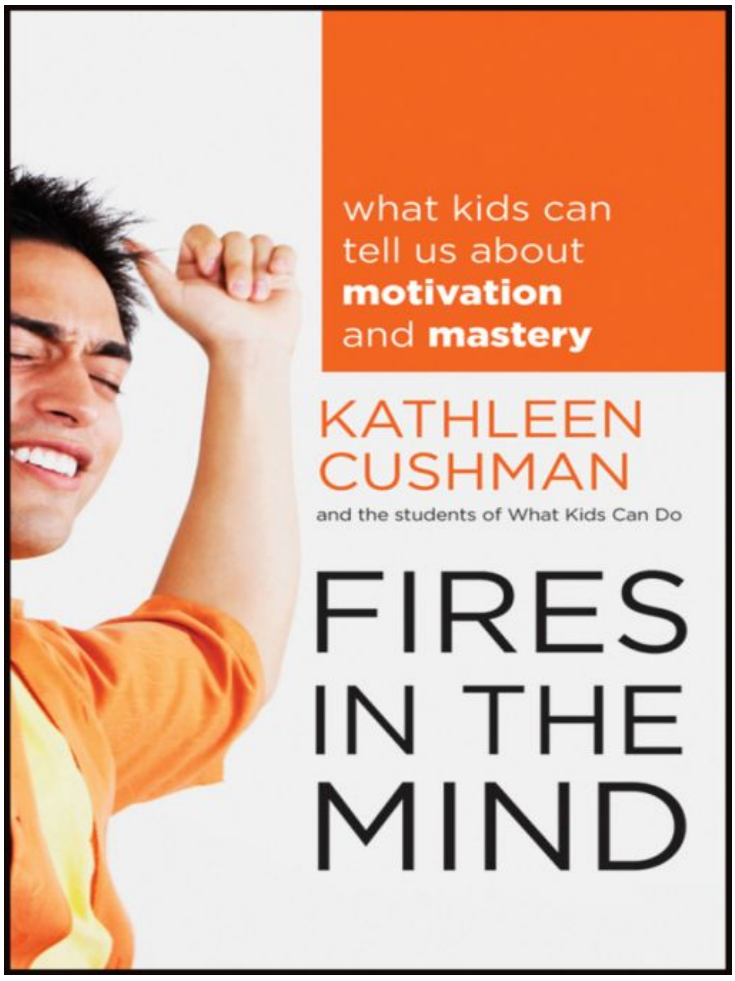
what kids can tell us about **motivation** and **mastery**

KATHLEEN CUSHMAN

and the students of What Kids Can Do

FIRES IN THE MIND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PRAISE FOR KATHLEEN CUSHMAN'S BOOKS WITH STUDENTS

When kids are finally given a voice, it's always amazing to me how on target their perceptions of schools are!—Bob Mackin, Director, America's Choice High Schools

Fires in the Bathroom tells it like it is. . . . All educators should read this book. Parents too. There is much wisdom here.—Linda Darling-Hammond, Stanford University

Wonderful and painful to read. . . . *Fires in the Bathroom* gives me so many ideas about what we could do differently tomorrow.—Deborah Meier, author, *The Power of Their Ideas*

The minds of students seem so mysterious to most adults. *Fires in the Middle School Bathroom* lets the students tell their own stories in their own voices. The book sheds welcome new light on what middle school students really care about and how they experience their days in school.—William Damon, Director, Stanford Center on Adolescence

Sent to the Principal **should be read by every high school principal in the country.** The book eloquently uses the words of students in a powerful way that no one can ignore. It will provide tremendous grist for the important conversations that need to take place to transform our high

schools.—Joseph DiMartino, Education Alliance, Brown University

Through the ears, eyes, voices, tastes, and hands of students, *Sent to the Principal* gives us student insights that are frank, honest, simply delivered, and valuable for changing schools.—Elliot Washor, Ed.D., Co-director, Big Picture Company

I couldn't put this book down. *Sent to the Principal* gently leads the school leader to change his or her personal style of leading, but also encourages institutionalized responses.—Robert McCarthy, thirty-year principal and mentor, Colorado Small Schools Initiative

Parents, teachers, and just plain adults would do well to listen to the young men and women in *What We Can't Tell You*, if the creation of a truly humane society is still our goal.—Thomas J. Cottle, author of *Mind Fields: Adolescent Consciousness in a Culture of Distraction,* professor of education, Boston University

Fires in the Mind

What Kids Can Tell Us
About Motivation and Mastery

Kathleen Cushman

and the students of What Kids Can Do

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This book is dedicated
to all the students waiting to catch fire
and all the teachers
who notice and cherish the sparks

Foreword

A SKING STUDENTS TO TALK ABOUT their education is so simple that—whether we are teachers, parents, researchers, or policymakers—we inevitably forget to do it. Yet when we do invite them to the table with adults, the youth in our classrooms and communities will shed surprising new light on our most intransigent educational dilemmas. What makes young people catch fire, work hard, and persist despite difficulties? What supports and structures do they need in order to thrive and contribute, in both school and society?

