Brainstorming

Gallery Walk

Muddiest Point/ Minute paper

Categorizing Grid/Memory Matrix

Think-Pair-Share

Think-Pair-Share

Overview

- Prompt students w/challenge or question
- Provide time to reflect and think
- Pair classmates to discuss w/partner
- Reconvene as group and share

Suggested Tools

- Group Discussions in Canvas
- Various collaboration tools
  - Teams, text, chat tools, etc.
- Canvas Studio

Other Ideas?

3-Step Interview

3-Step Interview

Overview

- Faculty creates list of interview questions relating to course topic
- Organize students into pairs
- Students interview each other
- Students reconvene with all classmates
- Students Present what they learned from each other

Suggested Tools

- Announcement
- Class/Group Discussions in Canvas
- Various collaboration tools
  - Teams, text, chat tools, etc.
- Canvas Studio

Other Ideas?

Round-Robin Brainstorming

Round-Robin Brainstorming

Overview

- Structured brainstorming activity with equal contribution
- Each student posts their idea or solution to the prompt, then 'passes' to the next student to add their additional ideas
  - Instead of a physical table, utilize whiteboard tools to organize the brainstorming notes
- Reconvene and discuss collective ideas to create final concept/solution as a whole.

Suggested Tools

- Padlet or whiteboard tool
  - Suggest using columns to organize each contribution.
  - **Sample:**
    - Example Round-Robin set up using Padlet
    - The Round Robin brainstorming technique & template (Concept board)
    - Round Robin template (Mural)
- Table in a document or spreadsheet
- Group Discussion in Canvas
- Canvas Studio

Round-Robin Brainstorming Sample Timeline

Sample Asynchronous Timeline

Day	Activity
Day 1	**Peer Leader** - Set up groups. - Post the initial discussion with instructions, group member assignments, links, and challenge problem.
Day 2	**Students** - Post their initial post in the appropriate assigned column on the virtual board.
Day 3	**Students** - Post their second post in the next column on the virtual board.
Day 4	**Students** - Post their third post in the next column on the virtual board.
Day 5	**Students** - Post to the discussion pros and cons of the ideas (what might work or fail).
Day 6	**Students** - Discuss the ideas and narrow down the final collective solution.
Day 7	**Students** - Reflect on the activity and any further discussion on the final collective solution.

Other Ideas?

Gallery Walk

Gallery Walk

Overview

- Similar to a conference poster session or museum gallery
  - Students examine challenges
  - Collaborate to answer prompts at each exhibit
  - Post solution for next group to build upon
- Groups rotate from one exhibit in the gallery to the next and build upon prior contributions
- Reconvene to discuss ideas and responses

Suggested Tools

- Padlet or whiteboard tool
- Group Discussion in Canvas
- Canvas Studio

Gallery Walk
Sample Asynchronous Timeline

Day	Activity
Day 1	**Instructor** - Set up groups. - Post the initial discussion with instructions, group member assignments, and link(s) to the prompts in the virtual gallery.
Day 2	**Student Groups** - Designate a group member to be the leader (the one responsible for posting in the gallery area). - **Collaborate** in their dedicated group discussion (if they wish to use other communication tools, that is fine) to think about and come up with their response to the **first prompt**.
Day 3	**Student Groups** - Once the group comes to a consensus, the **leader will post** the response in the **first** appropriate gallery area prompt on behalf of the group. Be sure they include the names of contributing group members. - **Collaborate** in their dedicated group discussion (if they wish to use other communication tools, that is fine) to think about and come up with their response to the **second** prompt.
Day 4	**Student Groups** - Once the group comes to a consensus, the **leader will post** the response in the **second** appropriate gallery area prompt on behalf of the group. Be sure they include the names of contributing group members. - **Collaborate** in their dedicated group discussion (if they wish to use other communication tools, that is fine) to think about and come up with their response to the **third** prompt.
Day 5	**Students Groups** - Once the group comes to a consensus, the **leader will post** the response in the **third** appropriate gallery area prompt on behalf of the group. Be sure they include the names of contributing group members.
Day 6	**Students (all)** - Revisit the gallery area prompts and discuss the different responses and additional thoughts with each other.
Day 7	**Students (all)** - Reflect on the activity and post any further discussion thoughts.

Other Ideas?

Muddiest Point/ Minute Paper

Muddiest Point/Minute Paper

Overview

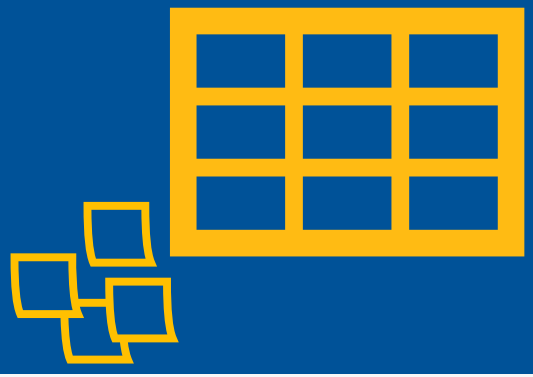
- Prompt students to reflect on challenges (aka ‘muddiest point’) or reflect on their learning and areas of improvement.
- Reflection posted in private (paper) or shared with classmates (discussion).
- Challenges identified and addressed to individuals or group of students

Suggested Tools

- Group/class discussions in Canvas
- Canvas Studio (for video recording)

Other Ideas?

Categorizing Grid/ Memory Matrix



Categorizing Grid/ Memory Matrix

Overview

- Both activities use a table or grid for students to fill in the information
- Categorizing Grid:
  - Provide students with categories and items (terms, images, equations, etc.)
  - Students sort items into appropriate categories and share results
- Memory Matrix
  - Provide students a matrix with row and column headings
  - Students fill in blank cells for the rows and columns

Suggested Tools

- Microsoft Word
- Microsoft Excel
- OneDrive (for sharing/collaboration)
- Whiteboard tool
- Canvas Discussion
  - Enable ‘Post First’ feature

Other Ideas?

Thank you!

Presentation Template: SlidesMania