

CHAPTER 2

The School Pathway

The public schools were designed like a roach motel. You are supposed to enter at age six and you can't leave until they stick a fork in you and proclaim that you are done.

(Russell, 2019)

This is Steve Russell's characterization of schools in his article "Schooling v. Education." Russell is enrolled Cherokee and went to school in Oklahoma. He dropped out at ninth grade but later earned a master's degree in judicial studies and became a judge, a writer, and an academic. His characterization of schools may be too harsh for some—particularly those who have been working very hard at making schools better—but his experiences of formal education during the 1950s were miserable and intolerable:

I must also admit that I despised Bristow High School so much it made me crazy at times. Finding a place to hide where I could curl up with a book had been easy at Edison Elementary, but as I got to higher grade levels it became nearly impossible. It was as if I could not breathe within the building and I would start to hyperventilate half a block away to maximize how long I could hold my breath. (Russell, 2019)

Russell summarized the main cause of his experience this way: "The teachers lacked the authority to deviate from the approved

curriculum and I lacked the inclination—some would say, the common courtesy—to apply myself to somebody else’s priorities.” Russell is a classic example of a student who did not fit into school’s traditional borders.

Russell’s reflection highlights the fundamental problem with the entire system of schooling. Russell’s teachers could not deviate from the curriculum, which had been approved by some authority. In Russell’s case, that authority would have been the Oklahoma State Department of Education or the local school district. Even if the teachers wanted to help Russell, to work with his passions and desires, they could not do much. They had to teach what the curriculum prescribed. The essence of the problems with schools is not teachers, school leaders, or policy makers. Everyone involved in schools wants to do good for students. However, schooling, as it has been conceived, consists of a series of well-designed borders that define what policy makers, school leaders, and teachers can actually do.

Teachers cannot deviate from the curriculum because the curriculum is made to serve all students and every student is required to master the curriculum. Technically, the curriculum is decided by a governing body and is subject to changes based on that body’s reactions to societal changes and public opinions. Once changed, the curriculum applies to all teachers and students. In other words, whatever curriculum is being taught becomes one of the rules that govern schooling and must be applied to all students.

To look at it another way, the school could have a curriculum that fits Steve Russell very well but is unfit for some other students. Whether other students would have such a strong reaction as Russell did is hard to predict, but what is certain is that one curriculum does not work for all students. Some students may have the inclination to follow the curriculum anyway, but some may just decide to leave, as Russell did.

The curriculum is just one of the many limitations that cannot be deviated from in schools. In the 1990s, education historians David Tyack, Larry Cuban, and William Tobin (Tyack & Cuban, 1995; Tyack & Tobin, 1994) wrote about the “grammar of schooling”: rules that dictate the operation of schools. These rules include age-based grouping, knowledge being splintered

into school subjects, school time being fragmented into classes, an adult managing a group of students, and more. Only when these rules are implemented is a school an actual school in the eyes of the public.

These rules—which we’ll cover in the chapters to come—are what I call *borders*. They define the space within which students learn. They specify what students can and cannot do with regard to their education. They also decide which students are “good” and which ones are “poor.” In other words, when people become students in a school, they live within many borders. They cannot go beyond these borders, and their learning is sanctioned within these borders.

THE BORDERS OF SCHOOLING

Borders are inherent within schools. Think of them as the bricks that make up the school building. They are molded together and cannot be easily changed. Let us look at some of the most defining borders of schooling.

The Curriculum Border

Virtually all schools have a curriculum for their students that describes and defines the content that students can learn in a school. As explained earlier, the curriculum is often defined by a governing body at the national level, the state level, the school level, or a combination of the three. In the United Kingdom, Australia, and many other English-speaking countries, the curriculum is prescribed at the national level and applies to all students throughout the country. In the United States, on the other hand, curricula are derived from state standards and are decided at the district or school level.

Often splintered into different subjects and activities, a curriculum specifies what and when students should learn. It often also details how much time students should spend learning the various elements of the curriculum. Furthermore, it implies or specifies assessments—when students take what tests to demonstrate that they have learned what they are supposed to learn.

It seems natural that schools have a curriculum. A curriculum gives parents and the public a sense of what their children will learn and what we can expect these children will know and be able to do later. It tells school leaders and teachers what they should teach. And, most important, it defines what students should study when they are in school, whether or not it leaves room for students to learn what they may be interested in learning.

