

Actively Engaging Students in Asynchronous Online Classes

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Abstract

Active learning activities and pedagogical strategies can look different in online learning environments, particularly in asynchronous courses when students are not interacting with the instructor, or with each other, in real time. This paper suggests a three-pronged approach for conceptualizing active learning in the online asynchronous class: the creation of an architecture of engagement in the online classroom, the use of web-based tools in addition to the learning management system, and a re-imagining of discussion boards as interactive spaces. The adoption of these approaches invites meaningful action and reflection to create truly active learning activities in online asynchronous classes.

Active learning pedagogies have become widely accepted in face-to-face teaching as a method of engaging students in their learning and as a way to encourage metacognition and reflection. Whereas traditional lecture/exam pedagogies are teacher-centered, with the instructor as the focal point, active learning places the student at the center of the learning experience. In addition to being student-centered, active learning experiences generally have two additional components: they require (1) meaningful action by the student on behalf of their learning and (2) that meaningful action be paired with reflection by the student regarding their learning experience. Prince (2004) and Michael (2006) have both synthesized research-based evidence that active learning techniques are successfully helping students learn.

Given its popularity, it is important to also consider active learning within the broader contemporary higher education landscape, which now includes a significant number of students learning in online and blended environments. This shift in modality has necessitated thinking about face-to-face pedagogical techniques in new ways, sometimes resulting in a complete re-design of a course for the online or blended environment. To be sure, the growth in online courses is one way to ensure that a diverse population of higher education students can learn in flexible ways that meet their needs. Unfortunately, despite decades of growing experience and expertise in distance education, there is still skepticism from faculty about the quality of education that is received online (Allen, Seaman, Poulin, & Straut, 2016). Perceptions of quality deficiencies in online classes are sometimes based in assumptions that instructors are better able to engage with students, and to encourage more active learning, in face-to-face environments.

In this paper, we suggest that well-established fundamentals of online course design and facilitation still need to reach and be accepted by a broader audience within higher education, and that lingering perceptions about quality differences between face-to-face and online education signify a professional development gap—one that can be bridged with training about active learning pedagogy and models for active learning in online asynchronous classes. Importantly, active learning activities and pedagogical strategies can look different in online learning environments, and some instructors can find incorporating active learning to be challenging, particularly in asynchronous courses when students are not interacting with the instructor, or with each other, in real time. This paper suggests a three-pronged approach for conceptualizing active learning in the online asynchronous class: the creation of an architecture of engagement in the online classroom, the use of web-based tools in addition to the learning management system, and a re-imagining of discussion boards as interactive spaces. We believe that the adoption of these approaches invites meaningful action and various forms of reflection to create truly active learning activities in online asynchronous classes.

Re-Conceptualizing Active Learning for the Asynchronous Online Classroom

In IDEA Paper #53, “Active Learning Strategies in Face-to-Face Courses,” Millis (2012) outlines several examples of active learning experiences instructors can implement in face-to-face learning environments such as paired problem solving and think-pair-share activities, among other notable examples. In a think-pair-share activity, the instructor lectures for a short time, and then stops the lecture to pose a question. Students are then asked to reflect about the

question, pair with someone seated nearby, and discuss the question. Sometimes, the instructor then chooses several students to share with the whole class what was discussed to help further reflect, synthesize, and transition to the next portion of the lecture. What makes this simple strategy effective is that students must do more than listen passively to the lecture. They must pay attention, comprehend the information being presented, and then take action with that information – in this case, talk about a question with a partner. One study (Ruhl, Hughes & Schloss, 1987) showed that using a series of think-pair-share activities approximately every 15 minutes during a live on-campus lecture helped to improve comprehension and retention of new information.

For online courses designed to require synchronous web conferences, where students and the instructor log in and meet live in a virtual space, active learning activities such as a think-pair-share can occur much as they do in synchronous face-to-face environments. However, most students who seek online learning experiences do so because they are not able to meet on campus or remotely at scheduled times. To accommodate the needs of students who have full-time jobs, jobs that require extensive travel, family demands, or other factors that make attending a face-to-face or synchronous online course impossible, many online courses and programs are designed to be asynchronous, with no requirement for all students and the instructor to be logged in at the same time each week. In asynchronous courses, instructors and students participate in learning activities on independent schedules; in typical asynchronous courses, readings are indicated in the class schedule, links to external resources and recorded lectures are provided, and students post to discussion boards, submit assignments, and take exams on their own schedules within given time frames.

