This chapter provides practical strategies for addressing common challenges that arise for teachers in active learning classrooms. Our strategies come from instructors with experience teaching in these environments.

Strategies to Address Common Challenges When Teaching in an Active Learning Classroom

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Active learning classrooms (ALCs) provide opportunities for increased student engagement and interaction with classmates and the instructor. Reports indicate that students in these classrooms outperform their peers in traditional classrooms (Brooks 2011; Walker, Brooks, and Baepler 2011). In addition to these advantages, ALCs also present challenges for instructors who are used to teaching in more traditional classrooms and for students who are used to learning in these environments. In this chapter, we outline common teaching challenges in ALCs and provide strategies for overcoming them. These challenges and strategies come from the experiences of instructors we interact with in our work as teaching consultants and from our own experience teaching in ALCs. We begin with some background describing the differences between traditional classrooms and ALCs.

Differences between ALCs and Traditional Classrooms

A traditional classroom is designed with student seats facing forward with easy sightlines to a central focal point at the front of the room. A board, a projection screen, and an instructor podium are all located within these sightlines. Students ideally have unimpeded visual access to the instructor, the board, and the projection screen, and they are able to take notes on a desktop surface during the presentation of classroom material. This type of arrangement favors instructional approaches that involve transmission of information from the instructor to the students. It is possible to have student-student and student-instructor interactions in these classrooms, but the physical constraints of the seating present challenges in doing so.
In contrast, ALCs are designed to enhance small group student-student interaction and student-instructor interaction. Larger ALCs at the University of Minnesota seat 126 students at round tables, nine per table, with students facing each other. Multiple projection screens line the walls so that students at each table can view, and project to, a screen. The walls are also lined with whiteboards to allow students to record discussions with their tablemates. The instructor podium is usually situated in the middle of the room, which means that the instructor is unable to face all of the students at the same time. Also, most students are unable to view a projection screen and the instructor at the same time, and there is no central writing surface that all students can see.

The differences in physical layout between these two classrooms can present challenges for instructors and students who are new to these spaces. Common challenges tend to fall into two categories: (1) challenges due to the physical arrangement of the room and (2) changes in expectations about teaching as a result of the physical arrangement. We will address each category in turn, discuss more specific challenges in each category, and provide practical strategies for responding to each one.

**Challenges Imposed by the Physical Layout of the Room**

Here we discuss specific challenges imposed by ALCs due to the lack of a focal point, multiple distractions, and overwhelming technology. We suggest teaching modifications to address these challenges.

**No Focal Point.** Probably the most impactful change from traditional classrooms is the loss of a central focal point with direct sightlines for all students. As described above, in contrast to traditional lecture halls with a board and a teaching podium in the front of the room, there is no single focal point of a front board for writing or showing visual material. Some students must physically turn to view a board or a screen and because of this may not be able to take notes on a desktop surface. It is difficult for the instructor to be seen by all students at the same time. Student feedback indicates that some students find this to be an inconvenience.

We recommend modifying activities that meet your learning outcomes and take advantage of the space. Because the space is not primarily designed to support transmission modes of teaching, we recommend using more active, group-based teaching approaches. For some instructors, this means modifying teaching approaches that rely solely on writing on a front board and lecturing. An economics instructor switched from writing on a board to using a document camera projected to all of the wall screens in the room. A chemistry instructor who likes to move around the classroom while teaching accomplishes this by projecting notes and slides to wall screens from an iPad. An engineering instructor solves an example problem on the
document camera projected to all of the screens and then directs students to do another problem in small groups at their table.

When modifying activities for ALCs we encourage asking your students for feedback early in the semester to ensure that your changes are supporting your learning outcomes.

**Multiple Distractions.** Some students comment that the ALC environment is distracting. These distractions range from noisy small group conversations to easily being able to view the video screens of other students’ laptops and electronic devices. Instructors also comment on the distraction of having to constantly keep moving to be able to see and make eye contact with all students.

We recommend directing student attention during class. To address some of these distractions, an instructor in higher education directs where her students should focus their attention. When moving from videos on the monitors to writing on a whiteboard, she provides direction in the form of verbal cues such as “Now I’d like you to direct your attention to the white board over here.” To create periods of minimal distraction and to encourage student reflection on course material, she occasionally asks students to put down or temporarily close their electronic devices. This time is used for delivering critical course content, to give students a brief writing assignment, or ask them to contemplate a question she has just posed. She usually asks the room for silence during this period. This brief respite from distractions not only allows students to work individually and reflect, but also provides the instructor with a moment for reflection on how her class is going.

We recommend using folders to avoid the distraction of distributing and collecting student work, which can be challenging in a large ALC. Using folders keeps students focused on materials when you want them to and saves time. One instructor in biology has solved this problem by creating a folder for each small group. She fills folders before class with the materials students will need for that session and places them on the tables. As new materials are needed, she instructs students to withdraw them from the folder. She also uses the folders to collect student feedback or assignments at the end of the class session.