The curriculum is a powerful border for all students, for a number of reasons. First, it defines what it described as achievement. Students can learn anything—and they do, both within and outside school—but only that which is included in the curriculum and measured by related assessments is considered “real” and legitimate learning. Anything else, no matter how good, useful, or meaningful, is not measured and therefore is not considered part of a student’s growth.

Second, a curriculum represents the voice and mind of the powerful—those who have the authority to decide the content that must be taught. This powerful group uses the curriculum to control what students are allowed to and must learn. Moreover, they are the ones who have become successful and control much of the social mechanisms to sort children into different roles. Students who are willing and able to complete the curriculum are rewarded; those who don’t are typically left behind. As a result, very few students can openly reject the curriculum. If they do not like the curriculum, they may pretend to study it; when they can’t manage that, they may just leave the school, as Russell did.

Third, mastering the curriculum consumes all the time students have in school and, in some places, outside school. While students may be allowed, or even encouraged, to have extracurricular activities, the majority of their life is dedicated to the curriculum. Because it is the school’s responsibility to teach the curriculum, the entire school staff focuses on getting students to master it. As a result, as long as he or she is in school, a student can only have access to the learning available in the curriculum.

Fourth, there is only one curriculum for each core discipline area—or set of standards—in a school. Because the majority of the world’s schools are public schools, operated by governments,

most of them have the same curriculum—although the United States is an outlier in only prescribing a set of national standards. It is often the case that one curriculum serves millions of students. Even when curricula technically differ across state or national lines, what is in them is amazingly similar, with literacy and numeracy at the core, plus history, governments, sciences, foreign languages, and a few other alternatives. The result is that almost all students in the world study the same thing for nearly twelve years.

We'll discuss alternatives to the curriculum border in Chapter 5.

The Teacher Border

The teacher is another border that limits students in schools. A teacher is charged with responsibility for a group of students, which varies in size depending on how much the school costs and where the school is. Generally, in more expensive schools, a teacher is in charge of fewer students than in less expensive schools.

Their roles may vary slightly in different schools, but teachers are generally tasked with the same responsibility: teaching the students the subject(s) they are responsible for. Teachers are prepared in colleges of education to teach specific subjects. Every teacher must be able to teach at least one or perhaps two subjects in the curriculum. Their job is to make sure they teach the subjects while maintaining order in a well-managed classroom.

When in school, students are with a teacher virtually all the time. They are rarely given or have the opportunity to be on their own. While the curriculum determines what knowledge and skills students learn in the classroom, teachers determine how to teach the content and how each class “feels.”

Teachers are presumed to be necessary for students, for a number of reasons. There is a general assumption that students cannot learn without being taught by a teacher. Furthermore, teachers must be around to ensure students are well-organized, so that they can learn. They are necessary to maintain order when students are together and make sure that students are behaving well toward each other. In other words, there is an underlying belief that

students do not know how to learn and will behave poorly toward each other unless they are managed by teachers.

As a result—and, not surprisingly—students are subject to teachers. They rarely have the opportunity to pick their teachers. They must follow the teachers assigned to them and obey them completely. The student–teacher relationship largely favors the teacher, placing the teacher at a much higher level than the student. In essence, as soon as students are in school, they are dominated by teachers, who are also carriers of the powerful curriculum.

As a result, for as long as the students are in school, their learning is constrained and dominated by their teachers. They are within the borders of teachers, which we'll discuss further in Chapter 6.

The Classroom Border

The classroom is as old as schools; in fact, most schools started with just one room. Now each school is made up of many classrooms. Classrooms make another significant border that confines students. In schools, knowledge is splintered into subjects, and students of each subject are divided into classes, and each class is held within a classroom. A teacher teaches the class in the classroom. Unless the teacher makes an effort to bring in outside resources or take the class on a field trip, students are stuck in isolated physical classrooms. What they can have access to is limited to what is available in their classrooms.

The Age Border

Age is yet another border within which all students have to live in terms of learning. Schooling is first and foremost age-based. Children must reach a certain age in order to go to school, regardless of their physical, cognitive, psychological, and socio-emotional conditions. They then must spend a certain number of years in school before they can legally leave.

