Active Learning in Large-scale Classes: Lessons From the Field

Chris Oliver

Abstract

This article examines problems related to the use of active learning methods in classes with large enrollments. Defined in contrast to "traditional" forms of classroom instruction, especially lecture-based classes, active learning emphasizes classroom practices in which students play a more overtly active role in the production of learning. Given that active learning lends itself especially well to small classes, this article focuses on three problem areas that arise when attempting to bring active learning to large-scale classes: the monitoring of student involvement, rapport among students, and student attitudes toward active learning itself. Drawing upon English-language literature on active learning that includes both teacher-oriented, practical works on active learning as well as social-scientific research articles on active learning in large classes, the present article finds that the literature provides no clear-cut solutions to those three problem areas but does suggest directions in which teachers might apply their efforts.

Introduction

Active learning is defined in contrast, whether explicitly or implicitly, to traditional forms of classroom instruction, particularly those centered around lectures delivered by the teacher as a figure of authoritative knowledge. As the University of Minnesota's Center for Educational Innovation puts it, for instance: "Active learning is any approach to instruction in which all students are asked to engage in the learning process. Active learning stands in contrast to 'traditional' modes of instruction in which students are passive recipients of knowledge from an expert" (Center for Educational Innovation, University of Minnesota, 2019; cf. Blaz, 2018, p. 9). Thus, in active learning, students are envisioned less as passive receptacles of knowledge than as active participants producing the learning that takes place in the classroom. While the term active learning is somewhat of a misnomer in that it refers not to learning per se but instead to an approach to teaching, it nonetheless emphasizes classroom practices in which students play a more overtly active role in the classroom through any of a wide range of activities that may include reflective writing, paired discussions, small-group projects, and role

plays (O'Neal & Pinder-Grover, n.d.). These activities may be used alongside—if not as an outright replacement for—more traditional lectures.

Active learning lends itself especially well to classes that are relatively small in size. A simple example of this, from my own experience in required English courses with enrollment normally between 24 and 30 students, is a "recap" activity based on written work completed outside of class. Following two class sessions of study devoted to one textbook chapter, each student completes outside of class a one-page, template-like recap sheet concerning that unit, the contents of which include summarizing material studied for the unit, analyzing and explaining the problem covered in the unit and its significance, and—for students working with English-language material when that is not their native language—applying vocabulary and grammar that they may have learned when studying the unit. Students then bring their completed recap sheet to the following class session, orally share the contents with others in pairs or small groups, and discuss with one another the content of what they have mutually shared. Because the textbook units afford various interpretations of problems covered therein, students' understandings and explanations of the problem are informed by their own perspectives rather than there being a single "correct" definition of the problem. Thus drawing on students' own subjectivity, the recap activity typically runs for approximately 20 minutes, with students interactively reviewing, synthesizing, and analyzing course material.

At the same time, it is abundantly clear that active learning activities often do not scale up easily to classes with significantly greater enrollment. This I have experienced in courses I have regularly taught for more than a decade: Cultural Anthropology and Intercultural Communication. Both are elective, content courses taught in English, not English courses per se, with readings and written work in English[i]. While there can be varying definitions of what constitutes large-scale—e.g., in Barkley & Major (2018), a large lecture means a course with more than 100 students—here I will take it to denote courses with a sufficiently large number of enrolled students whereby the instructor and students subjectively feel that the classroom learning environment is too full of people to be intimate, and where it is difficult for teacher and students alike to know every person in the class by name. This applies to both of the above-named courses. Over the years, the Cultural Anthropology course I have taught has had roughly 50-70 enrolled students, and Intercultural Communication has typically had 80-110. In the latter, the class has normally been taught in a large classroom with approximately 20 rows of desks from the front of the room to the rear, creating a situation where there

is a certain interactional intimacy between the instructor and those students seated closest to the front of the classroom, but which progressively diminishes with the greater physical distance between instructor and students toward the back of the classroom. To date, these courses have been taught largely as lecture courses, with active learning components used alongside the lectures.

