

THE NEW COLLEGE CLASSROOM

☀ The New ☀
College Classroom

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and
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To all students and teachers who fight for more

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Preface

*T*his book is an invitation to change—ourselves, our classrooms, our society. It’s a practical book dedicated to a lofty mission, a step-by-step “how to” for transformation.

We’ve spent the last few years reading, observing, talking to, and interacting with literally thousands of dedicated researchers and inspiring instructors who have made changes large and small to their classrooms in order to teach *every* student. We have distilled what we have discovered into easy and efficient ideas that really work, both for instructors and for students, and that you will be able to choose from and put into practice tomorrow. We start from the assumption that every instructor spends a lot of time in office hours and the classroom—sometimes too much. It’s easy to feel jaded or exhausted, to forget (to quote bell hooks) that, as instructors, we have the “power to change the direction of our students’ lives.”

We have learned much from writing this book together. Because we wrote this during the COVID-19 pandemic and at a distance from each other, we had to learn quickly about what worked and what didn’t work, face the gap between high theory and emergency practice, and design creative, useful, easy, and effective ways to teach face-to-face but also

online. Our discussion of practical methods was entwined with a continuing debate about the principles behind good teaching. Here's one example: trust that your students want to learn, want to improve their own future, and want to make a difference. Everything becomes a teachable moment if you can ask your students what they think, what they would do. They are a resource and, as soon as you ask them, they are thinking. They are learning—and that's precisely what they came to college to do.

As with all engaged learning, we learn as we teach and teach as we learn. We (instructors and students) begin in one place. We end somewhere better. That should be the goal of all higher education.

In our case, we were inspired by what we read, by professionals in the field of pedagogy, and by instructors in every discipline, teaching everywhere and at every level. Most of all, we are inspired by our own students who “test-drove” and responded to these methods, offering feedback on what worked best for them and what did not.

This book took shape during tumultuous times, featuring both a public health crisis that turned our city, New York, into a disaster area and a ghost town and protests by Black Lives Matter against police violence that stirred our city and the world. Although this book is designed for professors teaching at every kind of institution, we wrote it while teaching at the City University of New York (CUNY), the largest public, urban university in the United States and a model of social mobility through education. Many of our students were valiant health care employees or other essential workers, and they continued their studies even as they and their families experienced the crisis firsthand.

While our university and our city were closed, masked, and socially distanced, we met online twice a week, every week. We wrote every word together, talking through ideas, thinking about the research we were reading, trying the best methods in our courses, and soliciting our students' feedback on what was most effective for their learning. We have distilled what we learned into these pages, including the lived experience of teaching in crisis with little time for lesson prep and a great

need to teach the essentials—what will help students thrive in the world they face today.

We brought to *The New College Classroom* extensive research in pedagogy, learning science, cognitive neuroscience, management coaching, and conflict negotiation theory bolstered by interviews and observations with dozens of instructors at every kind of institution and in all disciplines. The two of us also come to this project with very different perspectives at the bookends of a typical academic career: one (Cathy) a senior scholar, one (Christina) a relatively new PhD who has nonetheless taught for over a decade as an adjunct in the harsh world and unforgiving realities of academe today. We've each worked at a range of institutions, including community college, public university, liberal arts college, and elite private and Ivy League universities. From these varied perspectives, we've seen how a successful classroom is less about teaching and more about learning, especially when every participant has a stake and responsibility in learning together. We shared one goal: to produce a concise guide to transformative teaching.

That goal became a through line of our plague years. Amid the tragedy and horror of the global health crisis, we lived our lives and wrote. Christina raised a newborn. She also lost a beloved grandmother. Cathy lost beloved family members and friends during this time. Christina finished and defended a dissertation, earned her doctorate, and started a new job. Together, we worked with our colleagues to start a bold new program at CUNY, Transformative Learning in the Humanities. This program is part of the new cross-disciplinary CUNY Innovative Teaching Academy, which spans twenty-five campuses—two-year colleges, four-year colleges, graduate and honors schools, and professional schools. It is dedicated to exactly the methods and missions of inspiring, effective, and inclusive learning that we describe in *The New College Classroom*.