When children arrive at school, they are placed with a group of other children of or near the same age as them. And this group of children is asked to learn the same content and skills. Although some of them may already know the content and skills, and some others may be far behind, the assumption is that they all should

know the same content and have the same skills by the end of the year, as assessed by the same tests.

Age is a big determinant in life, but it seems to play one of the most important roles for K–12 students. It places people in a spot—that is, school—where they have little freedom to follow their own passions and interest. On very few occasions can individuals break the border and study or do something else if they stay in school. We will look at rare examples of students who have done just that in Chapter 6.

The Graduation Border

Schools are divided into stages: primary (or elementary), middle, and high school. Although the division is sort of arbitrary, as suggested by the different number of years each stage occupies in different educational systems around the world, it is treated quite seriously in life. For example, students need to complete primary school before moving to middle school; they cannot simply decide when they are ready to go to middle school.

Moreover, in some places, moving from primary to middle school is not automatic but requires passing exams. Depending on the results of the exams, students can be sorted into different types of schools or different tracks. Likewise, in some systems, moving from middle school to high school requires examinations as well. The examination results can play a role in determining the type of high schools students can attend.

Schools operate on a readiness model: Each grade functions to get students ready for the next grade. Each level of schooling is meant to make students ready for the next level. In other words, students use their twelve or so years in school to become ready for what they will do next. When they reach the end of this period, they graduate and are presumed to be ready for college, careers, and life.

This graduation is another strong border of schooling. Before graduating, a person must stay in a school and spend his or her life on school-related matters. Only after graduation can he or she decide what to do with his or her life. Those who drop out of school, like Steve Russell, are typically considered “at risk,” and

opportunities are offered for them to study so they can make up the graduation by taking a high school equivalency test. In the United States, the GED (General Educational Development) is such a program.

The graduation border places students in school for a certain number of years. In most modern societies, the number of years is typically eleven to thirteen. During these years, students' primary job is to go to school and become ready for life after graduation. It is extremely difficult for students to do something other than attend school during this time. In most cases, it is against the law for children not to be in school. This border, together with other borders, seriously limits the opportunities that students can pursue in their own life.

THE DYSFUNCTIONAL ONE-TO-MANY MODEL

These borders make school a uniform experience for modern children. Everyone has to go to school and stay there for a certain number of years before they can do something else. The school follows the model of “one to many”: one outcome for many students, one curriculum for many students, one pathway for many students, one teacher for many students, one assessment for many students, and one school for many students. Learning is bounded within the borders of standards, curricula, pacing guides, teachers, testing, classrooms, schools, and school districts. Learners thus pursue the same set of skills and knowledge, follow similar pathways, take the same tests, and learn from the same teachers within the same classroom defined by physical and virtual boundaries.

This one-to-many model was necessary for the Industrial Age. When our modern schools were constructed, the mass-production Industrial Age was beginning. The Industrial Age required a homogenous workforce with similar skills, so it was not surprising to see all students being taught the same skills and content. In addition, all school systems must also produce citizens, who require a certain level of common knowledge to function in the same society. It seems reasonable to expect all students to have similar knowledge.

Moreover, during the Industrial Age, teachers were the primary sources of knowledge. As a result, students had to go to a location where teachers were available. For efficiency's sake, each teacher had to teach a group of students. It is completely reasonable for teachers to be located in the place called "school" and for students to come to this place to learn. For over a hundred years, this one-to-many model of education has existed and matured. Despite the many problems and challenges they have faced, schools have prospered well.

However, this model is neither necessary nor functional anymore. The model has been criticized for a long time and for many reasons. It is beyond the scope of this book to list all the problems, although we will discuss the various borders identified. Instead, I highlight the most pressing and relevant issues.

Not Meeting the Needs of All Learners

One of the loudest criticisms of this model is that it does not meet the needs of all learners (Zhao, 2016, 2018c). The logic is simple: A one-size-fits-all model does not serve a tremendously diverse population of students who have different needs and purposes. The diversity of children, as due to the interactions between "nature" (genetics/heredity) and "nurture" (environment), is widely recognized (Ridley, 2003).