While some lament the loss of synchronous, live communication in asynchronous online courses, many acknowledge clear benefits in asynchronous learning. For example, Collison, Elbaum, Haavind, and Tinker (2000) note that discussion boards, in particular, can “extend reflection time” and offer the “opportunity to compose thoughtful, probing contributions” (p. 2). Meyer (2003) also argues that asynchronous tools such as discussion boards can aid in higher order thinking for students. From a more logistical standpoint, students who would otherwise not be able to earn degrees are able to do so, and are able to do so more expediently, due to asynchronous schedules. Students are also free to spend more time on task, if they are motivated and their schedules allow them to do so. In asynchronous environments, students can re-watch recorded lectures as many times as they need to in order to understand the content and can make use of closed captions or transcripts to improve comprehension. And, perhaps most helpful to more introverted students, online courses allow for additional time to compose thoughts, reactions, and reflections on the course content without the pressure of real-time interaction.

In spite of these benefits of online asynchronous instruction, the active learning methods that are becoming well-practiced

and increasingly routine components in face-to-face instruction, or even in online synchronous instruction, can be difficult to conceptualize in fully online, asynchronous courses. For example, how can a student think-pair-share mid-lecture if the lecture is recorded, and if the student is the only one logged into the course at a given time? Given the constraints of asynchronous online courses, how can instructors adopt active learning pedagogies that will help students interact with the instructor, and with one another, to aid in their learning and reflection? In the remainder of this paper, we offer a three-part approach for implementation of active learning practices into the asynchronous online environment.

Approach 1: An Architecture of Engagement

The engaging face-to-face class experience is composed of the classroom space, the scheduled meeting times, the proximity of students to the instructor and one another, and the social norms that motivate students to participate. These components are the raw materials the instructor can utilize to invite learner engagement. Students sign up for a course and receive the meeting schedule and location. They show up and, having grown up in similar educational environments, are both ready to be guided by the instructor and conditioned to know how to behave and participate in the space. Students know how to interact even in different kinds of physical classrooms, because the architecture shows them how to interact. In a large lecture hall, students know to be seated, to turn their attention to the front of the room, and to listen and take notes. In a small classroom with tables set up for clusters of students, students know to face each other, and to participate in small group discussion and activities. In a laboratory with tall benches and lab equipment, students know to stand at their stations and expect to work hands-on with lab-related materials.

Because none of these architectural components exist ready-made in the online asynchronous environment, a new architecture of engagement that functions in a virtual, asynchronous environment must be intentionally created. In the online asynchronous class, the instructor must show students how to navigate, how to interact, and what is expected. In the absence of a physical room with furnishings, the instructor must use digital materials to structure learning environments that foster active learning. With careful planning, an architecture of engagement can be created with digital architectural elements to help asynchronous online courses employ active learning strategies and otherwise be as rigorous and engaging as those on campus.

Architectural Element 1: Syllabus Communication and Engagement Policy

The asynchronous online course syllabus must do all the foundational things a face-to-face course syllabus does, but it must also set communication policies and expectations for online engagement as well as a course schedule that outlines the frequent and meaningful engagement and reflection required for students. Rather than taking place

over a concentrated time period of in-person interaction, active learning in an asynchronous online course can include students visiting the class website to perform certain tasks several times throughout a week, meeting mini-milestones as they progress. Whereas the scheduled meeting time and place clearly set the bounds for the face-to-face class, those structures are not as clear and need to be spelled out with greater clarity in the asynchronous online environment.

Below is a sample syllabus communication and engagement policy for an asynchronous online course, which communicates an expectation for participation and the foundation of a course architecture for engagement:

Our class is organized week by week, with each week starting on Sunday morning and ending at the close of the next weekend. Every Sunday morning, a new weekly module will open automatically. Once open, the weeks remain open so that you may go back and review content in previous weeks.

To ensure that you receive a high quality and hopefully transformative educational experience, regular participation is a requirement of this class. Typical weeks include required reading, viewing some video content, participating in discussion forums, and completing an assignment or an exam. To be successful in this class, you will need to log in at least three times per week to access course materials and to participate actively in the class.