We despise the “do more with less” refrain often imposed upon faculty, staff, and students at underfunded public universities. We champion the idea that, by thinking through what learning is, we can

support caring, independent thinkers—students *and* their instructors—who need not expend energy on time-consuming methods that, the research shows, are unproductive or even counterproductive. Many of the effective teaching strategies we detail in this book take less preparation and offer far deeper, more lasting impacts than the traditional ones we mostly absorbed from those who taught us. We’ve learned from great instructors everywhere and are humbled by the tremendous work of these colleagues and their students. We are honored to have been able to work through so many of these ideas with such incredible people.

Our goal has been to offer practical answers to a crucial question: how do we teach for *every* student—not only for the ones who most resemble us, their instructors? Our second goal has been to find ways to streamline that process to reduce time spent in unproductive tasks—for both teachers and students. We know all too well how the burdens of high teaching loads and pressure to publish can weigh down our spirits and diminish our energy. We have never forgotten that you, as an instructor, have a life as busy and complicated as any student, a life as busy and complicated as the ones we lived as we wrote this book together.

We have broken down teaching to its constituent parts and, in every situation, have presented effective and efficient methods for planning a first class, creating a syllabus, designing an exam, or trying an alternative to traditional grading.

We hope you will find ideas here that are as invigorating for you as they are for your students.

THE NEW COLLEGE CLASSROOM

*We have been raised to fear the yes within ourselves,
our deepest cravings.*

—AUDRE LORDE

Introduction



Don't you realize that every time you don't answer a question, you're learning something? You're learning how to make do with what you got, and you're learning how not to ask for a raise. . . . You're learning how to take it. That's not good. . . . So, from now on, whenever I ask a question, everybody's got to put their hand up. I don't care whether you know the answer or not. You have to put your hand up. . . . [We] need to teach people they are important enough to say what they have to say.

—SAMUEL DELANY, science fiction writer, educator

The Problem

Fifty people—faculty members and graduate students—sit silently in a department meeting as the chair offers a question, scowls, and tries again. No one answers; no one is happy. The meeting is supposed to be an open forum on the department's collective goals for the next five years, yet no one wants to speak. Tension mounts. Eyes glance at the floor, and some people cross and uncross their arms. Then a graduate student raises a hand and asks the chair if they all might try a short activity. "I think it would be helpful," the student says, "if we could take five minutes to discuss our ideas with a partner first before we share them with the whole room." The chair happily takes up the suggestion. Everyone turns to a colleague, and the room comes alive with excited, purposeful activity. People talk, smile, jot down ideas, discuss and debate them. Even people who seldom speak at department meetings are engaged. When the five minutes are up, the room is so rife with ideas

that the chair must ask not once but twice for everyone's attention. The meeting resumes, and people willingly share their groups' brainstorming with the whole department. No one person's big idea dominates the conversation, positively or negatively. The community's collective mission begins to take shape.

We've all been there at one time or another, when a demoralizing silence settles in and suffocates a conversation. It is soul-crushing to talk at a room of seemingly bored people—or at a Zoom screen of black boxes—and equally so to be lectured at. When that full stop occurs in our own classrooms, professors often chide their students for their indifference. Student hesitancy turns into fear of what the teacher will say next: will it be a raking over the coals, a dismissal, another question rephrasing the first? What will the tone be—frustrated or pleading? Or will the instructor just ignore the bruising silence and drone on, lecturing away as if they didn't notice that seemingly no one was listening?

Lecturing seems to be the traditional fallback when a class falls silent. According to an exhaustive study of twelve thousand classrooms, instructors end up talking during 89 percent of class time—even when they insist that they are conducting a seminar or discussion class.¹ We rely on what is, essentially, a highly controlled discussion (a “distributed lecture,” we call it) that depends on the two or three students we can always count on to raise their hands. Sociologists Jay R. Howard and Roberta Baird call this “consolidation of responsibility,” where students in a class have an implicit pact, delegating the job of participation to a diligent few.² Often those conscientious hand-raisers believe they are doing their instructors a service, that they are “saving” the class from that awkward pause. This may seem a solution to what our students term “silence chicken,” but it merely masks the central problem and creates a new one.

