# KNOWLEDGE NOW

MCW
Office of
Educational Improvement

## FACULTY DEVELOPMENT SERIES
## STUDENT ENGAGEMENT

### LEARNING OBJECTIVES

BY THE END OF THIS PUBLICATION, YOU WILL BE ABLE TO:

• DEFINE "STUDENT ENGAGEMENT"

• IDENTIFY COMMON ISSUES WITH STUDENT ENGAGEMENT

• EXPLORE VARIOUS STRATEGIES FOR ENCOURAGING STUDENT PARTICIPATION

# WHAT

The Glossary of Education Reform defines student engagement as "the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education."

Simply put, engagement is the level of involvement students have with their learning.

In a 2016 international survey of professors, 42% reported that students don't arrive in class prepared to learn (Preville, 2017). In their study of student participation in a revised medical school curriculum, White et al. (2014) found "some students did not (yet) possess the self-direction, reflective ability, and motivation required for sustained engagement in a curriculum designed to incorporate adult learning principles" (p. 317). These findings speak to the complexity of engagement and the many factors, internal and external, that influence students' active participation.

Barkley (2010) describes student engagement as "that vibrant space in the overlap of motivation and active learning" (p. 65). According to Graffam (2007), the components of active learning are intentional engagement (learners performing a task), purposeful observation (learners observing a task), and critical reflection (learners thinking about their experiences to make meaning). With passive learning, knowledge is treated as a commodity to be given, while active learning treats knowledge as an experience that results from the process of assigning meaning. In active learning, the focus is less on content and more on stimulating reflection and critique of the information.

Students want education to be relevant to their needs and envisioned career paths (Preville, 2017). They need to understand how they will use the information, now and in the future. Weimer (2012) asserts that when "students are reflecting, questioning, conjecturing, evaluating, and making connections between ideas, they are engaged" (para. 7). However, Zepke and Leach (2010) argue that, in modern education, "engagement can no longer be assumed; it must be negotiated with students" (p. 173).

# WHY

The call for student engagement through active learning is supported by learning theory. Social constructivist theory suggests that learning is social in nature, requiring discussion and sharing with others (Nicol, Owens, Le Coze, MacIntyre, and Eastwood, 2017). Similarly, socio-cultural learning theory proposes that learning is the transformation of the individual through social interaction (Pearson and Lucas, 2011). Individuals learn through the intake of information and the validation and refinement of understanding achieved through their interactions with others.

Students need to identify valid resources, critically assess, and apply the multitude of information they encounter (Barkley, 2010). Active learning techniques, such as incorporating discussion and reflection, provide the opportunity for students to process information in a meaningful way. According to Barkley, "material not processed through the decision-making functions of the mind is less likely to be recalled after an extended period of time" (p. 40). Active learning is thus a way to engage students while fostering deeper learning through both doing and reflecting (Graffam, 2007).

# HOW

According to Barkley (2010), motivation is the product of expectancy and value, with expectancy being the student's belief they can be successful and value the relevancy and applicability of the task. Helping students believe they can be successful is accomplished through course design aspects such as clear grading criteria, thorough instructions, and the availability of the instructor for additional support.

Creating an institutional culture that fosters and enhances student self-belief is also important, as it sets students up to succeed through providing opportunities to do so. "Students are more likely to engage if they are supported by teachers who establish inviting learning environments, demand high standards, challenge, and make themselves freely available to discuss academic progress" (Zepke and Leach, 2010, p. 170).

Medical education is a social process; socializing has a positive impact on learning (Todres, Tsimtsiou, Sidhu, Stephenson, and Jones, 2012). Small and large group discussions provide social interaction that allows learners to refine their understanding of information, hearing various perspectives and communicating their own to enhance deeper learning. Barkley (2010) suggests using targeted questioning by selecting a student and then asking the question. Follow up the response by asking a second student their thoughts about the initial answer. Incorporating vignettes, such as through case studies or videos, allows students to both reflect on prior knowledge and experiences and project information into their future roles (Cavanaugh, 2011).