Instructors may also want to structure participation requirements so that students have weekends to focus on time-intensive tasks built into the architecture created; this fosters engagement while still allowing flexibility for online learners.

Architectural Element 2: Course Orientation

Because the digital architecture may be unfamiliar to most students—and even if familiar, may vary among online courses—a course orientation becomes necessary. The orientation can be provided in print, but is usually more engaging and inviting in video or voice-over-screen audio format. Voice-over-screen tools such as Screencast-O-Matic (<https://screencast-o-matic.com/home>) can be used to create re-usable, recorded online course orientation tours. The instructor captures the screen, and then navigates through the course while discussing the various features. Once complete, the recording can be shared simply by a URL.

The need for orientation materials in online asynchronous courses is well-established. In fact, Quality Matters™, a nonprofit organization that publishes research-based online and hybrid course design standards and which offers a peer review process that certifies the design of online and hybrid courses, includes requirements for orientation materials in the first general standard of eight in the *Quality Matters Higher Education Rubric Workbook: Design standards for online and blended courses* (2014). In addition to information about prerequisites required for the course and minimum

technical requirements, the rubric also requires that certified courses include an introduction for learners that explains the purpose and structure of the course, including “how the learning process is structured and carried out, including course schedule, delivery modalities (online or blended), modes of communication, types of learning activities, and how learning will be assessed” (p. 8). Placing a course orientation prominently so that it can be easily noticed when students log into a course for the first time, as well as encouraging students to view the orientation materials in an introductory email, can help to ensure students understand that the course requires active engagement.

An orientation for an online asynchronous course should introduce students to the structure of the course and should address the following questions:

- How often do students need to log in to participate?
- How much time should they set aside weekly to spend on coursework?
- Is the course entirely asynchronous, or are there synchronous activities? If there are synchronous activities, are they optional or required?
- Which tools in the learning management system (LMS) will be used?
- Where should students look for updates and breaking news about the course (e.g., announcements, email messages, discussion forums)?
- How is the course structured (e.g., by week or module, by project milestone)?
- What does a typical week’s or unit’s work entail in the course?
- Are any external tools or digital courseware required? If so, how should students register?
- What are the major assessments in the course, and when during the semester do they take place? If there are papers or long-term projects, what are the major milestones?
- Where can students find important due dates?
- If there are exams, are there proctoring requirements?
- Are there any unusual requirements that require advance coordination or travel, such as group work, field trips, observations, or interviews?

Finally, instructors should explain to students in the orientation that an architecture of engagement has been intentionally created for the course and that the use of active learning strategies is intended to assure a high quality, transformative educational experience equivalent or greater to face-to-face learning experiences, and to improve their academic success. This explanation will help students understand how the architecture of the course affects and adds value to their learning experience.

Architectural Element 3: Modular Course Structure

In addition to establishing expectations in the syllabus, the engagement architecture must be reinforced throughout the course. The syllabus policies and course orientation provide a strong foundation, but these kinds of course

materials are often reviewed early in the course and then become neglected and forgotten as the work of the semester accumulates. A modular course structure helps to frame the architecture of engagement throughout the course.

By modular course structure, we mean dividing the course chronologically with multiple units, with each module containing all of the course materials, learning activities, assignments, and assessments for that unit. By contrast, a non-modular course structure would be one that might provide a calendar of deliverables, and then leave students to find the necessary tools and materials within the entire course. Such a non-modular structure might contain a folder of all course readings, a link to a discussion area, a link to an assignments page, and so on. Students would need to navigate using the course calendar as a guide. A modular structure, however, provides much more guidance for the online asynchronous student. Each modular section of the course contains everything the student needs for that unit of study, and students can feel more assured that they are not inadvertently missing something critical. Using a modular structure also allows instructors to reinforce the course learning outcomes with shorter-term modular learning outcomes that help students connect the work they are doing each day with the overarching course learning outcomes.

Using a modular or weekly organization for course materials and learning activities reinforces the architecture of engagement, because this structure encourages students to move through the course as a cohort, engaging with learning materials and activities on the same timetable, though still asynchronously. Some instructors even use adaptive release settings on learning modules to require that students proceed as a cohort. Online asynchronous courses are different from self-paced online courses. If designed to employ active learning pedagogy, modular course structures encourage and even require student-to-student interaction on a regular and sustained basis.