Drawing on my experience over the years with these courses, in this article I first reflect on and elucidate some of the key factors that help make active learning work well in small classes and not work as well in large classes. In particular, I focus on the following three factors: the ability of the teacher to monitor what is transpiring among students during active learning activities; rapport among students as they interact with one another in class; and the extent to which students are attitudinally "on board" with participating in active learning. I then turn to the academic and teacher-oriented professional literature dealing with active learning in higher education to ascertain what solutions, if any, it suggests for the three above-mentioned problem areas. While an exhaustive review of the literature on active learning is beyond the scope of this article, I nonetheless draw on a number of books and articles published in English ranging from nuts-and-bolts handbooks for college teachers to social-scientific research articles on active learning in large-scale college classes. The literature on active learning does, as it turns out, offer suggestions that involve considerations of logistics, pedagogy, and even ethics.

Key factors that make active learning (not) go well

There are numerous factors influencing how well a given active learning activity might unfold in class, including how well prepared the instructor is, how clearly the activity's objectives are defined, the physical arrangement of the classroom space, the degree to which the instructor exhibits an authoritarian demeanor, and so on. Here, however, I focus on three factors that, in my own teaching experience over the years, play a particularly important role in helping active learning work well in small-scale classes and preventing it from working similarly well in large-scale classes.

Ability to monitor

In small-scale classes, one key factor that helps make active learning easy to carry out is purely logistical: because there are relatively few people in the room, the instructor can effectively monitor what is transpiring in the class among all pairs or groups of students. In a class of, say, 30 students who are engaged in small-group work,

the instructor can easily meander among the groups, listen in on their discussions, and offer group-specific guidance as needed.

Not surprisingly, it becomes increasingly difficult for the instructor to monitor active learning activities the greater the number of students enrolled. In a class with 100 students, for example, a single teacher without any teaching assistants cannot effectively keep tabs on what the entire room of students is up to, know whether they are all on task, or provide timely guidance to each pair or group of students that may need it. In this way, the active learning task can be carefully explained and assigned by the instructor, but without the instructor able to monitor the entire class, it is largely up to the students themselves to stay on task.

Rapport among students

A second factor is that a small class size enables students to become familiar with virtually everyone in the class, to become comfortable with another, and develop good rapport among themselves. While students may be total strangers to one another at the start of the term, especially if they are first-year students new to campus, this can quickly be overcome in a small-scale class, especially if the instructor provides activities structured so that students mix and become acquainted with one another. The rapport that develops helps facilitate active learning activities where students need to interact with others.

The greater the number of students in the class, however, the greater the likelihood that most students will remain strangers to one another. An active learning activity that calls for students to be put into random pairs or groups may suffer as a result.

On-board attitude

Third, for interactive active learning activities to go well, students overall need to be attitudinally "on board" with the doing of active learning, willing to actively participate in and commit to the activity presented to them. In my experience, the overwhelming majority of students in small-scale classes are indeed on board in this regard. There are occasionally a very few students who may be only reluctantly on board but who, for the sake of conviviality and maintaining rapport with their classmates, elect to participate rather than behaviorally withdraw themselves from the class activity. Occasionally, there may be students who have social anxiety or other mental health issues that make it difficult for them to interact comfortably with others in class. While such cases can present challenges to the doing of active learning activities, in small-scale classes that

I have experienced over the years, because students do get to know one another as individuals, they are very often attentive to and make efforts to include those students who may be finding it psychologically difficult to engage with others. Small classes also make it easier for teachers to identify such students and to make efforts to accommodate their needs.

Here as well, size matters. From my experience, the larger the class, the greater the likelihood that there will be significant pockets of students who are not sufficiently on board with engaging in active learning tasks, especially when those tasks involve working with other students with whom one is not already well acquainted. In some cases, there may be students with psychological or other issues that make it difficult for them to engage spontaneously with other students as well as students who would simply rather not have to interact with others in class. In a large class, it may be very difficult for the instructor to know who these students are, let alone find ways of accommodating them during activity time.

Examples of active learning activities in large-scale classes

For the sake of illustration, this section describes three examples of active learning that I have attempted to incorporate into my Cultural Anthropology and Intercultural Communication courses in recent years. Problem points in each are highlighted.