Children are born different from one another. They are physically different, with different genetic potentials for height, weight, and skin color. They have different talents and different cognitive strengths and weaknesses. They are different in temperament and personalities. They have different innate desires, interests, and passions.

The environments children are born into are different as well. Some children are born into families of musicians; others into families of mathematicians; still others into families that love sports and games. Some are born into families with abundance; others into families of poverty. Some are born into communities of resources; others into communities of desperation.

Different environments create different experiences for children. Their nature—that is, their natural instinct—interacts with their environment, and, together, these things make children who they

are. A young boy with a gift for reading cannot know whether he is good at reading until he has a chance to interact with a book. A young girl will never realize her musical talent until shown a way of expressing and developing it. Likewise, only a child who is granted the opportunity to experience the beauty of math will go on to become a mathematical genius.

These different children come to school, to the one-size-fits-all school, at a certain age. Immediately, they are judged by the curriculum. The curriculum, especially in the age of accountability, highlights literacy and numeracy. Other subjects are there but have little significance. School leaders and teachers are much more concerned about how their students do on accountability assessments, which typically tests math and reading. As a result, children who come to school with good reading and math skills are welcomed and celebrated, because the curriculum favors them. Those who struggle with math and reading are considered “at risk” and given extra attention (if they are lucky) or paid no attention to. Either way, these children suffer.

There are many other ways school does not serve the students who don't naturally fit into the curricular expectations or the essential arrangements of schooling. In many classrooms, students are penalized for not showing up on time, for not sitting down or for sitting improperly, for not doing or turning in the homework as instructed, or for challenging the teacher. Students can also get in trouble for refusing to study the dictated content, for failing to comply with school rules, or for raising questions in class.

When students who may otherwise be talented find themselves incompatible with schooling, the majority of them are smart enough to choose to “pretend” to be in school. They pretend to study, to follow the teachers, to do the homework, and to take part in the exams. They exert little effort but manage to go through the years to graduate. Some others may play along in some but not all of their subjects, choosing what to study and what to ignore as much as they can. Then you have the dropouts, like Russell, who cannot stand school and have to leave. Of course, there are also students who learn to cope with the system. These students decide to accept the curriculum and the teacher as the ultimate source of approval. Success in school becomes so powerful for them that whether schooling ultimately fits their future or their needs becomes of no concern to them.

Not Meeting the Needs of the World

Another issue with the current model of education is that it fails to help children meet the challenges and needs of the world of today and tomorrow. While the term “21st century skills” suggests that students need a new set of skills and knowledge in the 21st century (Trilling & Fadel, 2009), schools are not yet equipping students with those skills. And we are already more than twenty years into the 21st century! In his 2008 book *The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need—And What We Can Do About It*, Tony Wagner's assertion that even the best schools in the world are not preparing children for today and the future is certainly right on.

During the writing of this book, I interviewed several thought leaders in the field of education, and all of them agree with Wagner. I asked them all about their views on our current educational system. No one said it works well. Their reasons why the current model does not work do not vary much; in general, they have to do with not equipping students with the skills they need for today or for the future.

The ability to deal with uncertainty, for example, is a big issue for Ron Beghetto, a veteran researcher on creativity, a professor of education at Arizona State University, and the author of numerous articles and books, including *What If? Building Students' Problem-Solving Skills Through Complex Challenges* (2018b), *Beautiful Risks: Having the Courage to Teach and Learn Creatively* (2018a), and *Big Wins, Small Steps: How to Lead for and With Creativity* (2016). Ron believes that, whereas today's schools teach children to remember known answers to known problems, students need to come up with innovative solutions to uncertain problems. The world needs people who can react to uncertainties, which is the norm of the world today.

My interview with Ron Beghetto is on my YouTube channel (Yong Zhao). To access all of the video interviews mentioned, type the following URL directly into your browser:

<http://bit.ly/learnerswithoutborders>

Ted Dintersmith, a businessman with experience in politics and education, shared similar views. Ted—who has become an influential education writer and filmmaker, with video and book products such as *Most Likely to Succeed* (Wagner & Dintersmith, 2016) and *What Schools Could Be* (Dintersmith, 2019)—said that he does not think schools are preparing students well for today, let alone tomorrow.

