TEACHING DIGITAL NATIVES: PARTNERING FOR REAL LEARNING

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CHAPTER 1:

PARTNERING
A Pedagogy for the New Educational Landscape

Guiding Questions

1. What works in the classroom today? What needs changing?
2. Can we see students differently? Can we achieve mutual respect?
3. What is partnering? What are the teacher's and the students' roles?

Consciously or not, all of today's teachers are preparing their students not only for the world they will face the day they leave school (a world we know), but also for a future in which, within the students' working lifetimes, technology will become over one trillion times more powerful (a world we can hardly imagine). Every year of these students' lives, the world's information will explode anew; tools will get smaller, faster, better, and cheaper; people will have access to more of these tools (and will change their behavior because of them); and schools and teachers will no doubt struggle to keep up. Given all these changes, and the new realities of students' out-of-school environment, how can teachers best prepare students for their long-term future—as well as for tomorrow—while at the same time preserving the important legacy of the past? This is not an easy question.

But the consensus, however, among experts is clear.[1] The way for us to succeed under such conditions is not to focus only on the changing technology, but rather to conceptualize learning in a new way, with adults and young people each taking on new and different roles from the past.

Young people (students) need to focus on using new tools, finding information, making meaning, and creating. Adults (teachers) must focus on questioning, coaching and guiding, providing context, ensuring rigor and meaning, and ensuring quality results.

This 21st century way of working together to produce and ensure student learning is what I call *partnering*. Learning to do it is the subject of this book.

Moving Ahead

Today's overwhelming (and, to various extents, outmoded) educational division of labor is for teachers to lecture, talk, and explain, and for students to listen, take notes, read the text, and memorize. This is often known as *direct instruction*. Unfortunately, direct instruction is becoming increasingly ineffective; that too many of their teachers just talk and talk and talk is today's students' number one complaint. And unfortunately, the students' response is almost always to tune out.

So the era in which this type of teaching—lecturing, presenting, explaining to all, or telling—worked has pretty much come to an end. To the extent that teachers are a tool for learning, those who teach mainly by telling are becoming a less effective tool in the 21st century.

Yet most teachers were trained to tell. Most of them learned (and learned well) by being lectured to. Many teachers like explaining and think they are good at it. And they may, in fact, be good at it. But this method is no longer relevant, because students are no longer listening. I often

liken this to Federal Express: you can have the best delivery system in the world, but if no one is home to receive the package, it doesn't much matter. Too often, today's students are not there to receive what their teachers are delivering. They are off somewhere else, often in the electronic world of 21st century music, socializing, or exploring. The goal of this book is to help teachers bring them back.

What Is Working

Most students recognize and applaud their creative, energetic teachers—especially the ones who respect them and care about their opinions. But when I ask students "What in your entire school experience has engaged you the most?" the most frequent answer I get is "School trips." While trips have always been popular, I think this answer reflects the urgency that today's students feel to connect to the real world. Why? Because another frequent answer is "Connecting with other kids our age in other places electronically" (e.g., through a secure e-mail service such as ePals).

Inside their classrooms, what students say they find most engaging is group work (except when slackers are allowed to get away with not contributing), discussions, sharing their own ideas, and hearing the ideas of their classmates (and of the teacher when expressed as the ideas of an equal).

While they typically say they enjoy using technology, the single thing most valued by students is being respected by their teachers as individuals and not treated as kids who don't know much**,** and thus have to learn. "We're not stupid" is a universal lament.

Seeing Students Differently

Some teachers bemoan current students' capabilities, compared to students of the past.

But there is another way to see our students, a better, more positive way for the 21st century. We too often treat our kids as if they were still (using a 19th century metaphor) trains on a track when actually today's kids are a lot more like rockets (a much more up-to-date metaphor).

Which, by the way, makes educators (again metaphorically) rocket scientists! (Who knew?)

Why should we think of today's kids as rockets? At first blush, it's their speed; they operate faster than any generation that has come before. Although little may have changed in the rate kids grow up emotionally, there has been enormous change in what today's kids learn and know at early ages, and therefore, many think, in the rate they grow up intellectually.[2] Many kids are on the Internet by the age of two or three. I recently found that a NASA moon simulation I used in graduate school works just as well with fourth graders. Although today's parents and educators struggle with getting kids to learn in the old sense, the fuel they offer kids (i.e., the curriculum and materials) is often way behind what today's kids need. "Age appropriate" has totally outrun us. Even students of Piaget suggest it is time for a new look.[3] While some want kids to slow down and "just be kids," like before, speed is clearly a reality for young people in the 21st century.