Example 1: ICC experience sheet

In the Intercultural Communication (ICC) course, one activity I have used is similar to the recap sheet described earlier that is used in the small-scale required English course: i.e., each student is to complete in advance a one-page sheet, and then use it in class as the basis for information-sharing and discussion. Rather than writing about the textbook unit just covered, however, as in required English, each student is instead to write about one recent communication experience of her own. Done a number of times over the semester, it is meant to serve as a kind of reflexive communication journal that includes factual description, interpretation, and application of concepts covered in class. While the activity works reasonably well with some students, particularly those who sit nearer to the front of the classroom, on the whole it does not. With over 100 students in the course in spring semester of 2019, for instance, it was impossible to monitor the many dozens of pairs of students around the classroom as they shared and discussed their ICC experience sheets with one another. Moreover, a handful of students would each solely occupy a three-person desk, each an island unto herself, either by choice

or because of not having any friends or close acquaintances in class with whom to sit. Such "loners" generally would not engage in discussion with others—even if the desk immediately behind or in front of them was occupied—unless individually urged to do so by me. An even greater number of students would not have even completed the writing in advance and would instead use the discussion time to do so, thus circumventing the intended purpose of this simple active learning exercise.

Example 2: Impromptu mini-discussions

In both my Cultural Anthropology and Intercultural Communication courses, I regularly include at various points in my lectures brief, seemingly spontaneous discussions among pairs or small groups of students (whomever is sitting adjacent to each other), a method referred to as "bookending" (Allen & Tanner, 2005) that can be one component of interactive lecturing (Barkley & Major, 2018). For instance, the Cultural Anthropology course includes a lesson focused on the *kula* exchange that occurs among residents of the Trobriand Islands and that revolves around two specific types of objects—armshells and necklaces—that are generally not used outside of the *kula* and thus have no value in terms of everyday practical use. Early in the lecture, I pause to have students consider how we assign value to objects in our lives. For instance, I ask them to think of one specific object of theirs that has value to them although not monetary value and perhaps not even practical use value; then, to explain to one or two other students what that object is and what value it has to them. This short active learning exercise, which takes only a few minutes, is intended to have students actively think about value in a way that they perhaps do not normally do, and to use this moment of reflection to lead into a fuller examination of value in the lecture. While most students in the class respond well to this type of mini-discussion, it is also apparent that some students quickly go off task in their talking (and the larger the class, the greater the incidence of this), and that "loners" as described in Example 1 generally do not engage with anyone. For students who are actively engaged and on-task, this kind of impromptu mini-discussion can be effective, but the effectiveness is unevenly distributed among the students in the class.

Example 3: Intercultural simulation

Toward the end of the semester in the Intercultural Communication course, one full class session is devoted to carrying out a kind of role-play called an intercultural simulation. The students in the class are randomly divided into groups of approximately

six people, each of which in turn is divided into two sub-groups (A and B). All the students in the A sub-groups then move to another classroom, and while they are away all the B sub-groups receive a sheet of paper informing them of the imaginary country they are "from," some of the culturally ingrained values and communicative tendencies they have, and that they will soon be hosting a small group of visitors from a foreign country. In the other classroom, the B sub-groups receive a similar paper, and in the privacy of their respective classrooms each A and B sub-group prepares for their upcoming encounter with the people from the other country. Following the prep time, the A and B sub-groups meet, invariably run into difficulties, take another preparatory break, and then meet a second time. Logistically complex, the simulation is intended to give everyone in the class a shared communication experience that can be used to consider a number of topics and concepts covered earlier in the semester; it is also meant to provide a shared basis for introducing issues to be covered in the remainder of the term.

While the activity usually goes quite well overall, there is always significant unevenness from one group to another in terms of how effectively the simulation plays out. In the majority of the groups, the simulation seems to proceed as desired, with most students participating actively and staying on-task. In some groups, however, it does not go smoothly, with poor dynamics within or between the sub-groups. This could be due to a lack of basic rapport stemming from the fact the groups were thrown together randomly, or to a clash of personalities, or perhaps to pre-existing animosity between some of the group members. With a large-scale class, there are too many students to be able to foresee possible problems in groupings, too many to allow close monitoring to see what might have gone wrong in a given group. In some groups, the A and B sub-groups essentially stop interacting with one another mid-way through the role-play, either because they think they have "finished" or perhaps because too few of them are truly on board with doing the simulation, which does in fact demand a significant amount of effort. Moreover, a very small handful of students occasionally even depart from the classroom at some point between dividing the class up into random groups of six and the end of simulation. Among them may be students with psychological issues for whom it would be a struggle to interact intensively with random classmates for most of an entire class session.

