

instructors use a consistent phrase (e.g., “Attention, everyone”) to bring the noise level down and to shift students’ focus from the activity back to the instructor. Some use web-based electronic clocks (see [www.online-stop-watch.com](http://www.online-stop-watch.com)) to count down activity time and sound effects to signal a time to return attention to the instructor. Yet other instructors borrow from their primary school counterparts and raise their hand when it is time to refocus; when students see the instructor’s hand raised, they raise their hands as well. By the time a majority of students have their hands raised, noise from groups in the class has diminished, and the instructor has students’ attention and can shift to the next topic.

To make it easier for students to locate a student speaker, instructors can consider making use of a special light or call signal. In many rooms, the indicator lights or call signals are mounted above monitors or near tables. For example, a history professor has his students push the call button, which was originally designed to alert an instructor that assistance was needed at a particular table, to indicate either when they have completed a task or when members of the table are speaking and/or reporting out. Being able to switch smoothly between the seeming chaos of group activities to the familiar order of a whole-class discussion not only is a good classroom management practice but also helps students who may have difficulty paying attention.<sup>2</sup>

### Managing Student Resistance

First impressions matter, and an ALC can make a memorable one: Many students enter ALCs skeptical about the space, and research confirms that this initial negative reaction, while not the most common, is still widespread. In one ALC, at least some students found the technology and furnishings (e.g., large monitors, connectivity outlets, round tables, and modern furniture) excessive (Whiteside, Brooks, & Walker, 2010). One student in that study suggested that “the technology is impressive but impractical” and that the ALCs are a “waste of money.” Another student likewise found the ALC excessive, and noted “its design aesthetic [was] a waste of money and space. We don’t need fancy equipment or flat screens to foster creative energy.” For some students, the open design and visible technology, for whatever reason, disturb them. If instructors preparing to teach in ALCs realize that some students associate the rooms with wastefulness, then those instructors can (and should) take steps early in the course to address these concerns. Students may not be aware of the potentially positive effects the room can have on learning, especially if they have had limited exposure to similar spaces. Left unchecked, students’ disregard for the technology and design of the ALC may contribute to their ongoing resistance and dissatisfaction throughout the term. As

we mentioned in the introduction, it may be incumbent on the instructor, particularly in introductory courses, to “teach the room” so that students are aware of why you are teaching in an ALC and how they can benefit the most from the experience.

### *How Do I Convince Students ALCs Are Beneficial to Them?*

Early interventions by instructors are critical to helping students understand how the layout of the room changes what will happen there. An English professor, for example, suggested giving students an opportunity on the first day of class to think about the space to make known any negative feelings: “I ask students how they feel about the room and get feedback from them and address their concerns about it. I don’t assume that they’re going to love it.” Many ALC instructors introduce space as an important element of the course, explaining that the room’s physical structure helps to facilitate student-centered or collaborative work. Some instructors talk about how the teaching role changes as a result of the space. A physics professor said, “I explain to them how my role is going to be different. My time is now focused on what they are struggling with rather than repeating what is in the book.”

One technique for countering student resistance to the space is to expose students to research that informs why they are learning in these rooms. Instructors could explain, for instance, that the types of activities that take place in ALC spaces can promote problem-solving abilities (Haak, HilleRisLambers, Pitre, & Freeman, 2011). In terms of outcomes, instructors could share evidence that has demonstrated that students perform a half standard deviation better in active learning STEM courses than they do in courses delivered predominantly by lecture (Freeman et al., 2014). Walker and colleagues (2011) found that students of all abilities and levels benefit from taking courses in an ALC. Perhaps the most compelling evidence instructors could share early in the term comes from past students’ perceptions of their experiences in an ALC: Students thought the space added to their ability to develop confidence working in groups, connect with classmates and the instructor, and understand varying perspectives (Walker et al., 2011).