When designed to reflect and reinforce an architecture of engagement, a modular course structure that breaks the larger course down into smaller parts provides several advantages: (1) it paces the learning experience to prioritize information and activities and to help prevent students from feeling overwhelmed; (2) it allows students to monitor progress regularly; (3) it discourages procrastination by providing regular milestones and deliverables; (4) it visually provides a high-level overview of the course topics, which can increase understanding of how course topics relate to one another; and (5) it provides space to scaffold active learning experiences and to provide sufficient opportunity for guidance and feedback on reflection activities.

Checklists, calendar reminders, and instructor announcements can also help remind students of the engagement architecture; these reminders are necessary not because students have short attention spans or are unmotivated, but because the absence of a physical and face-to-face social architecture necessitates an alternative

virtual architecture. Students need space and structure that will invite them to engage actively.

Inhabiting the Architecture of Engagement

Of course, once instructors create an architecture of engagement in their online, asynchronous courses, they must themselves inhabit those spaces throughout the course along with their students. Instructors must continuously guide student learning, provide feedback, serve up reminders, double back to reinforce concepts students have struggled with, and otherwise actively facilitate their classes. It can be helpful for instructors of online asynchronous courses to create an architecture for their own engagement, as well.

The instructor's plan for engagement can be communicated in the syllabus, in the course orientation, and/or in an announcement or email to students. It should include several basic pieces of information:

- A time frame for replies to email communications and questions posted on discussion forums, with encouragement to ask questions in advance of assignment due dates
- A time frame for providing feedback on assignments
- Commentary on how the instructor plans to participate in online asynchronous discussions (e.g., I do read every post, but will not reply to every post so as not to dominate the conversation; I will post a summary of discussion highlights at the conclusion of each unit.)
- Commentary on other ways the instructor plans to remain actively involved throughout the course and how urgent or timely information will be communicated (e.g., via announcement or email)

Online asynchronous courses are open twenty-four hours per day, seven days per week, including holidays. Because many routine online activities such as shopping and travel reservations are automated with immediate responses and confirmations, students in online classes, unless provided with a plan for instructor engagement and availability, can sometimes harbor expectations that online instructors be responsive 24/7. In the absence of scheduled synchronous meeting times when students know they can ask a question and get an immediate answer, providing the instructor's plan for engagement sets and manages student expectations for instructor availability and generally eases anxiety about instructor availability and responsiveness.

Below is a sample statement an instructor might model in creating an instructor plan for engagement:

I typically log in to monitor course activities five to six days per week, usually in the early morning hours. Expect responses to questions posted in the class or sent by email within 48 hours, though I usually respond within 24 hours. I am rarely online on Saturdays due to other commitments. Do your best to plan the timing of your questions accordingly.

I know students are eager to receive grades after submitting assignments. I put a lot of effort into providing detailed feedback on most assignments in this course, and this takes time. I strive to return all assignments within seven days of submission. If something comes up and I need to deviate from this schedule, I will let you know.

I don't keep scheduled office hours, because my students' schedules vary so greatly. I am, however, available for phone calls or Skype conversations by appointment.

Creating an architecture of engagement for students, and then inhabiting that space along with students, creates a student-centered environment where meaningful actions can be taken by students, and where instructors can guide and respond to those meaningful actions, evoking student reflection on learning. Without such an architecture of engagement, it is easy to create an instructor- or content-centered course, where most of the learning is passive.

Approach 2: Use Web-Based Tools Outside the Learning Management System

Even with the intention to create an architecture of engagement, a significant challenge faced by instructors wishing to use active learning pedagogies in the design of online asynchronous classes is that the standard learning management system (LMS) presents a menu of choices that seem to invite instructor-centered and passive pedagogical choices. Faced with an empty course shell, online course developers select from design menus that allow them to post textual or video content, provide links to drop boxes for assignment submission, and construct quizzes or exams. These learning objects and events are similar in characteristics to the traditional, passive lecture/exam model in face-to-face courses, where the instructor provides information to be passively consumed by students and then assesses students on their mastery of that content, with little to no engagement and active learning in between. There are plenty of opportunities for students to read or view content, but instructors of online courses can struggle within the limitations of the LMS to find opportunities for students to take *meaningful action* with course content and then to *reflect* on that learning experience.