Both the lecture and the carefully managed discussion reinforce the idea that the instructor is responsible for ideas and that it's okay to leave the majority of the class out of the learning process. When we

pause to ask the class a question, we tend to have a “right” answer in mind. Students hesitate—unsure if they have the right answer—or they don’t speak at all. As Samuel Delany observes in the epigraph at the start of this introduction, every time students fail to raise a hand, they are learning something about the worth of their education and of themselves: that their participation doesn’t matter. As Delany indicates, that’s not good.

The Alternative

I (Christina), finishing my doctorate at the time, was the graduate student who spoke up at that stalled department meeting. I suggested a participatory exercise known by active learning educators as “Think-Pair-Share” and by management experts at places like the Harvard Business School as “radical” or “deep” listening. At our department meeting, I made an assumption foundational to active learning: the people sitting in stony silence weren’t indifferent, hostile, or stupid. They had been rendered passive by the paralyzing structure (the one we use in our classrooms 89 percent of the time) of one-way communication between a leader standing at a lectern and everyone else sitting in chairs. Because everyone at our meeting was game to try something different, we were able to redesign the meeting.

Think-Pair-Share is one of the handiest devices in the instructor’s toolkit known variously as active, participatory, or student-centered learning. These basic, interactive techniques are often used by K–12 teachers, where the focus is on the improvement of each and every student (that is, “student-centered learning”) and are commonplace in executive training, management programs, conflict resolution, and other situations where the goal is for everyone to learn how to contribute effectively and equitably. Except for those in Schools of Education, many of us who teach in higher education don’t know about these methods or, if we do, it is through the rather backhanded way of trying to figure out how to extrapolate effective, democratic classroom

teaching methods from polemical pedagogical theorists such as Paolo Freire or bell hooks.

It doesn't have to be that hard. We now have dozens of books and articles on active learning tactics, mostly designed for K–12 teachers or aimed at professors in professional schools. Equally important, we have over three decades and more than a thousand studies testing and assessing the effectiveness of all of these active learning methods. Over and over, these studies show active learning to be both more effective and more egalitarian than traditional lecture or controlled discussion strategies. In May 2014, several scholars from a variety of STEM disciplines published an exhaustive meta-analysis of 225 separate studies on different ways to teach and learn. In the *Proceedings of the National Academy of Sciences (PNAS)*, they argue that active learning improved student performance in every way, including when measured by test scores, retention, and applicability (applying classroom learning to new situations).³ They write, “Students in classes with traditional lecturing were 1.5 times more likely to fail than were students in classes with active learning.”⁴ Another meta-study, conducted the following year, showed the same results were even more evident if difference, equality, diversity, and inclusion were factored into the analysis.⁵ Further research in 2018 showed equally significant improvements in learning and understanding for international students.⁶ The authors of the *PNAS* study quipped that if the comparative merits had been this clear-cut in a pharmaceutical study, traditional pedagogy would be taken off the market.⁷

Various innovative programs designed to improve learning in different disciplines (including the arts, the humanities, and the social sciences) have tested active learning in varied settings: middle schools in Chicago, community colleges in New York, a study group at Harvard, an Indigenous program in British Columbia. A growing number of engaged professors around the world report success with these tactics, especially with first-generation college students, students

without extensive college preparatory training, and students from low-income and marginalized social groups.⁸

These methods are inclusive and beneficial to students and create interdependent student learning communities, and here's the best-kept secret of all: They aren't difficult for instructors to pick up. They can be adapted to different parts of our teaching and can even take the traditional classroom methods we've relied on for years and, without much effort, transform them into active learning lessons that will make a major difference in what students learn, retain, and know how to apply elsewhere, once the class is over.

And if you lecture to three or four hundred students every semester, fear not! We know quite a few lecturers who have come up with effective and efficient ways of adding an inspiring active learning component to their lectures. Rather than being an additional burden on stressed-out instructors, these methods give insights (before the midterm or final) into what's working for your students and what they are missing. Best of all, they don't require much extra prep time or more grading. I (Cathy) use them in my classes and in virtually every keynote address and public lecture. Several years ago, I even had some six thousand International Baccalaureate (IB) teachers in the Philadelphia 76ers arena thinking-pairing-and-sharing under the Jumbotrons. To this day, I hear back from teachers who insist they still use that tactic in their courses.