Faculty may need assistance to design activities that promote active learning, such as encouraging students to think for themselves, increasing student autonomy, requiring students to demonstrate comprehension in their own words, and having students revisit and revise their understanding of information (White et al., 2014, p. 321). Zepke and Leach (2010) encourage instructors to allow students to become practicing citizens in the learning environment, taking responsibility for activities and discussions.

However, simply incorporating active learning activities into a course or session may not be enough to engage students. In a study on why students weren't participating in a revised curriculum, White et al. (2014) found that only 25% of students reported regular attendance in active learning sessions. Instructors must help students understand the pedagogical underpinnings of curricular design so that they value why they are engaging in various learning activities (White et al., 2014). Similarly, assessments that test for higher order thinking and require participation in classroom activities may increase engagement.

While incorporating active learning into the classroom may assist with student engagement, there is no one-size-fits-all approach. White et al. (2014) caution that students who dislike the ambiguity of group work may opt to study alone rather than engage in group processes. In addition, Nicol et al. (2017) warn against seeking constant engagement in the classroom. "Requiring students to be actively engaged most of the time, without any opportunity to tune-out and engage passively with the material, may be problematic" (p. 10). The key is in finding balance, increasing engagement without overwhelming students' ability to process the material and self-direct to meet their learning needs.

# TIPS FOR SUCCESS

Let your learning objectives guide you. Select engagement strategies that help you meet your objectives.

Choose pedagogy over technology. Use technology when it enhances learning and not for its own sake.

Be authentic. Match the learning activity to real-life practice to help students see the inherent value in the effort they put into their work.

Be flexible. Allow students to drive discussions and interactions while you serve as a facilitator who guides them to the "sweet spots" of what they need to learn.

Use open-ended questioning over closed questioning. Ask "what" or "why" questions as opposed to "do you understand?"

Keep yourself engaged. Instructors "need to believe that with effort, they can create classroom conditions that are engaging to students" (Barkley, 2010, p. 74).

## Student Engagement Strategies

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| **3-2-1** | Students are asked to write down three facts they learned about a topic, two questions they have on the topic, and one opinion they have on the material. |
| **A-Z Topic Summary** | At the end of a lesson, student pairs or small groups are assigned a letter of the alphabet. They must write a sentence summarizing the lesson using their assigned letter to start the sentence. |
| **All Hands on Deck** | The instructor posts topics or content areas on the wall around the room. Students use Post-It notes to brainstorm notes on the topics or content areas and post on the wall. Small groups rotate through each topic/content area until all students have a chance to brainstorm and "comment" on each. |
| **Application Cards** | At the end of instruction, students write a real-world application of the information covered on an index card and submit it to the instructor. |
| **Audience Response System** | Instructor incorporates interactive questioning to assess student knowledge throughout a presentation and students respond using their device(s). Group results are displayed for instructor and student feedback and to facilitate further discussion of the topic/concept. |
| **Carousel** | The instructor posts topics or discussion prompts on the wall around the room. Students circulate with Post-It notes and respond with written brainstorming notes that are posted under the topic or prompt. |
| **Case Studies** | Students receive real or simulated stories that relate to the topic at hand. Stories include patient problems/symptoms which students analyze in small groups to arrive at a solution through application of course concepts and use of the literature. |
| **Fill in the Blank Card** | Student groups write a series of index cards for a concept but leave one card blank. Groups exchange card decks and must figure out what is missing. |
| **Gallery Walk** | After students write or draw responses to a question, have the students post them on the wall and allow time for all students to circulate and see other responses. This exercise pairs well with Quick Draw (see below). |
| **Graffiti Wall** | Provide a space on the wall where students can brainstorm ideas and ask questions on a given topic. |
| **Group Study Deck** | Groups of students get 10 index cards each. Each group must write down 10 pieces of information they believe are key to the content being discussed/covered. Card decks are exchanged with another group for review and discussion. The instructor facilitates large group discussion on areas of disagreement and their 10 main points for the content. |
| **How Confident Are You?** | Instructor draws a confidence line on the whiteboard (Not Confident ---------------- Very Confident) before a break and asks a question. During the break, students make a mark on the line to indicate their confidence in being able to get the question right. |
| **Incomplete Concept Maps** | A concept map is a graphical representation of interrelations between concepts. Students or groups are given partially-constructed concept maps that they are required to finish constructing, fill in the blanks, or link concepts appropriately. |
| **Important Words** | Students write 10 words on index cards that they consider the most important to the lesson or unit of study. Students pair or meet in small groups to discuss their words and generate a consensus list of 10 words. |
| **Index Card Concept** | Students receive an index card with a random concept that they are responsible for researching and reporting back to the class. This can also be a group exercise. |
| **Index Card Exchange** | Students write their name and a question they have on the content, then share their card with a neighbor who must answer the question. Cards are given back and time is given for large or small group discussion on the questions. |
| **Jigsaw** | The instructor divides students into small groups and divides a topic into the same number of segments as there are students in each group. For example, groups of four students means the topic is divided into four sections. Each student is assigned a section of the topic to become an "expert" on. Students meet in groups based on what section they are assigned to discuss and refine their understanding of that section. Students then return to their original group to teach their group about their section of the topic. |