Given the limitations of typical LMS, a quick and easy option for using active learning pedagogy in the online asynchronous class is to employ the use of ready-made, web-based tools that are built for engagement but are located outside of the LMS. Often, these tools provide more interactive space that more easily create opportunities for meaningful action than content-sharing tools within the LMS. A few examples follow for illustration purposes, but should not be considered an exhaustive list. New web-based tools appear continually, and most can be brought into the online asynchronous class as easily as posting a link.

Example One: Online Portfolios with Reflection

Online portfolios can be created using such free tools as Google Sites (<https://www.google.com/sites>), Weebly (<https://www.weebly.com>), or Wix (<http://www.wix.com/>). Portfolio assignments are excellent vehicles for active learning. The ability to select and create content allows plenty of room for student agency and fosters intrinsic motivation. Often, portfolio assignments have a professional theme to them that can provide meaningful extrinsic motivation, as well. In addition, portfolio assignments can lead students to various levels of reflection. For example, the online medium encourages the inclusion of visuals to complement written materials and thus can invite content-based reflection about the textual and visual content. By asking students to clearly present evidence and make inferences, reflection can be built directly into portfolio-based assignments. In a history course, for example, students might present images or video content of historical artifacts, discussing key aspects and significance of each. Throughout the course of a semester, students might present several artifacts, comparing and contrasting them as part of their reflection. Students in a creative writing course might post writing samples, perhaps including several drafts, analyzing and reflecting on the changes they made throughout their writing process. In both of these examples, metacognitive reflection is encouraged by asking students to examine and discuss their thinking and learning process over time.

In creating an online portfolio, students must engage meaningfully with the content, whether the content includes materials that they find or create. The content must be selected and then shared in a context with a specific audience. Reflection can be at various levels, about the content itself or about the students' progress and evolving engagement with it over time. Portfolio assignments also lend themselves well to what Grossman (2009) has coined self-authorship or transformative reflection levels. Grossman defines self-authorship as when reflection allows "inner states [to] become observed objects rather than lived subjects" (p. 19). With self-authorship, students gain enough distance from initial thoughts and feelings to understand how thoughts and feelings can affect and change each other. Grossman also describes a form of "transformative" reflection in which students experience a substantial shift in their own assumptions, beliefs, and values. Portfolio assignments, where metacognitive activities are frequently embedded, are helpful ways to encourage student engagement in both of these levels of reflection.

In addition to providing a rich and personalized active learning opportunity, portfolios can also have the added benefit of helping students meet career goals by providing an engaging representation of abilities, knowledge, and communication skills as part of a job application.

Example Two: Brainstorming with Reflection

Brainstorming tools such as Padlet (<https://padlet.com>), which allow students to share text, images, video, and

annotated links to a common work area, can also be used to employ active learning strategies in online asynchronous classes. As with portfolios, brainstorming tools require choice and agency of students and are typically intrinsically motivating. They can also be used to encourage students to distinguish between evidence and inference. For example, an instructor in a botany course during a lesson on bacterial and viral infections might set up a Padlet workspace with two headings, one on each side of the screen: bacteria and virus. Under each heading, students could be asked to describe traits of bacterial and viral infections in a given plant type—in other words, to provide evidence, not mere inference. Over a period of days or a week, students might post textual descriptions, images, video descriptions, or annotated links to flesh out the traits on each side of the workspace. The instructor can then wrap up the activity by asking students to compare and contrast the two infection types, to identify distinctions, and to draw some conclusions. In this asynchronous activity, students are meaningfully interacting by classifying traits of two infection types, finding and sharing evidence and resources, and then are reflecting on what the similarities and differences mean.

Example Three: Role Playing with Reflection

In courses where key people or roles are being studied, such as history, philosophy, psychology, sociology, or world culture courses, students can use educational technologies that allow for role-playing. One engaging example is Fakebook (<http://www.classtools.net/FB/home-page>), an educational slant on the popular social media platform Facebook. For example, in a course where students are studying various theories, students might be asked to create Fakebook pages for specific theorists. Students would meaningfully interact by constructing the social identity of the theorist, including a representative image, a list of “friends,” an “about me” profile, key quotations, and status updates where the student-as-theorist responds to a current event or news item in character. To generate this content, students would need to gather information and evidence about the person. Students would also need to engage in critical thinking and reflection in order to create the thoughts and words of the person being studied. Furthering the reflection, students can also interact with each other on their Fakebook pages. Students can be asked to stay in-role and consider whether their assigned theorist would “like” a quote by another competing theorist. In their Fakebook roles, they might be asked to engage in debates and discussions about given links, memes, topics, or ideas. Instructors can also ask students to reflect on their own or other students’ pages, and to consider how these live (yet asynchronous) interactions reflect their changing understanding of the people and ideas being studied.