Milton Chen, founding director of the George Lucas Educational Foundation, which has focused on collecting evidence of educational innovations, and author of *Education Nation: Six Leading Edges of Innovation in Our Schools* (2010), holds a similar opinion. He does not believe that much more than 10 percent of American schools are actually doing any of the educational innovations and ideas that have come about over the past several decades. (Watch my discussions with Ted and Milton on my website, at <http://bit.ly/learnerswithoutborders>.)

Catlin Tucker, an innovative teacher who has also become an influential teacher trainer and author of multiple books, including *Balance With Blended Learning: Partner With Your Students to Reimagine Learning and Reclaim Your Life* (C. R. Tucker, 2020), said that the percentage of schools that actually enable teachers and students to shift their education into student-centered learning is very small. Most important, Catlin does not believe that schools serve children well.

Like Catlin, Julie Stern is a teacher who has transformed into an instructional coach to support school transformation. She is also an author of *Tools for Teaching Conceptual Understanding, Secondary: Designing Lessons and Assessments for Deep Learning* (Stern et al., 2017) and other books. Julie works with curricula but is deeply concerned that the way curricula are designed and implemented in schools can actually hurt education. (My interviews with Catlin and Julie can also be found at <http://bit.ly/learnerswithoutborders>.)

There is general agreement from these thought leaders and countless others that the traditionally valued skills and knowledge will become less important and a whole set of new capabilities will become more important (Barber et al., 2012; Florida, 2012; Pink, 2006; Wagner, 2008; Wagner & Dintersmith, 2016). While the specifics vary, the

general agreement is that repetition, pattern prediction and recognition, memorization, and any skills connected to collecting, storing, and retrieving information are in decline because of AI and related technologies (Muro et al., 2019). On the rise is a set of skills that has many different names, such as “21st century skills,” “soft skills,” and “noncognitive abilities.” These skills include creativity, curiosity, critical thinking, entrepreneurship, collaboration, communication, growth mindset, and a host of others (Duckworth & Yeager, 2015; Zhao, Wehmeyer, et al., 2019).

But the current model of education is not teaching students these skills. Moreover, we should be encouraging students’ individuality, rather than praising conformity and homogeneity, so that students can thrive in the age of “smart” machines (Zhao, 2012, 2018c). Automation has already displaced millions of workers, and the Fourth Industrial Revolution will result in even more displacement. It is essential that the workers of the future (today’s students) not compete with machines; instead, they need to develop their uniquely human abilities. Machines do not have (yet) our social and emotional qualities; therefore, according to Tim Cook, CEO of Apple, those qualities are of tremendous value to educators:

[Teachers are] worried about machines taking jobs and AI sort of replacing humans. My worry is not that machines will think like people—it’s that people will think like machines. And so that to me is a much bigger worry. (quoted in I. Fried, 2018)

And, of course, the one-size-fits-all education model is not helping students become more personalized, more unique, and more different from machines.

SUMMARY

Confining learners within the boundaries of a single pathway, a homogenous curriculum, a uniform set of standards and assessment, and a sole source of learning opportunities is damaging on a number of fronts.

First, it leads to tremendous waste of human potential because it does not provide opportunities, resources, and encouragement for developing the broad spectrum of natural human talents. Worse, it actively suppresses diversity by only valuing a narrow set of skills and knowledge in a limited number of domains.

Second, it leads to alienation and disengagement of a large proportion of children in the education process because they cannot find encouragement, support, or opportunities to learn what they are passionate about or interested in.

Third, it exacerbates the inequality in educational opportunities by limiting students to what's immediately available in their physical locations. As a result, children in disadvantaged communities suffer from poorer resources and teachers.

The current model of education may have been necessary at one time, but that necessity has diminished as technology has advanced. Our new society has made it possible to enjoy the full diversity of human potentials (Zhao, 2018d). Rising productivity has led to more leisure time and more disposable income, which enables human beings to consume more psychological, spiritual, intellectual, and psychological goods and services. These goods and services are personal and require a diversity of talents in their production. Further, it is also necessary now to cultivate a diverse workforce with different talents, passions, skills, and knowledge as machines replace the homogenous workforce with only mechanical skills. Finally, technology has made it possible for students to access a broad range of learning opportunities and resources beyond their immediate physical environments. Teachers are no longer the sole source of information for learners. We can now imagine a different model of education.