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| **Journal Club** | Journal articles are pre-selected to focus on a specific task or topic. Student groups are assigned an article and required to present and facilitate discussion to identify key concepts. |
| **K.I.D. Vocabulary (Key Word + Important Information + Draw to Remember)** | Students record a key word, focusing on one important to the topic. They then write down important information about it: What do they know? What connections can they make? Students then create a visual or memory device to help them remember the word. Finally, students use the word in a sentence, being sure their usage of the word does not change its meaning. |
| **KWS Chart** | Students are given a handout with three columns for a given topic: What I Know, What I Want To Know, and Possible Sources for Learning. |
| **Labeling** | Students are given a large sized image (one per student or group). They must labels the parts of the image without referring to their notes. |
| **Labeling, Round 2** | Students complete the labeling activity above, then rotate to another image and label what the previous student/group missed. |
| **Muddiest Point** | Students write down information they are confused by on index cards. Cards are passed to their right. If that student is also confused by the piece of information, they place a checkmark (✓) on the index card and pass the deck to their right. Reviewing and checking cards goes on for several rounds. Instructor gathers cards and teaches to the main points of confusion. |
| **Name That \_\_\_\_** | A series of specific items (e.g., diagnoses, procedures) are identified and key features created as a series of clues that lead to the correct answer. The clues are presented, typically in a gaming fashion, with individual learners or groups guessing the answer. |
| **Numbered Heads** | Students in small groups number off so each student has a number (such as 1-8 for a group of eight students). The instructor asks a question and gives time for each group to discuss it and develop their answer. The instructor randomly selects a number and that student from each group raises their hand to be called on to share the group's answer and reasoning. |
| **Odds & Evens Pairs Jigsaw** | Students receive a playing card from Ace – 10 when they enter the classroom. Even numbers complete even quiz questions; odd numbers do the odd quiz questions. Students pair with someone from the opposite questions to reason through the correct answers for a grade (low-stakes). |
| **Outcome Statements** | At the end of a lesson or unit of instruction, students are asked to reflect and write answers to the following kinds of questions:<br>• I now understand…<br>• I was surprised by…<br>• I am beginning to wonder…<br>• I can see connections between…<br>• I would like help with…<br>• I am still confused by…<br>• I would like to learn more about…<br>Students write two to three detailed statements that can be submitted to the instructor for review or used for class discussion (pairs, small or large group). |
| **Professional Role Play** | Student groups receive a clinical case scenario. Individual students assume the role of various healthcare professionals involved in the scenario and discuss their assumed perspective with the group. |
| **Quick Draw** | After teaching a new concept, the instructor asks the students to draw a picture about what they just learned. This exercise pairs well with Gallery Walk (see above). |
| **Quick Writes** | After teaching for approximately 10 minutes, the instructor poses a question based on the content covered and gives students two minutes to write down their thoughts/answers using their notes. Written responses can be for the student's own self-assessment, submitted to the instructor (for review and potentially points), or shared with a neighbor or small group for discussion purposes. |
| **Quiz Question Challenge** | Students write a stack of quiz questions on up to 10 index cards. They pass the deck to the student next to them. Students have 30 seconds to identify the question they are going to answer and another 60 seconds to answer the question. Card decks are passed again. The process is repeated for several rounds. The instructor facilitates large group discussion. |