Those are the questions that this book addresses, and for over a quarter-century at MetLife and MetLife Foundation, we have put the same questions at the center of our work with education. The *Metlife Survey of the American Teacher*—which each year gathers the views of a broad and representative sample of those closest to the classroom—teachers, principals, parents, students—consistently highlights the beliefs, practices, and experiences of young people as well as their teachers. As *Fires in the Mind* goes to press, MetLife is just releasing our twenty-sixth such report, based on our 2009 survey and titled "Collaborating for Student Success." Its findings go to the heart of the issues raised here by the students of What Kids Can Do.

Merely asking young people about their learning will not by itself foster their ambitious goals and high expectations, their motivation and mastery. We need also to listen closely, and to collaborate with youth on analyzing the disparities between their experiences and what their elders report.

Four out of five teachers and principals in our 2009 survey told us that they believe connecting classroom instruction to

the real world would have a major impact on student achievement. They also held that addressing the individual needs of diverse students is necessary to student success. A school culture where students feel responsible and accountable for their own education, they said, would greatly affect student achievement.

In that same survey, however, a majority of students reported that their teachers very rarely—or never—speak to them personally about things that matter to the students. Over a quarter of secondary school students said their teachers do not connect the school curriculum to its applications in the outside world. And only one in four students felt strongly that school let them use their abilities and their creativity.

What should we conclude from such disparate perspectives? In *Fires in the Mind,* What Kids Can Do asks us to join young people in investigating the answers. Students here recount the conditions that ignite their curiosity and inspire them to strive for excellence, in very different contexts including school, home, and community. They point out which practices successfully coach them through the necessary hardships of learning, and which sap their desire to keep up the struggle. They interview adults who have attained mastery in their fields, and analyze the habits that got them to that point. They consider the cognitive research about developing expertise, and then they look at various school experiences, such as homework, through that lens.

The students' voices in this book start a vital conversation about "what it takes to get really good at something." For all our young people to develop to their full potential, that conversation must now continue among adults and youth in our schools, homes, and communities. I urge each reader to contribute your perspective, your voice, and the rich details of your experiences to the dialogue ahead. As we construct

a common understanding among youth and adults, we will also be developing mastery for the future we are shaping every day.

Dennis White
President and CEO, MetLife Foundation

CHAPTER ONE

What Does It Take to Get Good?

IN A BIG PUBLIC HIGH SCHOOL on the west side of Chicago, a ninth-grade boy named Joshua is describing the thing he does best in life. We sit in his reading and writing classroom, twenty-eight students in a circle, me with an audio recorder. “I’m real good at architecture,” Joshua says matter-of-factly.

WHAT KIDS TELL US

> **Everything takes practice. It’s not like one day you can just get up and say, “I’m going to do something.” You got to practice at it.**
>
> *- DARRIUS*

I am startled, even skeptical. Architecture in ninth grade? How?

Joshua goes on. His interest started when he was about eleven, he says, as he watched his uncle, a building contractor, draw up plans on a computer.

> I was, like, “Can I do it?” And once I tried it, I liked it. I can draw out the layout of a building, make electrical wires in the layout, stuff like that. It was hard learning how to use the software, because it was something I’d never used before. It took me a couple months—it was real frustrating. I remember trying to find out how to make a wall longer, and my uncle, he wasn’t there to

> help me. I had to go to “Help” to read how to do it. I don’t like reading, but I was determined to learn how to use this software.
>
> - JOSHUA F.

All of us in the room believe him now, because Joshua is talking about a situation most of us know well: trying to master something hard. We recognize his frustration as he goes after what he wants that is just beyond his reach. We hear how his resolve and confidence increase as he pushes past obstacles. And when Joshua tells us the result, we hear his pride and purpose. Last summer one of his neighbors was planning to put up a small strip mall nearby. The neighbor couldn’t afford to pay a designer, so he asked Joshua—a reluctant reader who was just about to enter ninth grade—to draw up the plans.