A Few Cautions about Web-Based Tools External to the Learning Management System

Thousands of web-based tools that promote active learning are available and their numbers are growing. A few cautions instructors would be wise to keep in mind:

- Choose a tool with a track record to guard against it disappearing mid-term. Choose tools that have been around for a while and have a strong reputation for reliability.
- Pick only one or two tools to use in a given term or course. There is a learning curve for each new tool, and you do not want to detract unnecessarily from the time students spend on coursework.
- Free web-based tools often do not have strong tech support systems. If your institution has an instructional design unit or an academic technology unit, you may be able to get some support there. However, you should be prepared to support students in the use of the web-based tools chosen. Practice with the tool before introducing it in a class setting and only include it in your course if you feel confident that you know how to use it.
- Ease your students into the use of the tool. Start with low or no stakes introductory tasks before working up to any high stakes projects or assessments.
- Vet tools to ensure they meet accessibility standards, particularly for students with sensory disabilities. Your institution’s disability services unit may be able to offer guidance if you are unsure, and resources such as Coombs (2010) and Moore (2014) offer specific guidance for instructors designing online courses. Widely held as the most authoritative source on accessibility, the World Wide Web Consortium (W3C) offers Web Content Accessibility Guidelines (WCAG) including technical standards and guidance about how to meet them (<https://www.w3.org/WAI/intro/wcag>).
- Have a backup plan in place in case something goes wrong with the tool. For example, instead of a profile posted on a Fakebook, a student could create a web page using Weebly (<http://www.weebly.com/>), or a Word document containing the same information.
- Ensure FERPA compliance by not labeling public web spaces with anything that identifies the space as part of a class, by not posting publicly anything that resembles a class roster, and allowing students to use pseudonyms or nicknames instead of their full legal names. The U.S. Department of Education offers a detailed overview of FERPA (<http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>) including an animated video (<https://youtu.be/nhIDkS8hvMU>). Ramirez (2009) also offers a comprehensive, and simplified, overview. Additional information about FERPA can be found at individual state government websites, and from higher education institutions, often through registrars’ offices.
- Ensure student safety. If students have safety concerns about posting their names, images, or other materials online (such as students who may have issues with stalkers or abuse), provide alternate assignments that are private and within the LMS.

Approach 3: Re-Imagine LMS Discussion Boards as Interactive Spaces

Many LMS tools are primarily used for presenting content, but instructors can also create active learning opportunities

within the LMS itself. One of the most promising tools for active learning in the asynchronous online course is the discussion board. A well-designed and well-facilitated discussion board can be a rich space for active learning.

While discussion boards seem promising at first, many online instructors find that online discussions fall short, failing to reach the depth and breadth covered in live, face-to-face class discussions. At least partially at fault is ineffective question design. One of the most common question formats for online asynchronous discussions is for instructors to pose a question or brief list of questions, and then to ask students to first reply to the question(s) provided and then to return later to reply to the responses of two peers. At first glance, this question structure seems adequate. After all, students are being asked to engage with the content, and with each other, and the instructor has the opportunity to mediate the discussion.

The design faults of this learning activity, however, become rapidly apparent re-imagined in a face-to-face environment. Imagine a face-to-face course where the instructor poses one question, and then goes around the room and asks every individual student to reply to it. After just a few replies, there would be little of value left to add. Further imagine that the instructor went around the room *again*, asking each student to remark on two other students' already-repetitive and tiresome answers. When asked to line up and answer in this manner, very little is said—and in great, repetitive volume. In the online asynchronous class, this sort of discussion activity masquerades as an active learning strategy, but it falls short of the goals of requiring meaningful action and reflection.