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| **Random Calling** | The instructor has students write down their name and some form of information about themselves on an index card on the first day of class. Throughout the course, the instructor selects index cards randomly to indicate what student is expected to answer the question at hand. |
| **Roll the Die** | The instructor or individual student groups roll a die. The number that comes up is how many of a certain task the students or each group must do (create questions, answer questions, etc.). |
| **Roll the Die, Part 2** | The instructor rolls a die and that is how many answers to a question that must be given before they will move on to the next part of the class session. For example, if the instructor rolls a three then three students/groups must share their thoughts/ideas before the lesson continues. |
| **Same and Different** | Student pairs or groups are assigned two things to compare/contrast in Same & Different columns on a worksheet. This approach can also include pair/group presentations of findings to the entire class. |
| **Scavenger Hunt** | Students receive a list of findings to discover in the course of their experiences. This can include student presentations and/or discussions on their findings. |
| **Start, Stop, Continue** | Individually or in groups, students write down suggestions for what instructor should start doing, stop doing, and continue doing in the course. Cards are collected at the end of class for instructor to review. |
| **Step by Step** | Students write a process or series of steps on index cards, shuffle the cards, and shar with a partner. The partner must put the series back in order. You can incorporate an additional step (or group discussion) to make students justify answers in the case of disagreements. |
| **Teach Back Process** | A student is asked to explain his/her understanding of the topic/concept and/or demonstrate a technique and explain it. Instructor (or other learners) follow-up using open-ended questions to assess the learner's understanding/ability to transfer understanding to a related but new topic/concept. Misconceptions are then clarified by the instructor or other learners. This is an iterative process: "teach back," open ended questioning, addressing misconceptions, then "teaching back" again. |
| **Think-Pair-Share** | Students work individually to think through a concept or answer a question, then join in pairs and discuss the concept/question together. |
| **Traffic Lights** | Student groups receive three cards: red, yellow, and green. The instructor asks a question and each group posts their card: Red indicating they do not wish to be called on, Yellow indicating they are willing to contribute but do not welcome in-depth questioning by the instructor, and Green indicating they wish to contribute and invite in-depth questioning. Student groups are called upon and awarded participation points accordingly: No points for Red, One point for Yellow, and Two points for Green. |
| **Traffic Lights, Part 2** | Students receive three cards: red, yellow, and green. If the student is following along with the instructor, they display their green card. If the student starts to get lost or confused, they display their yellow card. If the student disagrees or is completely lost, they display their red card. |
| **True-False Sorts** | Students work in small groups to sort statements on index cards into two stacks: those that are True and those that are False. Large group discussion facilitation occurs around points of disagreement amongst the groups. |
| **Vocabulary Mix and Match** | Students (or groups) receive 20 index cards. They must write down 10 terms and 10 definitions, then shuffle the deck. The deck is then given to the next student (or group) to unshuffle. |
| **Wall of Questions** | Students write their questions on Post-It Notes throughout a lecture or discussion. During a break, they place their Post-It notes on a designated wall space for review. The instructor reviews the questions during break and teaches to the questions or facilitates discussion once class resumes. |
| **Wall of Questions, Alternative Version** | Same as above, but students are expected to grab someone else's Post-It note coming back from break and figure out the answer to post back on the wall at the end of class. |
| **What Happens Next?** | Students are given Post-It notes. The instructor discusses/demonstrates course material, then stops and asks, "What happens next?" Students have 30 seconds to write down their answer and must post it on a designated area of the wall/whiteboard before break. During break, students are encouraged to review their classmates' answers to confirm/refute their own. |

## Student Engagement Strategies

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| **What Happens Next…Adding** | Same as above, with instructor debriefing the class on the correct answer and facilitating discussion based on student questions. |
| **What I Know** | At the end of a lesson or unit of instruction, students receive a handout with three sections: What I Know About…, What I Have Learned About…, and What Can I Do With This Information… Students complete the handout individually and then discuss in pairs, small groups, or as a class. |

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