THE PRACTICE PROJECT

What does it take, I asked the students speaking with me that day, to get *really good* at something?

A simple question, it reverberates at many levels. It matters equally to youth and adults, rich and poor, professional, artist, and tradesperson. Its answers have the potential to transform our schools and communities. And exciting research on the question of developing expertise has emerged in recent decades from the field of cognitive psychology.

Powerful new evidence shows that opportunity and practice have far more impact on high performance than does innate talent. We all have heard by now that *ten thousand hours* of practice—that’s three hours a day, six

days a week, for ten years—goes into making someone an expert.

To understand what this means for everyday teaching and learning, I asked adolescents themselves in an initiative sponsored by the national nonprofit What Kids Can Do. Reaching out to schools and youth organizations, I looked not for prodigies but for ordinary teenagers willing to talk with me about their lives and learning. The net we cast drew in 160 students from diverse backgrounds around the United States, ranging from cities to rural communities. Together we explored how young people acquire the knowledge, skills, and habits that help them rise to mastery in a field.

To my surprise, every one of these youth could name something they were already good at. Many of them—not just the unusually talented—were even growing expert at it, although sometimes the adults in their lives had not noticed. Their examples kept coming: music, dance, drawing, drama, knitting, chess, video games, running, soccer, building robots, braiding hair, writing poems, skateboarding, cooking. So much sustained practice in pursuit of mastery—and so much of it happening outside of school!

In days of discussion, the kids and I picked apart how they got started at these activities, why they kept going, and what setbacks and satisfactions they experienced as they put in the necessary practice. We discovered a great deal about why young people engage deeply in work that challenges them. And as we analyzed their experiences, we also began to think differently about what goes on in schools. Could what these young people already understood about practice also apply to their academic learning? Could teachers build on kids’ strengths and affinities, coaching them in the same habits that experts use? What did it take

to light a fire in the mind of an adolescent that would fuel a lifelong passion for learning?

STARTING OUT AND KEEPING GOING

These teenagers' stories brought into vivid relief the research on how expertise develops. Few of them started their chosen activity because they had "natural talent." Largely, they gravitated to something because it looked like fun, because they wanted to be with others who were doing it, and because someone gave them a chance and encouraged them.

Chapter Two, "Catching the Spark," is filled with their stories of how they caught that first spark. Joey, a nationally ranked archer at sixteen, first picked up a bow and arrow at six, because he wanted to "hang out with my dad in the backyard and shoot bales." Ninoshka learned to knit from her grandmother, who "would not be mad at me, no matter what came out wrong, because she was trying to make me better at it." Kellie tried Double Dutch jump rope only when her big sister counted her down to the first scary move.

Kids have to want something before they risk trying, said Ariel, a young skateboarder in New York City.

> If something's very fun-looking to you, you just get right into it. That inspiration from watching other people do new things, it gives you the confidence in yourself where you can go out and try it.
>
> - ARIEL V.

Even a small success at the start helped their initial interest burn bright, these young people said. Not far into their learning, however, they faced significant frustration—and what happened next made a critical difference. To

succeed, they would have to stick with it, as they tell us in Chapter Three, “Keeping at It.”

“Everything takes practice,” said Darrius, a Chicago student bent on becoming an artist.

> It’s not like one day you can just get up and say, “I’m going to do something.” You got to practice at it. You might be good at it when you first start off, but you still got to practice so you can get better, because no one’s perfect. Like me: I can draw real good. But certain things that I want to do in drawing I can’t do right now. So I just keep working at it.
>
> - DARRIUS

When they hit discouraging points, most students said, they continued only if they had a strong relationship with someone who supported them through the rough spots. “The people who sit next to you have a big part in how you get better at something,” observed Janiy, who studied piano.

> Without them you can start getting lazy, and you want to give up if you don’t get it right the first time. I give up on the inside, and she tells me, “Again. Come on—once more.”
>
> - JANIY

In school too these youth persisted with challenging material only when their practice was supported. From their outside activities they had gained a healthy respect for the base of knowledge they needed in order to do something well. They knew that the right kind of practice would help them recall what they had learned, just when they needed it later.

Mike, a young drummer from Maine, told of learning the double-stroke roll, “where your stick bounces once on the

snare, like ‘buh-*bum*,’ and you hit the other stick and it bounces.” His teacher kept him practicing it for weeks, until the action came to him effortlessly.