In *The New College Classroom*, we show how to put research, theories, and ideas into actual classroom practice. We've learned enormously from those in many different disciplines and educational settings in the United States and around the world.⁹ We pass on their wisdom and their methods for offering students—all students—the chance to participate in their own learning. When we use teaching strategies that solicit contributions from the whole class, the burden of teaching is not shouldered by the professor alone. Everyone plays a role in reaching a successful outcome.

Why Change?

In their study *In Search of Deeper Learning: The Quest to Remake the American High School*, Jal Mehta and Sarah Fine reach the depressing conclusion that students become more bored and less interested in learning as they get older. Whereas 75 percent of fifth graders feel engaged by school, that number falls to 32 percent by eleventh grade. When these authors interviewed students even at the very best high schools, the conversations were discouraging: “Most classrooms were spaces to sit passively and listen. Most academic work instructed students to recall, or minimally apply, what they had been told. When we asked students the purpose of what they were doing, the most common responses were ‘I dunno—it’s in the textbook’ and ‘maybe it’ll help me in college.’”¹⁰ Mehta and Fine discovered the pervasive problem isn’t that classes are too hard; it’s that they aren’t rigorous, engaging, and interesting enough.

What about college? Or let’s make this personal: what about *our* classrooms and *yours*? College is voluntary. Students don’t have to, by law, attend college, and they don’t have to stay there. They do, however, have to fulfill distribution, general education, and major requirements in order to graduate. Are our own students in our classes because they want to learn, because they are excited by the subject matter, because they want to grasp content they know will be important to their lives and their careers? Or, if asked why they are studying a certain topic in a certain course, are they most likely to answer, “I dunno” or “it’s required” or “to get a job”? Of course they want a job. But how depressing to think of spending four years of your life bored, going through the motions, checking off course requirements, in the hope that a better job is waiting for you when you graduate. What a wasted opportunity for everyone, including the instructor!

The methods, exercises, and activities in this book are designed to make the learning in our classrooms meaningful, effective, and equitable for every student, and the process of teaching as rewarding and

fulfilling as we all hoped it would be when we chose this as a profession. We pass along tactics that anyone can use in their classrooms. We draw from techniques that work, techniques developed by all kinds of instructors, full-time and part-time, graduate student instructors and senior professors. Take this combination of research project and assessment redesign developed by history professor Steven L. Berg's introductory early American history class at Schoolcraft College, a community college in Livonia, Michigan. He gave his students the opportunity to choose their own research projects and used contract grading so that each student could decide which assignments they would do to earn a certain grade. One popular assignment option, for example, was to post a blog on the class website connecting their research on the eighteenth- or nineteenth-century United States to a news event that happened to be unfolding that day. Once students earned enough points in the course for the grade for which they were aiming, they had the option of stopping further work on their projects and assignments. Except they didn't. They were so excited by their research that a whopping 60 percent continued their projects after they had done enough to earn an A. After their grade reached 100 percent, 40 percent submitted assignments. Two students earned more than 120 percent for their final course grade.

As Berg notes, "By giving choices, students completed more work—often significantly more work—than would have been required of them had I not provided options."¹¹ This example is illustrative in that it connects different aspects of classroom teaching in one assignment that is no more difficult (for student or professor) than its more traditional equivalents. Offering choice, emphasizing peer exchange and collaboration, guiding students through serious self-evaluation, challenging them to solve difficult problems or work through complex ideas, and inviting them to apply their new knowledge beyond the classroom are interconnected, meaningful ways to learn.

These efficient and powerful teaching methods work as well for an adjunct professor with no resources as they do for a full professor with

job security and institutional reserves to draw on. We know—because that’s the dual experience the two of us bring to this book. In our own teaching, we have both found that when we use strategies to solicit contributions from every member of a class, our students learn more and we enjoy teaching more. Anecdotally, we experience success rates comparable to those in the formal STEM meta-studies. And we do so without having to overprepare for each class session as if it’s our thesis defense (a pattern of overachieving but inefficient teaching we have witnessed in several classrooms we’ve observed).