At its core, the “line up and answer” model is an instructor-centered model. The instructor’s question is center-stage, and thus students are often instructor-facing in their responses. Because online discussions are typically graded, instructors can tend to design online discussions like exams, where everyone answers the same question and is assessed based on the correctness and completeness of the response. When designing a discussion board activity, it is important to remember that discussions are not exams and the correctness of each person’s response is not the point. The point of discussion should be conversation, analysis, debate, illustration, application, synthesis, and reflection. Discussions should not be limited to interaction between the instructor and each individual student in turn, but rather should take place among all of the students as a group, and then be led, guided, or facilitated by the instructor. The conversation produced should not be narrow and shallow, but rather expansive, wide, and deep. The assessment should not be based on the correctness of each response, but rather on effort, engagement, and participation, which admittedly are more difficult to assess. The value is the conversation as a whole, not the individual posts.

In order to make the most of this promising LMS tool, it is important to recognize first that the discussion board is capable of supporting far more than simple asynchronous

text-based discussion. A better name for this LMS tool might be “Interactive Space,” or “Engagement Forum.” Perhaps nomenclature that invites a broader concept of how the space can be used would help it be used more fully.

Following are several examples of discussion board activities that successfully adopt an active learning pedagogy. Again, these examples are not an exhaustive list. The possibilities are endless, if online instructors can imagine the discussion board more broadly.

Example One: Discussion Board as Presentation Space

Many instructors new to online course design and teaching find it difficult to imagine adapting in-class presentations to the online, asynchronous format. Indeed, live presentations where students prepare their speech and visuals in advance, present to their peers and instructor, and then respond to questions or critique are engaging learning experiences that students remember and value for the long-term.

Online instructors must realize that discussion boards are more than just places where students can share text with the whole class. Students can share links to media content they have created and files of most types. Many LMSs even have built-in web-based media creation tools that allow students to easily post video content they create using web-cams, with no extra software or account creation required. These media-rich tools can be used in the context of discussion, but they can also be used more formally for presentations. The use of external media-rich software can also be used in formal and informal presentations, including such tools as VoiceThread (<https://voicethread.com/>), FlipGrid (<http://info.flipgrid.com/>) and YouSeeU (<http://www.youseeu.com/>). In smaller class sizes, all students can be asked to present in a given week or module. In classes with larger enrollments, students can sign up for presentations in given weeks and the class can view several each week. Presentations can be made by individual students or by groups of students.

Instead of starting with a discussion question, instructors can introduce the space with assignment directions, outlining the objectives and requirements, and perhaps even posting the rubric that will be used to assess presentations. Students can be provided with these directions in advance, and then the space can be opened for student use once the presentation period of time has arrived.

Students might record a simple video of themselves presenting on an assigned topic. Or, they might post a link to a voiced-over visual presentation such as a slide deck or a selection of images. They might be asked to create and post a graph or other visual, and then a video or audio recording of themselves explaining it. This kind of post can also be used for students to introduce themselves to each other at the beginning of the term. Having students review and analyze their own video recordings is an effective means of fostering reflection. For instance, students in a public speaking class can be asked to engage in metacognitive reflection by

analyzing their verbal and nonverbal communication, and then asked to engage in transformative reflection by imaging alternative communication strategies or techniques, perhaps even posting a revised presentation video exemplifying those new techniques in action.

As in traditional classroom presentations, there can also be requirements for other students to view, respond, and ask questions of the presenter. A typical setup might include a requirement that the presenting student post the presentation on the weekend, that the class view the presentation during the first half of the week, and post a comment or question by Wednesday. The presenter student would then need to return later in the week to respond to comments and questions.

To complete the active learning sequence, instructors can invite reflection in a whole-class discussion, or require students to reflect individually on what they have learned.

Example Two: Discussion Board as Gallery and Reflection Space

In addition to video, learning activities built around still images can also be engaging. Again, instead of a standard text-based discussion question, instructors can improve engagement and motivation by asking students to post a digital or digitized piece of art relating to a topic and then to reflect on what the creative work means or signifies. The online discussion board then becomes a gallery and reflection space. Some examples:

- Ask students to use an online meme generator such as Meme Generator (<https://imgflip.com/memegenerator>) or Meme Creator (<http://www.memecreator.org/create>) to create a meme that relates to a topic of study, a book the class read, a philosophical movement, a period of or person from history. Students post the meme and then either reflect on their own meme or on others that have been posted, exploring what the meme signifies about the topic being represented. With instructor guidance, themes can be identified, assumptions revealed, and, perhaps, beliefs re-thought.
- Ask students to enter some key words about a given topic in the photo search box at FlickrPoet (<http://www.storiesinflight.com/flickrpoet/>). Share a screenshot of the photos the search yields, and then describe how the images might represent the concept being studied, using description, simile, and/or metaphor.
- Ask students to create a collage, take a photo, or create a sketch that relates to a topic of study, share a digitized version of it, and then explain the relationship of the creative work to the topic being studied.