> You just have to go slow, and play that forever until you understand the movement. Then once you get comfortable with it, you just work your way up, play a little bit faster, and then just a little bit faster.
>
> - MIKE

The wrong kind of practice, however, could stop these young learners in their tracks. If she couldn’t expect to succeed at something with a reasonable amount of effort, Iona said, she wouldn’t even bother to try.

> When people are only faced with their failures, they tend to want to give up. They need help to see their own progress, so that they don’t only see how bad they are doing. They need to see the fun in it, and to see some reward in completing the task.
>
> - IONA

These teenagers were describing what cognitive researchers such as K. Anders Ericsson call *deliberate practice.* Their learning tasks were set at a challenge level just right for them. They repeated a task in a focused, attentive way, at intervals that helped them recall its key elements. All along they received and adjusted to feedback, correcting their mistakes and savoring small successes. (In Chapter Five, “Exploring Deliberate Practice,” they explore the elements of deliberate practice in their most compelling activities.)

When their practice went just right, kids told me, they felt caught up in a state of “flow”: the energized, full involvement of going after a challenge within their reach. As Aaron, a basketball player, described it:

> Running down the court, it’s like a lion hunting for its prey: there’s nothing else on its mind but that prey. And that’s what makes it so beautiful, just the strive of it.
>
> - AARON S.

LEARNING FROM EXPERTS

Watching accomplished people do something well often made these teenagers want to practice even more. Talking to experts in person was even better. As Mike said, “If I meet a musician I look up to, everything he says is like it was bolded out.”

So I sent students out to interview people from their communities whom they considered masters in their fields—plumbers, farmers, physicians, church organists, psychologists, engineers, and so on. And as the kids transcribed those interviews, they saw many similarities to their own learning journeys.

Every expert’s story started with a spark of interest that somebody noticed and fanned. All had the opportunity to explore that interest further, with someone nearby to encourage, critique, and suggest next steps. Small successes along the way rewarded hours of practice—and with a challenge met, the experts wanted to go further.

Whether the person interviewed was a surgeon, a tattoo artist, or a detective, each of these experts had developed certain habits along the way. Some were ways of thinking, we realized, and others were ways of approaching their work. The students and I made a list and returned to it often, checking whether the kids were developing these

same habits through their own practice. (We say more about this in Chapter Four, “Asking the Experts.”)

Was it competition or collaboration, public performance or private satisfactions that drove these experts through their years of practice? These are among the questions that my students address in Chapter Six, “Practice and Performance.” But in all the answers they gathered, they recognized the quality of flow—“the strive of it”—that they already knew well. Energized by that discovery, the kids were ready to explore what could bring that full engagement into schoolwork.

TAKING PRACTICE TO SCHOOL

Nothing compared to “the strive of it,” these young people agreed. Yet they felt that sense of involvement in a challenge most fully outside of the classroom. Some kids threw themselves into reading, writing, and the arts, but even those activities rarely coincided with their formal schooling. How might schools transfer the excitement of learning from one realm to the other? As one student observed,

> If teachers knew what gave us that driving force to do better, they could apply that, so that everyone can do things to the best of their ability.
>
> - AVELINA

Our Practice Project was already sharpening these young people’s curiosity about learning, giving them a new way to talk about it and turning them into “experts in expertise.” Perhaps their teachers too could gain new insights from looking closely at out-of-school learning. Such

understanding could have only good effects, said Rachel, a San Antonio student.

> The teachers you have along the way can either make or break you. They pass along to you their own learning process.
>
> - RACHEL M.

In Chapter Seven, “Bringing Practice into the Classroom,” the students do not suggest making direct links between their interests and school subjects. Instead, they remind teachers of the meaning and value they have found in outside-school commitments, and ask them to look for that in school subjects, too. As Micah, in San Antonio, explained:

> You want to delve into the reason why you are doing something, instead of just blindly following what the teacher tells you to do. If you are getting the answer without really realizing why it’s important, it’s empty. You are not really learning. You are going to drop that later, because it has no importance to you in your life.
>
> - MICAH

Sometimes, Samantha said, teachers seemed to focus more on students’ standardized test results than on their actual understanding.

> They go too much by the book. They worry about the perfect answer, rather than worrying about if we’ve learned something.
>
> - SAMANTHA

Homework too came under their scrutiny. In Chapter Eight, “Is Homework Deliberate Practice?” the students hold up their assignments to the criteria for deliberate practice and find them largely wanting. Often homework has little to do with what individual students need to practice, and they respond by giving it little of their attention.