Directions suggested by the active learning literature

Given that active learning is especially well-suited to small-scale classroom

environments, it is not surprising that the professional, teacher-oriented literature on active learning has tended to give rather short shrift to large-scale classes. Blaz (2018), for instance, provides a good summary of research on the effectiveness of active learning as well as detailed descriptions of numerous specific active learning activities that can be used in foreign-language classrooms. However, it has virtually nothing to say about active learning in large classes. Fortunately there exists a growing body of research on active learning in large-enrollment classes, some of which touches upon the three topics of concern outlined earlier: the ability of the teacher to monitor student participation, the quality of rapport among students, and the extent to which students themselves are on board with active learning.

Ability to monitor

The primary challenge to monitoring what is transpiring among students in a large-scale class during active learning activities is that the instructor cannot physically be everywhere at once in the classroom, and as a result is able to monitor only some of the many students in the class. A commonly used solution to this problem is to increase the number of people in the class who play teaching roles, such as by employing graduate teaching assistants. Godlewska et al. (2019), for instance, describe the manner in which they converted a large introductory geography class with approximately 400 students from a lecture format to a blended, active learning format. They did so by breaking the class into smaller groups that stayed together throughout the term; key to this was the team of nine teaching assistants who helped provide feedback and coaching to the students in the course. Yet, the use of such additional teaching-side personnel is not a viable option for those of us faced with budget constraints that do not allow for teaching assistants or who lack a ready supply of qualified assistants.

Another common solution is to employ student-manipulated technology such as electronic clickers that allows many streams of feedback to be simultaneously sent from students to teacher. Some have experimented with using smartphones in place of clickers (Remón, Sebastián, Romero, & Arauzo, 2017; Álvarez, Baloian, Zurita, & Guarini, 2017; see also Marbach-Ad & Sokolove, 2002). Generally speaking, such use of technology in class, whereby feedback from a multitude of sources is sent instantaneously to the teacher, serves best to enable the teacher to ascertain how well students are keeping up with the progress of the lesson and how well they are understanding the lesson material, rather than allowing the instructor to actually monitor whether each pair or group of students in class is staying on task, running into problems in interpersonal

dynamics, and so on. In this sense it is a partial solution to the problem of monitoring in a large-scale class. Nonetheless, the prevalence of smartphones today as well as the easy availability of online surveys and other data-collecting services offers one option for those of us in classrooms without school-provided clickers or other similar technology.

Yet another approach to the problem of monitoring is to disavow the problem in the first place. As noted by Barkley (2009), there are differing visions of the role to be played by the teacher in an active learning classroom. While some view their role as that of a hands-on coach who closely monitors what students are doing in class, offering corrections when needed, and working closely with students to help them perform better, others suggest that the teacher's ideal role is more of a facilitator whose most important task is to carefully prepare the learning activities and environment in which students will engage in self-directed learning. This does not mean the teacher should be off "wandering the halls while their students are working in groups" (Bean, 2011, p. 199), but the instructor-as-facilitator plays a less hands-on role in the learning activities once under way, purposefully standing aside to encourage students to take responsibility for and manage their own learning.

Rapport among students

As noted earlier, one factor that helps make active learning activities successful, particularly those that involve students working in pairs or small groups, is good rapport among students. In large-scale classes, this can present an obstacle given that such classes are often characterized by anonymity (Benjamin, 1991; Tniby, Weiss, & Rousseau, 2014), whereby many if not most students are essentially strangers to one another. If directed to work in pairs or small groups as part of active learning, students may struggle to do so comfortably. Speaking presumably of American contexts, Barkley (2009) points out that class civility can sometimes be a problem, with students exhibiting disrespectful or even hostile behavior, and suggests preemptive measures such as establishing a class civility policy at the start of the term. This and other steps taken by the teacher can help create a sense of the class as a learning community in which students "feel that they are welcomed, valuable, contributing members (Barkley, 2009, "Chapter 9," para. 1).