Using the discussion board as a gallery for meaningful visuals heightens the engagement of the space. Instead of moving between textual readings and textual commentary on questions, students must engage with images and think more creatively and authentically about the topics at hand. Rote copy-paste-post routines are interrupted. Students must

digest content and formulate their own images and words to express their thinking, thereby performing meaningful actions. Reflection assignments can be designed based on activities using visual images, taking advantage of the emotionally provocative nature of the visuals. For example, instructors can encourage better content reflection skills by asking students to document emotional reactions to images, and then to analyze how those emotions shape their thoughts and beliefs. Reflection can be extended by asking students to imagine other possible emotional responses and to discuss other thoughts and beliefs that might be shaped by those different emotional responses.

Example Three: Discussion Board as Work Space

Instead of using discussion boards for textual class discussion, students can use these spaces as work and collaboration spaces. Especially effective for these purposes are small group discussion boards, which can serve as break out areas for select class members to work outside of the view of the entire class. Here are some potential examples for break out groups:

- Ask students to utilize small group discussion areas to work on math problem sets and then come back to the whole-class discussion board to present solutions.
- Ask students to engage in small group discussion areas to work on creating or cleaning up data sets and then come back to the whole-class area to present and to compare and contrast results.
- Ask students to use small group discussion areas to de-bug computer code and have them come back to the whole-class area to share the de-bugged code and to discuss the strategies and methods they used.

Using a combination of small-group and whole-class discussion boards as work and reflection spaces is an effective means of avoiding the ineffective line up and answer model of asynchronous discussion and is an effective means of employing active learning pedagogy, including both meaningful action and reflection. Using the asynchronous small-group discussion space as a work space helps students engage in meaningful action involving their topic (group problem solving) and provides a record of work that can then be drawn upon for evidence when paired with reflection assignments. This format can also offer a modified version of the think-pair-share activity that we discussed at the beginning of the paper.

These few examples demonstrate how discussion board spaces can actually be a platform for far more than text-based discussion. They can be the heart of the online classroom, where rich and varied forms of engaged and active learning occur.

Conclusion

Active learning strategies have been increasing and enjoying greater acceptance over time in traditional face-to-face classroom environments. While active learning pedagogy can seem more challenging to employ in the online asynchronous

class, efforts to do so are worthwhile. Instructional design support and robust training workshops for online instructors can help active learning gain as strong a foothold in the online asynchronous classroom space as it enjoys in the face-to-face environment.

Importantly, the adult learners who gravitate to asynchronous online courses and programs may have even greater need and desire for active learning because they tend to be older, non-traditional students who expect—and demand—to have more agency in their own learning. These adult students differ from traditional campus-based students not only in age; they are also more likely to be funding their own educations and therefore approach their educations as savvy and selective consumers, empowered to seek educational opportunity elsewhere in the crowded higher education marketplace. Online learning, though well-established, increasingly sought-after by students, and identified by leaders of institutions of higher learning as critical for their futures, still suffers from misconceptions about quality, with many considering it a second-best alternative to face-to-face instruction. With well-designed courses that incorporate intentional student-centered pedagogies such as active learning, online asynchronous learning can be as good as, and in many cases even better, than face-to-face instruction.

Active learning is widely understood to be effective, specifically in helping students retain new information better and longer, addressing fundamental misconceptions, improving engagement, and in producing more positive attitudes about the learning experience (Prince, 2004; Michael, 2006). Creating active learning opportunities for asynchronous online environments will help to ensure that all students are engaged in their learning and reflecting on their learning experiences. While there are complex challenges in designing an asynchronous online course to employ active learning pedagogy, the strategies presented in this paper can help instructors create asynchronous online environments where students can enjoy the benefits of active learning so that institutions of higher learning can deliver high quality educational experiences and achieve their core missions of transforming students and the world—not only in their face-to-face classes, but in their online classes, as well.

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