Using institution- and/or class-specific examples is another way instructors can demonstrate the value of an ALC and manage reactions to it. To establish why the space matters, one astronomy instructor shows students anonymous exam grades of his previous students—one set from students who completed the course in an ALC and another set from those who took the same exam in a more traditional “lecture” setting. The instructor points out that those past students who participated in collaborative work in the ALC performed better on exams by about 10% compared to those

who collaborated in the traditional space. He said this practice of giving current students some historical data helps reduce resistance to the space because they see it is in their best interest and has been reflected in past students' final grades.

David Matthes, a biology professor at the University of Minnesota, suggested that it was not enough to simply mention that students have been shown to learn better in these rooms. To garner student buy-in, it is critical, he suggests, to "re-inoculate" students with the evidence that ALCs and the pedagogical methods employed in them are shown to produce better student learning gains:

Most students come into [an ALC] with the expectation that group work is bad. Many come into this room and immediately have an association of "oh no!" I think we need to remember that expectation management is the number one thing that any professor moving into these rooms needs to do to get their students on board with them. And that means you tell them they're not guinea pigs. We're not just "giving this a try." We're not just going to "see how this goes." No. You say, this is what the data shows: This is going to be a great experience for you. You're going to learn way better in this classroom. Not just as well—better! And more importantly, you'll learn different types of things.

You have to believe it. Maybe I didn't at first, but now I *know*. So now I can teach in here better than I could my first semester. But believing in the space is important for you and for them. And that expectation management is what gets you their buy-in. And their buy-in gets you a lot of results.

### *How Do I Demonstrate the Relevance of ALCs to Students?*

Providing a brief introduction in the syllabus to student-centered instructional strategies and the ALC's role in them is another way to help defuse potential student skepticism early in the course and illustrates how the ALC benefits all students. Instructors can purposely link collaborative work in the space to a general or a discipline-specific pedagogical strategy. A molecular biology instructor, for instance, has her students look for evidence of how many single-authored papers appear in the field as a way to demonstrate how collaboration extends into academia. She said students quickly realize that collaboration and teamwork are valuable components to scholarly work and "life after college in all its forms." Professors Curt Griffin and Kristina Stinson at University of Massachusetts–Amherst have each taught an environmental science course called Ecosystems, Biodiversity, and Global Change in an ALC. In their syllabi, both provide this overview about students' work in teams:

You spend most of your class time working in teams applying what you've learned from the textbook and from in-class discussions/mini-lectures. Teams solve real-world problems and answer questions about how the world works. That's what environmental science and conservation are all about. . . . Most of our class time is spent applying what we've learned.

By aligning the work students will do in the ALC with the "real-world" problem solving expected of environmental scientists and conservationists, Griffin and Stinson present the classroom as a pre-professional space in which students will practice skills of value in the field beyond college.

Mentioning specific instructional strategies, like TBL, is another approach to consider. Associate Professor Jon Berndt Olsen, also at University of Massachusetts–Amherst, teaches History 101A: Western Thought Since 1600 and includes the following passage on the first page of his syllabus:

This course is taught using the team-based learning pedagogy. TBL is an alternative to lecture-based learning. The main purpose of TBL is to transform the classroom experience from acquiring knowledge to applying it. In other words, students spend class time applying course content and concepts in a team format. While most of the learning occurs among students in their teams, faculty are always present and available to provide guidance over material that the teams find difficult to master. Published studies have demonstrated that students enrolled in TBL courses learn as much, and probably more content and concepts as they do in lecture-based courses. Furthermore, TBL promotes the development of teamwork skills while students learn to apply course content to "real world" situations.

In defining *TBL* as "transform[ing] the classroom experience," Olsen implicitly recasts students' familiar notion of the classroom as a place for acquisition to one for active engagement and application. In other words, in this passage Olsen has incorporated most of the strategies we have recommended in this chapter thus far to help students come to recognize the value of learning in an ALC. Making an intentional and repeated connection to evidence of improved learning gains for students can dispel some of their resistance. Including and referencing collaborative strategies in the syllabus (e.g., teamwork and problem solving) and specific methodologies (e.g., TBL) signal to students the instructor's commitment to use that strategy in the space.