As Robinson et al. (2015) make clear, one key challenge concerning active learning where students are expected to share and discuss ideas in groups is that they may become overly concerned with group harmony at the expense of productive discussion. Such group work, particularly when students are not very knowledgeable about the

topic at hand, creates what the authors refer to as "face-threatening interactions" where students are often very sensitive to how they will be seen by others based on what they say in class. One student interviewed thus described in-class brainstorming in the following way: "brainstorming is not as interesting as it could be because we're almost like too afraid to say things because of what the other person might think" (Robinson et al., 2015, p. 17). As this student's comment shows, students may well be aware that other students in their own group are all in the same predicament and tend to behave similarly. Students may become so concerned with maintaining social harmony within their small group that they end up avoiding voicing differences of opinion. This can indicate a significant measure of friendliness, mutual concern, and rapport among students, but this kind of restricted rapport—reminiscent of Basil Bernstein's (1964, 1966) well-known notion of restricted code[ii]—can actually impede the quality of learning that takes place among the members of the group.

The authors rightly point out that overcoming this may require "more advanced communicative skills than those upon which individuals usually rely on in everyday conversations" (Robinson et al., 2015, p. 14). Put another way, while convivial rapport among students is without doubt important for active learning to work well, another dimension of rapport—one more academic and amenable to the expression of ideas and examination of arguments—may also need to be deliberately cultivated among students. Such intellectual rapport will likely not emerge spontaneously from ice-breakers and other exercises used to promote conviviality; teachers may need to teach students how to engage in discussion as a prerequisite to undertaking extensive, discussion-oriented active-learning activities.

On-board attitude

A recurring theme in the literature on active learning is resistance or "pushback" from students about the prospect of having to participate in a course organized around active learning or that incorporates elements of active learning, particularly in large classes (e.g., Lambach, Kärger, & Goerres, 2017; Messineo, Gaither, Bott, & Ritchey, 2007; Nguyen, Yu, Japutra, & Chen, 2015; Tniby et al., 2014). Messineo et al. (2007, p. 125), for instance, report that their efforts to apply active learning methods that worked successfully in small classes to larger classes did not go over well: "Attempts to divide students into discussion groups were met with apathy, group projects were greeted with resistance and frustration, and individual research projects were met with anger and disbelief." In subsequent research, they found that experienced students (non-freshmen)

tended to be less committed to large classes and to see group work in such classes as a waste of time (Messineo et al., 2007). Similarly, another study found that while students assigned a high value to both lectures and being active in class, this did not extend to group-based, cooperative learning activities (Machemer & Crawford, 2007).

One plausible reason for this is the anonymity afforded by classes with large enrollments (Benjamin, 1991; Machemer & Crawford, 2007). As noted by Benjamin (Benjamin, 1991, p. 70), "some students enjoy the anonymity of the large lecture class that leaves them with little responsibility other than taking notes. Students report feeling less pressure in lecture classes, and the larger the class the less pressure they feel." Machemer & Crawford (2007, p. 24) offer a similar view: Students may in fact choose to enroll in a certain class precisely because it is large, "because they seek a teacher-centered learning environment, where they can be passive observers and preserve their anonymity."

The attitudinal opposite of student pushback to active learning in large classes is what Cavanaugh et al. refer to as "buy-in," a term that relates to "individuals' feelings in relation to a new way of thinking or behaving" (Cavanagh et al., 2016, p. 2). In the context of active learning activities in a classroom, buy-in can reflect how students believe in the validity or usefulness of the active learning activity and how committed they are to participating in it. Some maintain that a key way to promote buy-in, as such, is to explicitly "sell" students on the value of the active learning methods to be used in class. Tniby et al., for instance, note that despite the educational merits of using team-based learning (TBL) in large classes in international relations and comparative politics, "some students may not appreciate either the requirement of working in teams or the extent to which they are asked to take responsibility for their own learning. …The best strategies for minimizing student pushback are to be extremely clear in laying out the course structure and requirements, to avoid being defensive or apologetic about the approach, and to explain or demonstrate the benefits of TBL" (Tniby et al., 2014, p. 191; see also Baepler et al., 2016).