We recommend moving toward students engaged in distracted or distracting behavior. The configuration of the ALC allows for ease of instructor movement during class. An instructor in psychology uses this to her advantage by walking around the room so that she can identify students involved in distracted or distracting behavior. An easy first step she takes to address this is to simply stand near the student engaged in the undesired behavior. Often this action is enough to cause the student to stop. If she does need to address the student, the room configuration allows her to speak somewhat privately to the student while others work on a discussion question.

We recommend asking students for feedback early in the semester to determine if there are distractions that need to be minimized to support their learning.
**Overwhelming Technology.** Some instructors describe feeling overwhelmed by the technology of the space. For some instructors, technology is present that they are not familiar with. Some feel pressure to learn to use all of the technology, employ it often in their teaching, and employ it well. Some students actually resent the breadth of technology, commenting that it is “overkill.” Others feel that if all the technology in the room is not being used by the instructor then it is wasteful.

We recommend deciding up front what technology you will and won’t use. This is a decision that should be made before the semester starts. To help with that determination, some instructors recommend observing someone else teaching in an ALC. Even sitting in on one class session provides you with a concrete experience for deciding how to interact with the technology in the room. Experienced ALC instructors also strongly recommend that you spend some time in the classroom practicing with laptops and equipment. An economics instructor echoes this advice as he recalled his first class in an ALC where he had trouble connecting his computer and lost fifteen minutes of class time.

After a period of observation and experimentation you may decide to forgo much of the technology in the room. If so, manage student expectations for the space by telling them what you will be using, what you won’t be using, and why. Collect and respond to feedback early in the semester to gauge student reactions on how your use (or nonuse) of technology is impacting their learning.

**Challenges Imposed by Changes in Teaching Roles**

Differences in the physical layout and structure of a classroom precipitates changes to the way in which students and instructors behave in and experience the spaces in which they learn and teach. Here we discuss the specific challenges of the instructor no longer being the focal point, students being unable to hide, and potential loss of wider community. We suggest teaching modifications to address these challenges.

**The Instructor Is No Longer the Focal Point.** As described in the previous section, ALCs are designed for students to be actively engaged with each other rather than centrally focused on an instructor lecturing. This can be an adjustment for instructors who are accustomed to, and may prefer, students looking primarily to them for a single response rather than asking students to engage with each other. One instructor found her first experience teaching in an ALC as a psychological adjustment for everyone involved. A chemistry instructor thinks about her interaction with her students in an ALC as closer to office hours or one-to-one interaction than a lecture. She explains that she knows it’s better for the students, but it’s difficult to switch from being the center of attention to just wandering around and answering questions.
Some instructors also report discomfort with the loss of control they experience in turning over more of their class time to student group work. An instructor in psychology finds the experience as a little more nerve-wracking because she doesn’t know exactly how it’s going to go.

We recommend redesigning your course incrementally. Because of these changes in instructor roles, which can be substantial for instructors who previously only lectured, we suggest that you modify your courses in stages. One instructor states that she couldn’t have handled preparing everything at once. She recommends making only a few changes to your course the first time you teach in an ALC and then assess what’s working and what needs to be fixed before making more changes. Another instructor suggests taking “little sane steps” as you adjust your pedagogy. She recommends starting by inserting small formative assessments, like asking a conceptual question about the material just covered, as a way to gauge student understanding. As you become more comfortable with this, then it is easier to think about adding more involved activities and interaction. Another instructor began incrementally by simply having students work on some example problems in their groups rather than solving all of the problems for them, as he did in the lecture setting. Another simple change he made was turning rhetorical questions that he used to raise to the whole class into questions that students discuss at their tables. Another way to accomplish this is by making changes in stages. In the first stage, add more active learning approaches in a traditional classroom. In the next phase, move to an ALC employing these same active learning strategies. Once comfortable in an ALC, more active learning strategies can be added.

We are aware that some students are resistant to approaches that ask them to take more responsibility for their learning. Some students expect and prefer to be passive and have all the answers come from the instructor.

We recommend communicating your philosophy on teacher and student roles up front. We suggest that you manage student expectations by articulating what you believe your role as a teacher is in the ALC and the roles you expect your students to play in their learning. Importantly, tell them why you are taking this approach. Put this information in your syllabus, so students will know what to expect on the first day of class. One instructor informs students that she purposely chose an ALC to teach in because it offers advantages for their learning. She then enumerates what those advantages are (improved engagement and opportunities for small group teaching practice with feedback). She notes that some students may come into her class having negative experiences in an ALC in previous courses. She acknowledges to students up front that in addition to the advantages, the space also poses challenges to their learning and addresses this by informing students that she will be collecting their feedback about the classroom early in the semester so that she can make changes to better accommodate their learning.
**Students Can’t Hide.** We encourage the use of student groups in ALCs. Students working in groups experience increased social support, report higher satisfaction with their learning, and learn better than students working as individuals (Johnson, Johnson, and Smith 2007). One instructor recommends assigning groups as an important component of making the class work. In a large class, this allows students to get to know some of their classmates well. However, some students don’t want to interact with either the instructor or their classmates and may prefer the passivity that is afforded by sitting in the back of a large lecture hall.