In addition to helping students learn better, you might also point out that how they are learning material in the course may help them learn a practical skill set that may help them as they enter the workforce. Allowing students on the first day of the course to reflect on the types of skills valued

by employers is another way to present the ALC as relevant. Instructors may ask their students to generate a list of skills on a whiteboard or in a Google doc that they think are sought by employers. Students can compare their thoughts with classmates at the table to see similarities and differences. The instructor can then have groups report what they thought would be most valued. Finally, the instructor can display data showing the preferences desired by employers.

For example, the Association of American Colleges and Universities' 2015 employer survey lists skills employers want students to have when entering the workplace. Among the top skills is the ability to work with others; in fact, 83% of employers sought an increased focus on "the ability to work effectively with others in teams" (Hart Research Associates, 2015, p. 4). Furthermore, the report stated that "fully 80% of employers say that during the hiring process it is very important to them that recent college graduates demonstrate the ability to apply learning in real-world settings" (p. 6). ALCs are designed for just this outcome. We see similar findings in a survey conducted by the National Association of Colleges and Employers (2014): The ability to work as part of a team jumped as a desired attribute among that year's respondents. Just over 71% of respondents in 2013–14 favored the ability to work in a team; a year later, almost 78% of respondents sought evidence of it (p. 32).

In the previous year, the same organization conducted a similar survey and listed the following as the top five skills employers sought at that time:

1. Ability to work in a team
2. Ability to make decisions and solve problems
3. Ability to plan, organize, and prioritize work
4. Ability to communicate verbally with people inside and outside an organization
5. Ability to obtain and process information (National Association of Colleges and Employers, 2014)

Employment data like these complement the educational research and help students come to recognize the value of working in an ALC. As a physics instructor tells his students, "This is real life. When you apply for a job—any job—after college, you are applying to a team."

### Employing Technology in the Space

The amount and kind of technology in the ALC are difficult to miss. Although it is important to note that *technology* can be broadly defined

(meaning that some instructors will single out the round tables as their favorite technology), the flat screens, microphones, projectors, wireless Internet, and whiteboards make an impact and shape expectations. Regardless of whether one sees the technology in the space as a boon or a distraction, instructors should carefully consider how to integrate it (or not) into their courses.

### *What Do I Do With All That New Technology?*

When you walk into a new classroom with flat-screen monitors lining the wall and microphones on all of the tables, it is easy to assume that the class is going to use technology in a sophisticated manner. That assumption can be intimidating for everyone, and it is an expectation you should manage regardless of what you intend to do in the room. For example, if students need to bring a device to class or to use a particular software program, make them aware of that in the syllabus and call attention to your choice on the first day. Seasoned ALC instructors use technology in various ways. A math instructor uses clickers, laptops, the learning management system, and specialized software, including a program to help her students conduct peer evaluations. A humanities professor who teaches a course on "dystopia, video games, and comic books" said that technology is heavily integrated into her course. She has students bring video game consoles, and she admits that it would not be possible to conduct a class like this in many traditional classrooms. A biology professor calls the whiteboards "pure gold." They get students out of their seats to work together in a fashion public to everyone who cares to glance at their work. Especially if students begin to use whiteboards at the outset of a course, they will naturally begin to own the space communally.

Other instructors do not rely heavily on technology. A cognitive psychology professor, for instance, said her students primarily use presentation software in the room. If you do not intend to use much of the obvious technology in the room, let students know to expect that the screens will largely remain dark. After all, the ALC is used for different types of courses, and your class may not need to use every feature of the room. A Spanish and Portuguese professor said, "I believe technology has a purpose. It's perfectly fine if it is there and it is not open. I use [technology] where it can be helpful."

### *How Do I Manage Digital Distractions?*

Regardless of the extent to which they incorporate the ALC's technology into their courses, instructors need to prepare to address the challenge of digital distractions in the classroom. Popular and scholarly attention has been