One means for cultivating student buy-in to active learning is by adopting the EPIC model, comprised of exposure, persuasion, identification, and commitment. As described by Cavanagh et al. (2016) and applied to an anatomy and physiology class involving more than 200 students, the process of operationalizing EPIC buy-in proceeds through four steps: "from 1) exposure to active learning, to 2) persuasion that these activities are good, to 3) identification that the activities are good for them personally, to 4) commitment to this way of learning" (Cavanagh et al., 2016, pp. 2–3). Whether one

adopts this particular model for increasing student buy-in to active learning, the more general implication is that the act of explicitly making students cognizant of the active learning methods being used and the rationale for their use—particularly if these are not common in the large-scale classes students ordinarily experience—may serve to help get students more fully on board with the active learning activities that the teacher is incorporating into the class.

Nevertheless, a somewhat thorny issue that remains is how to deal with those students who I described earlier as "loners," who in a large class sit by themselves with no one immediately next to them and who make little or no effort to engage others in class. Even though they may understand, at an intellectual level, the arguments in favor of active learning, at an emotional and behavioral level they may not be truly on board with or may even feel incapable of doing active learning, especially if it involves intense interaction with other students. There may be any number of reasons for this— introversion, extreme shyness, social anxiety, depression, etc.—which in a large class are not necessarily evident to the instructor. Cooper and Brownell (2016), for instance, examine the experiences of students with lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) identities in active learning classrooms. In classes involving significant active learning, the social dynamics between students become more significant, making certain identities more salient; the authors report that LGBTQIA students "do not always experience the undergraduate biology classroom to be a welcoming or accepting place for their identities" (Cooper & Brownell, 2016, p. 1). In a similar vein, students suffering from depression, social anxiety or other mental health issue may be at their limit in merely coming to class, let alone being expected to actively communicate and discuss their ideas with others.

The literature on active learning in large-scale classes seems to have little to say about how to accommodate the various possible types of students who normally sit alone[iii]. Weimer (2012), for instance, suggests question-discussion among students as one method that can work well in large classes. The assumption here is that students are in fact seated next to someone with whom they can discuss the questions: "Students may write ideas about answers, they may talk about answers *with those sitting next to them*, and they may explain answers to each other" (Weimer, 2012, emphasis added). One possible takeaway from this is that even in a lecture course that will occasionally include short periods of discussion among students, the teacher can either require that all students be seated next to someone, or that as a rule all students be seated next to someone although certain students may be exempted from this policy. This could be

enforced, for example, through a seating chart or through assigned groups of students who will be expected to work together in class. Many of the case studies and studies of active learning in large classes involve class models where the large class is divided into groups and all students, presumably, belong to a group so that it is impossible for anyone to be sitting alone. Connell et al. (2016), for example, report positive outcomes in changing a large-enrollment biology course so that active learning was used extensively, a process whereby students were placed in assigned groups and remained in those groups for the duration of the academic term (see also Godlewska et al., 2019).

Teachers can certainly pair up students or assign them to groups, as a matter of course, or arrange the classroom layout so that it is physically impossible for any students to be sitting with no one next to them. In some cases this may be appreciated; in others it may simply make the students uncomfortable and not qualify as respectful treatment of students as individuals. Given that college teachers today are sometimes asked to make reasonable accommodations for students with disabilities or health issues that could impair their ability to take part in classes, one cannot help but wonder if it is right to address student pushback by trying to sell students on the merits of active learning without equally investing ourselves in listening carefully to what they have to say. A pedagogical and ethical dilemma that presents itself here is what to do if we come to realize that there may be students who in fact have valid reasons for not being fully on board with participating in active learning activities, particularly those that demand them to interact intensively with other students. How do we respectfully accommodate them without undermining the sense of on-boardness among other students in the class?