We recommend setting expectations for student-instructor and student-student interaction. Manage student expectations by articulating your expectations for class participation, interacting with peers, and interacting with you. Do this early, preferably on the first day of class, so that an alternate culture is not established. Questions to consider when you decide on your expectations include the following. Should students raise their hand and be recognized by you before speaking? Should students use the microphone when commenting or asking questions? Should students develop guidelines for respectful discussions on potentially hot-button issues? Also tell them why you have decided on your classroom expectations. Consider putting this information into your syllabus.

One instructor prevents students from hiding by using a cold call technique with a random name generator to keep all students attuned to his questions, but he takes advantage of the classroom configuration by allowing the called-upon student to confer with her tablemates before answering the question. Ask for and respond to early feedback to see how your approaches impact student learning.

**Loss of Wider Community.** ALC instructors report many benefits of having students work in small groups. One downside, however, is that some students and instructors miss being able to hear from or interact with the entire class. An English instructor remarks that the room is tailor-made for small group discussion, but she struggles a bit with bringing everyone into the large group discussion.

We recommend setting aside time for large group interaction. Set aside time for large group reporting out to take advantage of the many voices that you have in the room. One instructor states that even though her students feel connected with their tablemates she also keeps discussion at the whole class level, which builds community throughout the room.

When doing large group discussion following a small group discussion, we recommend extending the discussion in the large group format so that it builds on the small group discussion rather than repeating it. For example, you might ask small groups to examine a graph showing the relationship between family size and the cost of living in various cities. If groups were able to identify the patterns in the graph, having groups report out their process for identifying the pattern in the graph could likely be skipped and the time could be used to discuss questions where there is more likely a
divergence of opinion or experience, such as the implications of this finding or how it relates to the course themes.

You may consider going a step further and occasionally introduce activities that require students to interact with students from other tables. One instructor does this by asking students to count off to get into different groups for small group discussion. A biology instructor designs activities where small groups work together on an activity with similar, but slightly different foci (for instance the predictions for offspring from different genetic crosses), and then the groups rotate to the next table over so they can provide another group with feedback on their work. Feedback from students indicate that they appreciate an opportunity to get to know their classmates from outside of their group and hear others’ perspectives on their work. With a nod to logistics, students appreciate advance warning of how long they will remain in their new groups so that they can decide which materials to bring with them. Ask for early feedback to see how your level of large group interaction impacts your students’ learning.

Methods for Using Student Feedback to Address Challenges

A common thread that runs throughout these suggestions is to ask your students for feedback early in the semester while you still have time to make changes. One instructor asks her students on the first day of class: what do you think of this space given the kind of class this is? Together, she and her students agree to spend a week trying it out and then make adjustments for the rest of the semester. Another instructor collects feedback early in every semester on the space by asking students the following questions. What about this classroom helps your learning? What about this classroom hinders your learning? What change to this classroom would benefit your learning? She then shares the feedback with the entire class and either makes changes to accommodate student requests or explains why she won’t make accommodations when it’s not possible or appropriate, for instance when students ask for a change in the time the class meets. She reports that student complaints about the space decreased dramatically after she began using this approach.

In this chapter, we have provided several strategies for addressing common challenges when teaching in an ALC from instructors who use these spaces. Some of these strategies address instructor concerns and others address student concerns, but their ultimate goal is to improve student learning. Application of these strategies may need modification to fit your specific subject matter and student needs. We summarize these strategies in Table 6.1, categorizing them by when we suggest adapting them.

Before class, design activities that take advantage of the space but still meet your learning outcomes. If it is the first time you have used the space, we recommend an incremental approach that includes deciding which technology you will and won’t use during the semester.
Table 6.1. Summary of Recommendations for Teaching in ALCs

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<th>Before Class Starts</th>
<th>First Day of Class</th>
<th>During Class Sessions</th>
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<tr>
<td>Design activities that meet your learning outcomes and take advantage of the space.</td>
<td>Communicate your philosophy about teacher and student roles.</td>
<td>Direct student attention during class.</td>
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<tr>
<td>Decide what technology you will and won’t use.</td>
<td>Articulate expectations for student-instructor and student-student interaction.</td>
<td>Set aside time for large group interaction.</td>
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<tr>
<td>Take an incremental approach to changes in teaching.</td>
<td>Inform students that you will solicit their feedback.</td>
<td>Ask for student feedback early in the semester.</td>
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On the first day of class we recommend articulating to your students your rationale for choosing an ALC and how it will benefit their learning. Also communicate your expectations for their interactions with you and with each other. Advise students that you will solicit their feedback early in the semester to make adjustments as needed.

During the rest of the term, direct student attention to where you would like it verbally, with resource folders on tables, and by creating occasional quiet periods. Periodically set aside time for large group interaction and collect and respond to student feedback at least once during the semester. Use student feedback to make adjustments to your teaching and aid in your incremental planning before class in the next term.

References


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