

TEACHING IN THE FAST LANE

HOW TO CREATE ACTIVE LEARNING EXPERIENCES

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Introduction

Anyone who has been in education for a long time has encountered a plethora of perspectives and philosophies about instructional practices from leaders, presenters, and colleagues. One fall, a new principal arrived at our building. Our test scores were, well, pretty dismal. And while no one specifically connected the dots for us, a new person was now in our former leader's office. His early pronouncement, which he later recanted, was the following:

Teachers are not allowed to sit down.

In his defense, our school had challenges. It was a high-poverty school with high absenteeism, transience, and other issues. And teachers certainly needed to be up monitoring and checking on their pupils, which is probably what he meant. I have never been a principal, so I can only imagine the pressures they are under to meet expectations from their supervisors and to ensure an orderly school environment.

But when the research is examined about the benefits of students doing more of the active learning than their teachers, expending more energy during learning experiences, and talking and moving more than their teachers, the following guidance would have been more in line with research:

Students should be the most active members of the classroom.

It took me years to realize the depth of importance in that proclamation. My first year of teaching was marked by covering up my own insecurities and deficiencies. I held an iron grip on my 9th graders, tolerated no dissent from students, and was mistakenly commended by leaders for my classroom being so incredibly quiet. My strategy only worked because our students were quite compliant. What no one knew is that I had nightmares about losing control of my students. I worried about losing my hard-earned job if administrators thought I didn't have things together. Fortunately, one of the most amazing teachers I've ever encountered just happened to be right next door. I watched, listened, practiced, and learned.

My next position was in one of the poorest middle schools in the country. A teacher was leaving in the middle of the year, and I had one day to transition with her. There was no semblance of protocols remaining in her classroom. Her eyes were swollen with tears. Shaken by what I had witnessed, my old control fears returned. I began my first day by posting more edicts than any student could remember or follow. I was determined that these 6th graders would not get the best of me. Right out of the gate, I was going to send the message that this was *my* classroom now. As I began reading these edicts one by one, a sea of blank faces stared back. A stark realization came over me. Only a handful of my new students understood enough English to comprehend much of my decrees . . . thankfully. They were starting over with a new teacher. I was starting over with my new pupils. I erased the board and began anew.

About This Book

This book is about strategically letting go of some of the best parts of the learning so that students reach their learning targets, achieve more, are motivated to work, learn to collaborate, and develop a sense of accomplishment. It's about our students getting in the fast lane of learning so that they are more rigorously productive.

The first chapter is the why—the benefits for students when they, rather than the teachers, are the most active ones in the classroom. Tragically, if the research is to be believed, most students' days are spent sitting at desks listening. Human beings of any age are not very

good at that. Learners tend to achieve more and remember concepts better when they can engage in hands-on, collaborative learning. And employers are not seeking students who are good at sitting and just listening, anyway. Instead, organizations today are seeking applicants who are problem solvers, leaders, communicators, and decision makers and can work well in teams. Those skills are better practiced and nurtured in an active classroom.

A myth of the student-centered, active classroom is that it lacks structure. Students need structure and predictability in what is going to occur in the classroom. In fact, one can argue that having effective learning structures in place is even more important in the active classroom than in the teacher delivery mode because students will be moving, working in teams, and collaborating. One theme of this book is the importance of a lesson framework that balances student autonomy and classroom structure. An overarching question in this and other sections is “What content needs to be directly taught, and what can students learn on their own?” Chapter 3 provides some thoughts on rethinking lesson frameworks to ensure that each lesson component has a purposeful, distinct mission. A conversation to have during this portion of the reading is, Are current lesson planning templates encouraging active learning or inadvertently limiting teacher (and student) creativity?

The center of the book is the “how” of getting students to do more of the thinking and working. These are next-day implementable strategies coupled with the research behind them. The wonderful world of sorting offers hands-on, thought-provoking ways to get every student authentically engaged. Station teaching, cooperative learning, and menus provide students with more responsibility for their learning. A common element in this section is increasing student autonomy and internal motivation to work hard. These middle chapters provide explicit strategies that will move students to authentically participate.

The active classroom is not about teachers working less than students or vice versa . . . both sides work hard. But the work looks different. It’s more about creating learning experiences differently so that students engage in exploration of the content themselves. It’s about students

reaching explicit targets in different ways. Within the lesson framework, there is variety, which encourages curiosity and memory. And while there are many times that teacher delivery is essential for parts of the content, teachers also let go, giving learners more control and some decision making over their own learning. The results can be getting more student effort and a higher quality of work.