Conclusion

As discussed above, the professional and research-based literature on active learning, while not offering clear-cut solutions to the three problem areas of monitoring, rapport among students, and attitudinal on-boardness, does suggest directions in which teachers might apply their efforts. Concerning the monitoring of student engagement in active learning tasks, one possible direction is for the instructor to embrace a shift in perspective and relinquish the perceived need for thoroughgoing, real-time monitoring of student involvement in class and to instead place more emphasis on helping students understand how to better contribute to the production of learning in active learning tasks carried out in class. The problem of rapport may require recognizing that convivial rapport among students does not necessarily engender the kind of intellectual rapport expected of them in active learning activities. Finally, the commonplace stance in the

literature that active learning will in all likelihood involve students actively engaging with and, in a sense, revealing themselves to one another begs us to consider how best to respectfully deal with those students who resist or find it difficult to commit themselves intellectually, emotionally, and behaviorally to active learning activities.

One issue not addressed in the present article is the role played by cultural factors in efforts to implement active learning. This is hinted at, in passing, by Lambach et al. (2017, p. 562), who briefly comment about the students in their study: "the students' extensive experience with the traditional lecture format has socialized them into a learning culture that is characterized by memorization and that is highly focused on succeeding in written exams." Though the authors do not develop the point, readers can infer that "traditional" modes of teaching and learning are culturally variable and tied to students' understandings of the value of learning, their regard for teacherly authority, their ingrained beliefs about what constitutes effective study, and their sense of proper comportment in the classroom. The active learning literature taken up in this article, while predominantly coming out of the U.S., also draws upon research and case studies from Canada, the U.K., Germany, Spain, and Chile, but the significance of differences in educational environments is left largely undiscussed therein. Just as active learning does not easily scale *up* from small-scale to large-scale classes, the question remains as to what issues emerge when active learning is transferred *across* from one national-cultural context to another.

References

Allen, D., & Tanner, K. (2005). Infusing active learning into the large-enrollment biology class: Seven strategies, from the simple to complex. *Cell Biology Education*, *4*(4), 262–268. https://doi.org/10.1187/cbe.05-08-0113

Álvarez, C., Baloian, N., Zurita, G., & Guarini, F. (2017). Promoting active learning in large classrooms: Going beyond the clicker. In C. Gutwin, S. F. Ochoa, J. Vassileva, & T. Inoue (Eds.), *Collaboration and Technology* (pp. 95–103). Cham: Springer International Publishing.

Baepler, P., Walker, J. D., Brooks, D. C., Saichaie, K., Petersen, C. I., & Cohen, B. A. (2016). *A guide to teaching in the active learning classroom: History, research, and practice*. Sterling, VA: Stylus Publishing.

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press.

Barkley, E. F. (2009). *Student engagement techniques: A handbook for college faculty*

[Kindle version]. San Francisco: Jossey-Bass.

Barkley, E. F., & Major, C. H. (2018). *Interactive lecturing: A handbook for college faculty*. San Francisco: Jossey-Bass.

Bean, J. C. (2011). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom* (2nd ed.). San Francisco: John Wiley & Sons.

Benjamin, L. T., Jr. (1991). Personalization and active learning in the large introductory psychology class. *Teaching of Psychology*, *18*(2), 68–74.

Bernstein, B. (1964). Elaborated and restricted codes: Their social origins and some consequences. *American Anthropologist*, *66*(6), 55–69.

Bernstein, B. (1966). Elaborated and restricted codes: An outline. *Sociological Inquiry*, *36*(2), 254–261.

Blaz, D. (2018). *The world language teacher's guide to active learning: Strategies and activities for increasing student engagement* (2nd ed.). New York: Routledge.

