

Table of Active & Interactive Student Engagement Strategies & Implementation Examples from MIT Classrooms

<p>Low time commitment (<5 min)</p>	<ul style="list-style-type: none"> Note completion 1-min papers Polls Open-ended questions Group brainstorm Problem-solving Compare & contrast Fill in the blank Correct the error True/False Muddiest Point/Exit Ticket 		<p>1-min paper Students answer a question for ~ 1 minute. It could be used to ask students to recall information from the readings, or a prior class, to summarize main points at the end of class, answer a relevant question, or write down what is still unclear (a MUD card)</p> <ul style="list-style-type: none"> Examples of use for different purposes MUD Template from TLL <p>Polling We use polling to describe the format in which a question is asked, but questions that involve polling can range from conceptual to quantitative.</p> <ul style="list-style-type: none"> 8.581J (Systems Biology) [23:42-26:32] 5.111 (Principles of Chemical Science) [10:18-13:11] AP50 (Harvard Intro Physics) [0:12-2:57]
<p>Medium time commitment (5-15 min)</p> <p>Low-commitment activity with peer interaction</p>	<ul style="list-style-type: none"> Interactive demonstration Gallery walk Case studies Perspective-Taking Exercises Adding peer-peer interaction to a low-time commitment activity can create an 		<p>Problem-solving Students are asked to solve a problem individually or in groups (think-pair-share)</p> <ul style="list-style-type: none"> 18.02 Recitation (Multivariable Calculus) [0:45-9:18] Use whiteboards or shared digital workspaces to make thinking visible. Include short debriefs focused not only on the solution but on how the team worked together. <p>Worked example A demonstration of how to do a task/solve a problem using specific examples & self-explanation questions that get students to reflect on what is being demonstrated.</p> <ul style="list-style-type: none"> 18.05 (Probability & Statistics): <ul style="list-style-type: none"> Part 1 [7:21-9:39]: introduction of the problem Part 2 [11:47-14:45]: begins midway through demonstrating how to complete the table, notice the conceptual Q&A with students

	<p>effective medium-time commitment activity.</p>		<p><u>1- min paper shuffle</u> Ask students to write a relevant question about the material and collect them all. Shuffle and re-distribute, asking each student to answer the new question. Can be continued for a 2nd or 3rd round.</p> <p><u>Perspective-Taking Exercises</u></p> <ul style="list-style-type: none"> • Ask students to interview a classmate on a course concept and write a short summary representing that person's viewpoint. • Require students to articulate an argument they disagree with in a way that the original proponent would endorse. • Use reflective prompts such as: "What did your partner see that you did not?" • Encourage brief "idea amplification" exercises, where students build on (rather than critique) a peer's contribution. • Build in moments where students identify something compelling or exciting about a peer's idea. <p><u>Brain-storming</u></p> <ul style="list-style-type: none"> • CMS.611J (Creating Video Games) [1:57:01-2:00:10] <p><u>Gallery walk</u></p> <ul style="list-style-type: none"> • 5.95 (Teaching College-Level Science and Eng.) [1:04:40-1:07:29] • CMS.594 (Education Technology Studio)
<p>High time commitment (>15 min)</p>	<ul style="list-style-type: none"> • Experiment with prediction • Debate • Jigsaw • Peer review • Adding peer-peer interactions and/or class discussion to a medium-time commitment activity can 	<p>Mostly</p> 	<p><u>Experiment with prediction</u> Ask students to publicly predict the outcome of an experiment or demo <i>before</i> it is performed. Crouch, et al (2004)</p> <ul style="list-style-type: none"> • 5.95 (Teaching College-Level Science and Eng.) [36:31-45:55] <p><u>Debate</u> <u>Explanation</u></p> <ul style="list-style-type: none"> • 5.95 (Teaching College-Level Science and Eng.) [13:19-33:31] • 6.033 [5:06-26:23] • Debate Across the Curriculum - Prof. Edward Schiappa, CMS/W, MIT • Frame disagreement as intellectual generosity.

	create an effective high-time commitment activity.		<p>Jigsaw Explanation</p> <ul style="list-style-type: none"> • 5.95 (Teaching College-Level Science and Eng.) [1:03:29-1:06:26] <p>A Wide Variety of High-time Commitment Examples from HASS departments at Harvard can be found here.</p>
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Legend



= Activity involves students individually thinking and answering questions. Activity may include an overall class debrief/discussion.



= Activity involves peer interaction and may involve students working individually first before interacting with peers. Activity usually includes an overall class debrief/discussion.