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Why Active Learning Matters

Standards. Pacing guides. Textbooks the size of an 11-year-old. High-stakes tests. Changing teacher evaluation tools. A tremendous amount of responsibility and accountability rests on educators' shoulders. The weight and pace of the curriculum loom. All of those learning targets and so little time—how can all of this content in teachers' brains and resources be successfully transmitted to students' heads?

So, we go home and read and annotate. We synthesize and carefully prioritize gathered information. Systematically, we decide what to leave in and what to leave out. We summarize difficult information into our own concise language. A presentation emerges, complete with perfectly cropped pictures that enhance the content story. We have created evidence of solid progress of our learning target. Our work is then pushed out to students, who are clearly underwhelmed by our late-night efforts on their behalves. Students take notes and nod. At the end of the week, students take a test and largely repeat the information back. Once again, we have inadvertently outworked, outthought, outparticipated, and probably even outlearned our students.

They sit. We stand. We talk. They stare. Our feet hurt. Theirs seem fine.

This book is about getting more out of our students. More connectivity to the content. More purposeful, visible, active work that demonstrates progress on learning targets. More student autonomy,

more critical thinking, more effective communication, more reasoning. It's also about thinking about work differently. Because sharing a sticky note plot summary with a partner is work—it's just such engaging work that every student will likely jump in. Creating a press release of new lunchroom options is work—it's just relevant work. Sorting fractions from smallest to largest with a partner is work, too—it's just fun work. Rolling a cube with thought-provoking economic questions with a team is also work—it just happens to be something all of our students typically love doing. That four-letter word "work" can actually be most rewarding.

Shifting more active academic autonomy onto students' shoulders requires a different type of work on our parts, too. One of the most thoughtful decisions in creating lessons in which students are the most active participants in the learning process is deciding what needs to be explicitly taught to be successful and what students can develop and create on their own. With this movement to more active, student-centered learning is the tenet that students are not just learners but also collectors and presenters of evidence. They communicate with us via their ongoing, minute-by-minute work. "Here is where I am on this learning target. Where do I need to go from here?" And their work—their evidence of learning—should change over the course of a lesson, from emerging knowledge in the opening minutes to a deeper understanding at the close.

The phrase "active learning" or "student-centered learning" can potentially conjure images of an unguided classroom in which students are sort of figuring everything out on their own, but it's quite the opposite. In fact, according to Kirschner, Sweller, and Clark (2006), instruction that is too unguided and does not provide critical pieces that students need to learn can be counterproductive and even reduce achievement. The strategies employed in this book fit into an instructional framework that thoughtfully builds time at appropriate junctures for students to process what they are learning. Throughout the lesson, students' work will visibly develop and deepen, and by the end of class, all students will have something to "show" for their work today. Creating more active learners does not imply that we are less active as teachers. It's about creating a balance between teachers' roles in learning and our students' responsibilities.

And while this book is largely focused on the "how" part of getting students actively involved in their work, it's important to begin with

some of the “whys” because many short- and long-term benefits can be gleaned from pivoting to a more student-centered classroom.

Active Student Learning Can Lead to Higher Achievement

Definitions abound for both “active learning” and “student-centered learning,” but a central theme is this: Less time and focus are allocated for teacher presentation (and talking in general), and a greater emphasis and time are spent on having students develop, read, solve, create, analyze, and summarize—and a larger share of those rigorous verbs falls on students’ capable shoulders. In a traditional classroom, information largely flows from teacher to students. Teachers are highly engaged as they move, write, explain, erase, question, rephrase, and answer. In an active, student-centered classroom, information flows in both directions, and students are highly active. They are not passive receivers of information. Additionally, lessons are created with designated work time for students to absorb, collaborate, and create, so that students actively working takes a bigger piece of class time than teacher presentation.