Cavanagh, A. J., Aragón, O. R., Chen, X., Couch, B., Durham, M., Bobrownicki, A., … Graham, M. J. (2016). Student buy-in to active learning in a college science course. *CBE Life Sciences Education*, *15*(4), 1–9. https://doi.org/10.1187/cbe.16-07-0212

Center for Educational Innovation, University of Minnesota. (2019). Active learning. Retrieved December 7, 2019, from https://cei.umn.edu/active-learning

Connell, G. L., Donovan, D. A., & Chambers, T. G. (2016). Increasing the use of student-centered pedagogies from moderate to high improves student learning and attitudes about biology. *CBE Life Sciences Education*, *15*(1), 1–15. https://doi.org/10.1187/cbe.15-03-0062

Cooper, K. M., & Brownell, S. E. (2016). Coming out in class: Challenges and benefits of active learning in a biology classroom for LGBTQIA students. *CBE Life Sciences Education*, *15*(3), 1–19. https://doi.org/10.1187/cbe.16-01-0074

Godlewska, A., Beyer, W., Whetstone, S., Schaefli, L., Rose, J., Talan, B., … Forcione, M. (2019). Converting a large lecture class to an active blended learning class: Why, how, and what we learned. *Journal of Geography in Higher Education*, *43*(1), 96–115. https://doi.org/10.1080/03098265.2019.1570090

Lambach, D., Kärger, C., & Goerres, A. (2017). Inverting the large lecture class: Active learning in an introductory international relations course. *European Political Science*, *16*(4), 553–569. https://doi.org/10.1057/s41304-016-0078-3

Machemer, P. L., & Crawford, P. (2007). Student perceptions of active learning in a large

cross-disciplinary classroom: *Active Learning in Higher Education*, *8*(1), 9–30. https://doi.org/10.1177/1469787407074008

Magna Publications (Ed.). (2017). *Active learning: A practical guide for college faculty*. Madison, WI: Magna Publications.

Marbach-Ad, G., & Sokolove, P. G. (2002). The use of e-mail and in-class writing to facilitate student-instructor interaction in large-enrollment traditional and active learning classes. *Journal of Science Education and Technology*, *11*(2), 109–119.

Messineo, M., Gaither, G., Bott, J., & Ritchey, K. (2007). Inexperienced versus experienced students' expectations for active learning in large classes. *College Teaching*, *55*(3), 125–133.

Nguyen, B., Yu, X., Japutra, A., & Chen, C.-H. S. (2015). Reverse teaching: Exploring student perceptions of "flip teaching." *Active Learning in Higher Education*, *17*(1), 51–61. https://doi.org/10.1177/1469787415616727

O'Neal, C., & Pinder-Grover, T. (n.d.). How can you incorporate active learning into your classroom? In *University of Michigan GSI Guidebook*. Retrieved from http://dev.crlt.umich.edu/sites/default/files/instructor_resources/how_can_you_ incorporate_active_learning.pdf

Remón, J., Sebastián, V., Romero, E., & Arauzo, J. (2017). Effect of using smartphones as clickers and tablets as digital whiteboards on students' engagement and learning. *Active Learning in Higher Education*, *18*(2), 173–187. https://doi.org/10.1177/1469787417707618

Robinson, L., Harris, A., & Burton, R. (2015). Saving face: Managing rapport in a Problem-Based Learning group. *Active Learning in Higher Education*, *16*(1), 11–24. https://doi.org/10.1177/1469787415573355

Tniby, K., Weiss, M. L., & Rousseau, S. D. L. (2014). Teaching the unfamiliar to a crowd. *PS: Political Science and Politics*, *47*(1), 189–194.

Weimer, M. (2012, April 3). Active-learning ideas for large classes: Simple to complex. Retrieved December 9, 2019, from Faculty Focus website: https://www.facultyfocus.com/articles/effective-teaching-strategies/active-learning-ideas-for-large-classes-simple-to-complex/

Notes

[i] While the primary language of instruction is thus English, in-class discussions among students are typically carried out in Japanese, at the students' discretion.

[ii] In Bernstein's formulation, restricted code is characterized by the assumption of a reduced need for speakers to explicitly articulate themselves to others due to a closely shared set of interests, expectations, and identifications. The more the intents of others are taken for granted, "the more likely that the structure of the speech will be simplified and the vocabulary drawn from a narrow range" (Bernstein, 1964, pp. 60–61).

[iii] Practical tips on how to accommodate "introverts" (e.g., Magna Publications, 2017; cf. Bain, 2004, p. 131 on "shy" students), while useful in cases where the instructor can with certitude identify certain students as introverts, applies only to a limited segment of those students I am referring to here.