Teaching should not be solely about *our* performance. It should be about creating the conditions where students perform best. That’s a paradigm shift, what Robert B. Barr and John Tagg over two decades ago described as the conceptual shift “from teaching to learning.”¹² Although changing the terms of the classroom can seem intimidating at first, it need not be labor-intensive. Once we have a few nearly foolproof activities in our back pockets, they can be pulled out and used on the fly—and instantly change the level of interest and impact in a room.

The majority of activities we offer in *The New College Classroom* are easy to use, understand, and implement. In a few instances, we present exceptionally ambitious projects that instructors, programs, and entire institutions have undertaken to transform how they teach and learn. We applaud these and recognize the profound collective thinking, planning, and execution required for their success. However, most of this book focuses on practical ideas that make a difference and can be implemented easily. Some are, frankly, commonsensical solutions, but some are lifesavers for stressed-out faculty, especially after semester fatigue has set in.

Success for Every Student

We’ve all heard contemptuous comments about “students today” on campuses or on social media. Such complaints articulate failure—not just the students’ failure but that of an educational system that prom-

ises inclusion and social mobility but (and we'll look at this research later) too often replicates and even increases inequality.

One common ingredient in almost all of the methods in this book is that they are designed to help every student be better than they were, wherever they started. Learning science experts categorize all of the ways we can structure our classrooms—literally, there are dozens of ways, with advantages and disadvantages to each.¹³ Most classroom management techniques for active learning fall into the category of inventory methods. As opposed to the selective methods of picking among a few eagerly raised hands, inventory methods take a literal accounting or inventory of ideas by every student in the room. They are low-stakes, meaning they are not vetted by the professor at the podium or in any fashion graded or judged but are simply put into play as a starting point for developing further ideas or more advanced skills. Students might exchange preliminary thoughts with a partner or in small groups (as they were at Christina's original department meeting) or offer ideas anonymously online on a whiteboard or, in a classroom, scrawled on Post-it notes. There is no shame or premature judgment in a wrong or weak answer. Ideas are put into play and analyzed, debated, defended, deployed, and developed—a practice that allows everyone to improve and bolster their higher-order thinking skills, including problem-solving, collaboration, communication, and persuasion.

Management experts champion inventory methods because they circumvent “groupthink,” where everyone ends up with the same idea (typically, the one presumed to be held by the most powerful person in the room). In a classroom, inventory methods allow students to develop essential higher-order thinking skills that help prepare them for their lives beyond college and also, not coincidentally, help them to have a bigger voice in society as a whole. This kind of learning puts students in the driver's seat of their own education.

The social philosophy undergirding much of the theory of active, participatory learning is, unmistakably, democratic and egalitarian.

Progressive educator Alfie Kohn emphasizes the role of community, collaboration, and social justice at the core of true learning from kindergarten to professional school.¹⁴ Many of the learning methods espoused in this book descend from genealogies of progressive education that go back to Italian physician Maria Montessori and American psychologist and philosopher John Dewey, as well as from Paulo Freire’s dialogic methods in *Pedagogy of the Oppressed* (1968), Henry Giroux’s advocacy of critical, public pedagogy, and bell hooks’s emphasis on the intellectual and spiritual goal of “teaching to transgress.” We also pass on key egalitarian, antiracist, and decolonial educational ideas from Felicia Rose Chavez, Sandy Grande, Max Liboiron, Bettina Love, Carla Shedd, and Helen Verran, among others dedicated to educational equality, and from “student success” advocates such as Finnish educator Pasi Sahlberg and psychologist Carol Dweck, who designed methods to give each student a chance.¹⁵ Motivating all of these educators is a desire for success for every kind of student. The ultimate social goal is idealistic: for the classroom to model how we can engage and contribute to an inclusive, democratic, and just society that functions better for everyone.

Every student has a right to thrive. We make that success possible when we include our students in the learning process. For example, in one exercise in Part Two we explore how, why, and what changes when we solicit input from each student in developing the learning outcomes for the course they’re taking.¹⁶ Active, participatory learning puts into pedagogical practice the values of fairness, inclusion, diversity, equity, and antidiscrimination (racial, gendered, sexual, classist, ageist, and ableist). It reinforces a self-reflective method by engaging students in a process that tasks them with critically examining what they have done—analyzing the learning methods themselves. This process of self-evaluation and self-correction is known by educational psychologists as “metacognition,” or thinking about how we think. The process is crucial to students’ confidence in their ability to learn and helps them identify the value of what they’ve learned.