Teacher talk time is a problem. Hattie (2012) indicates that somewhere between 70 and 80 percent of class time is occupied by teachers talking and that the older students are outtalked even more than students in younger grades. Researchers Tsegaye and Davidson (2014) found in their study of language teachers that it was even higher, with an average of 83.4 percent classroom discourse belonging to teachers and 16.9 percent to students. This is not a new concern. In 1969, Cross and Nagle discussed the problem of secondary English teachers talking three times more often than their students. But what’s really interesting is they cite research from 1912 bemoaning the same problem, specifically that teachers talk about 64 percent of the time, less than Hattie’s more current estimations. The question of whether teachers are talking at a higher percentage today than in 1912 makes for interesting discussion but is not the biggest concern. The more troubling aspect is that students *as a group* only own somewhere around 16.9–36 percent of the talking. With that talk being divided by, say, 28 students in a class, the amount that students are getting to talk about their learning is so minimal that it puts into question our entire instructional framework.

The trouble with an imbalance of teacher-student talk is what happens to learning. In a very interesting study by Gad Yair (2000), 865 students in grades 6–12 in all academic content areas wore wrist-watches programmed to beep throughout the day. When the watches beeped, students responded to questions about what they were doing: their level of engagement, mood, and thoughts. Not surprisingly, there was a direct connection between levels of student engagement and instructional methods. The lowest level of engagement, 54.4 percent, was when teachers were talking (p. 256). Even though lecture was the least engaging, it was actually the dominant delivery method (p. 259).

In contrast, students were the most engaged when they were working in labs (73.7 percent) and in groups (73 percent) (Yair, 2000, p. 256). Even though these methods yielded the highest engagement levels, they were the least prevalent, only 8 percent of the time (p. 260). So, the methods that worked the best for learners were used the least, and the method that was the least engaging was used the most.

Similarly, in a study of 8th graders studying water quality standards in Indiana, Purdue researchers found that hands-on, problem-based learning yielded greater student success (Riskowski, Todd, Wee, Dark, & Harbor, 2009). Eighth graders were all taught the same science standards on water quality but with different methods. Half of the 8th graders participated in a more traditionally taught lesson that was roughly 60 percent lecture, 20 percent handouts, and a final project worth 20 percent. The other group of students experienced a more active approach, with less than 10 percent of their time listening to teachers talk. The bulk of the active group's time was spent working in cooperative teams designing and building a water purification system. At the end of the unit, students in the active classroom scored an average of 77 points on a 100-point exam. The traditionally taught class scored an average of 57. An encouraging aspect of their study was the broad spectrum of students positively influenced: Traditionally underperforming students, including English language learners, shared in this rise.

But what about older students? They're able to learn material by sitting still and listening, right? In an analysis of 225 studies on active versus lecture-type classrooms in science, technology, engineering, and mathematics (STEM) undergrad college courses, researchers in a 2014

issue of the *Proceedings of the National Academy of Sciences* (Freeman et al., 2014) made this case: A lot more STEM grads would be produced if traditional lecturing were replaced with more active learning teaching methods. Why? Because failure rates and test scores varied significantly between the two instructional approaches. Their work revealed that the failure rate among students in more active classrooms was 21.8 percent, compared to 33.8 percent in traditional classes—a 55 percent increase.

Similar effects were reported by chemical engineering professors Bullard, Felder, and Raubenheimer (2008) at North Carolina State University. In a sophomore course with a reputation for “weeding” students out of the program due to high failure rates and low grades, there were two sections. One was taught via traditional lecture; the other section incorporated active learning techniques such as cooperative learning and greater opportunities for feedback. Essentially, the active class broke up the teacher talk, gave students time to process information with others, and incorporated team exercises. Over the course of five years, students with lower GPAs in the active section outperformed other students with lower GPAs in the lecture format class, even though the active classroom had more students. Active learning, the professors suggest, helped boost weaker students, resulting in less failure and fewer dropouts in the program.

Short Bursts Are Better for Our Brains

The unfortunate reality is that students (and adults) can only listen for a short period of time. After that, they are pretty much pretending. Even students in college—students who have been largely successful in grades K–12, have passed entrance exams, and have healthy enough GPAs to be in college—can be truly attentive for just a short period of time during teacher talk. Hartley and Davies (1978) purport that students could recall about 70 percent of what was taught in the first 10 minutes of a presentation but only a sparse 20 percent of the last 10.

When I am planning with teachers in schools, we utilize Eric Jensen’s (2005) guidelines for direct instruction (Figure 1.1). These specify that even high school seniors and adults can only pay attention to spoken instruction for about 15 minutes, with elementary students ranging between just 5 and 12 minutes. Placed in the context of long school days sitting in hard desks trying to pay attention to teachers talking, it provides