We use these tools in our classrooms to structure equality into our courses because we cannot fight inequality with goodwill alone. As Tressie McMillan Cottom demonstrates in *Lower Ed: The Troubling Rise of For-Profit Colleges in the New Economy* (2017), inequality is as built into higher education as it is in the rest of society. College's promise of social mobility is infrequently and unequally realized. Hard work and dedication are not enough to overcome years of being ranked and rated in primary and secondary schools whose quality depends upon the district's income level and whose policies seem designed to leave multilingual, immigrant, low-income, and minority students behind. Twenty years after writing *Why Are All the Black Kids Sitting Together in the Cafeteria?* (1997), Beverly Daniel Tatum wrote a new introduction to her revised book in 2017, explaining why all the "Black kids" are *still* sitting together.¹⁷ The methods in this book are designed to change the status quo in our classrooms—and even our cafeterias—creating the conditions for all students to flourish in the domains where we instructors have the most control.

We designed *The New College Classroom* so that the transformation can go as deep as you wish, from just the first five minutes of every class meeting to a full course or even department-wide overhaul. Inventory methods achieve what the American Psychological Association calls "Total Participation." They charge not just students but *everyone*—professors, postdocs, administrators, staff, presidents—with bringing anything and everything they know from other contexts into the particular realm of the office or committee meeting, the course subject, the assignment or exercise, or the other task at hand. The methods in this book work for academically savvy students as well as for students who come to college with poor academic preparation.

We offer grab-and-go activities (like Think-Pair-Share) that never fail in turning a dull moment into one rife with engaged learning. When we say "grab-and-go," we mean it: these are activities that we keep on hand and use just about everywhere—in our classrooms, on panels at conferences, and in keynote addresses, both face-to-face and online.

Cathy has also used Think-Pair-Share effectively in numerous management seminars she has conducted with nonprofit and corporate executives all over the United States and abroad.

These methods work. Nobel Prize–winning physicist Carl Wieman, who also holds a position at the Graduate School of Education at Stanford, is one of the most ardent proponents of active learning for science. He compares traditional lecture and one-way discussion methods to “bloodletting,” an archaic medical practice that proved to be ineffective and was eventually repudiated and abandoned by the medical profession.¹⁸ In *Improving How Universities Teach Science*, he details his Science Education Initiative, which has transformed physics programs at the University of Colorado and the University of British Columbia and, more recently, is changing how basic science is taught at Stanford University. Wieman laments: “Most students are learning that ‘science’ is a set of facts and procedures that are unrelated to the workings of the world and are simply to be memorized without understanding. . . . They are leaving classes seeing science as less interesting and relevant than they did when they started.”¹⁹ He is an outspoken critic of traditional ways of teaching, especially the lecture, calling it, unambiguously, a “terrible way to learn.”²⁰

Wieman may overstate the case slightly—a lecture can achieve certain purposes in education. A great lecture, like a splendid sermon, can inspire, motivate, entertain, or stir us—and all of that is good. However, none of those are equivalent to learning, the actual acquisition of a new skill, idea, or body of knowledge in a way that allows us to extrapolate, extend that knowledge and apply it in other situations where it is relevant, and use it to solve problems and make important decisions.

What Is Learning?

I (Cathy) witnessed the crucial difference between being inspired by a lecture and actually learning from one. This was many years ago, when I happened to be hosting a conference in my field at the same conven-

tion center in Long Beach, California, as the annual TED Talks. I wandered into the lobby as happy members of the TED audience spilled out of a packed lecture hall exclaiming about “the best talk I’ve ever heard,” calling the recently concluded TED Talk “life-changing” and “unforgettable.” Students from a local college happened to be in the lobby conducting research for a class project. They stopped audience members as they were leaving the event and asked them a simple set of survey questions. Student surveyors were shocked that the inspired listeners in the audience were not able to recall even simple, basic, oft-repeated facts from the lecture they were sure they would remember forever. People who had come to the Talks together offered radically different summaries of what was said and what it meant.

The student ethnographers were surprised by the results, but cognitive neuroscientists recognize this well-researched phenomenon. In *Now You See It: How the Brain Science of Attention Will Transform the Way We Live, Work, and Learn* (2011), I wrote about the selective way we attend to certain features of the world around us, including in what we read and hear, and how our brains ignore almost everything else.²¹ That’s how attention works. Numerous studies using functional magnetic resonance imaging (fMRI) and other neuroimaging devices attest that when listening to lectures (whether in a church, in a classroom, or at a TED Talk) we continuously shift in and out of attention. A great lecture moves us and may trigger associations, memories, past ideas, meaningful recollections, all of which might have significance but can take us far from the actual lecture at hand. By contrast, with active learning, since the learner is also the *agent* and the *source* of the learning, attention is focused. It has to be. A lecture begins and ends whether the student is listening and learning or not. By definition, active learning requires the participation—the agency—of the learner. The learning process is the learning product and vice versa.

In a lecture, the learner does not control the pace—there’s no way of backing up to go over a point the learner doesn’t understand, no testing to make sure the learner has gotten it right, no adaptation of the idea

or method to a new situation to ensure that the principle has been fully absorbed (and is not simply a conclusion memorized). The French philosopher Michel de Certeau uses the term “poaching” to describe the selective, almost greedy way we snatch up things that intrigue us when we are reading or listening, ignoring the rest.²² Active learning helps us “poach” more effectively, directing our attention through specific exercises and activities that deepen rather than distract us, that engage us in ways that help us learn content, techniques, and ideas. Instead of losing ourselves in our own thoughts during a lecture, active learning requires us to *do something* (that is, “actively”) with the content—like the faculty members at my (Christina’s) department meeting brainstorming in small, intimate groups, working through their ideas by discussing them with peers, hashing them out, refining them, negotiating across different perspectives or different versions of the same idea, and then offering up the results constructively to others at the meeting. Learning is a process of acquiring new understanding, a proficiency of skills, knowledge, or values. The operative word here is *process*. The faculty members at the department meeting were doing exactly that: processing together.

Sound simple? Philosophically, educationally, and psychologically, it’s a revolution. When students study in the traditional way—in order to earn a good grade on a high-stakes test—they forget content very quickly after the exam is over (a subject that has been well researched since the 1880s; we will return to this when we look at grading and assessment). They have little opportunity in a traditional classroom to acquire the higher-order skills that employers insist are most important for both new employees and for professional advancement. These include communication skills (such as interacting across different talents, backgrounds, and levels of authority), critical thinking, collaboration, project management, the ability to move from an idea to implementation, problem-solving, and complex decision making. These skills are fundamental in most occupations and especially in managerial and professional jobs where they are often assumed rather than taught

or even explained. Getting ahold of these tools is especially crucial for first-generation college students. They may not know anyone who, in the course of everyday work, has had to negotiate the range of implicit, often unspoken office rules and practices that inform the middle-class workplace.

So if active learning is a more effective way to absorb disciplinary content and methods, is useful for the diverse students in higher education today, and also teaches students a range of essential life skills, why isn't it happening in every college classroom? Why is it called "radical pedagogy" instead of "common sense" or "efficient pedagogy"?

The main reason is that most people who become college teachers have not received much training as teachers.²³ Most of us teach the way we were taught because we have not been exposed to other methods. It's rare even to find an academic outside of education departments who's aware of the extensive learning science research. Most of us have ignored or never been introduced to the benefits of active learning.²⁴ Graduate students, including those preparing for a lifelong career as instructors, are rarely taught or exposed to any pedagogy at all.

Throughout this book, we offer ways to adapt ideas to your specific needs. For example, when I (Cathy) returned from my conference where the student ethnographers had been interviewing audience members from the TED Talks, I tried an experiment with my class. They were up for the challenge. I delivered to my seminar of a dozen undergraduates and master's students the same formal, keynote lecture I presented at the conference, appropriate since "Digital Media and Learning," the topic of the conference, was relevant to our interdisciplinary information science course. I then gave the students my slides and a transcript of my talk and had them "remix" them in any way they wished. They could amplify my thesis with evidence (or counter-evidence) taken more specifically from their majors (computer science, cognitive neuroscience, studio art, history, electrical engineering, education, sociology, political science, film studies, literature). Or they could change the form or the media. They uploaded their remixes to a

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