But Wait . . . There's More

But what makes today's kids rockets is not just this increased speed. They are headed to faraway destinations, places that those who launch them often can't even see. They have been designed by their 21st century upbringing—especially by the Internet and the complex games many play—to explore and find out for themselves what works. Like rockets, they often cannot be controlled at every moment, but are initially aimed, as far as possible, in the right direction,

with mid-course corrections to be made as necessary. And because both kids and rockets are difficult to repair in flight, they must be made as self-sufficient as possible.

As with all rockets, kids' fuel mix is volatile. Some go faster and farther than others. Some lose their guidance or their ability to follow direction. Some go off course or stop functioning unexpectedly. Some even blow up. But as we get better at making them, many more hit their mark, and it is our job as rocket scientists to help them do so.

Huge Potential

Perhaps most important, today's rockets—and kids—can potentially go much farther and do things far beyond what any such voyager could do in the past. With the arrival of widely distributed and easy-to-use digital tools, kids already, on a daily basis, accomplish things that still seem like far-off science fiction to many of us adults. They communicate instantaneously with, play complex games with, and learn from peers around the globe; ePals, a secure electronic interchange site for kids, reaches every country and territory. Kids regularly make videos and post them for the world to see and comment on. They organize themselves socially and politically across the planet.

Educators as Rocket Scientists

So what does this metaphor imply for those whose job is to educate today's young people? It tells us that we must conceive of what educators do in a new way—not just as teachers, but as rocket designers, building and sending off the best rockets we possibly can. This includes not filling students with the educational fuel of the past, because that fuel just doesn't make today's kids go. We need new fuel, new designs, new boosters, and new payloads. Rocket scientists understand that their rockets will likely encounter many unforeseen events and trials,

so they work hard to build into the rockets enough intelligence to get the job done with minimum outside help. They build into the rockets the ability to self-monitor, self-assess, and self-correct as much as possible. They create the ability for their rockets to use whatever devices and instrumentation are available to regularly gather data and then analyze it, even as they are speeding along. They perform rigid quality control, not of what the rockets' brains know—that's updatable on the fly—but of what they can do with the information they encounter. And while they may preprogram a target, they know that the target will likely change midcourse and that there are likely to be other changes during the course of the rocket's life.

A Useful Perspective

Seeing our students and ourselves in this new way encourages educators to set the bar for student achievement extremely high, far higher than we typically do currently. I have often heard educators say they are "blown away" by what their students have accomplished. We should not be blown away by our students; we should be expecting even more from them.

Of course, rockets are high-maintenance and often require more of designers' effort and skills to build and keep up. They are also useless on the ground, so that is not where we should be preparing them to stay (many of the "ground skills" have been taken over by machines and are no longer needed).

Exploration or Destruction?

Depending on the payload installed at the beginning of the journey, students (like real rockets) can be powerful forces for exploration and change or potential weapons of destruction. Educators, along with parents and peers, install the payload. Then we send them off to fly into the future, hoping we have prepared them well for what they will meet. To make the payload

positive, installing ethical behavior—the ability to figure out the right thing to do and how to get it done—ought to be our number-one concern. We need to best configure students' brains so they can constantly learn, create, program, adopt, adapt, and relate positively to whatever and whomever they meet, and in whatever way they meet them, which increasingly means through technology.

Conceptual, Not Technical Changes

It is with this positive view of 21st century students in mind that we turn to partnering. We want our young people, like rockets, to "boldly go where no one has gone before,"[4] and partnering offers the best prospects for getting them there. Surprisingly, perhaps, the most important changes required of educators are not technological, but rather conceptual—thinking of themselves less as guardians of the past and more as partners, guiding their living, breathing rockets toward the future. No one advocates throwing away the past completely. But unless we start preparing our students to fly much further than before and land safely, we won't be doing them much good. If we don't soon start putting some new and different fuel and payload into the rockets that are in our charge, then they will never get off the ground.

How Partnering Works

The term "partnering" can mean different things to different people. After all, a teacher's talking while the students take notes is a kind of partnership. But that's not at all the type of partnership I am talking about here. Let me specify precisely what partnering means in this book's context: letting students focus on the part of the learning process that they can do best, and letting teachers focus on the part of the learning process that they can do best.

Letting the students do what they can do best means giving students primary responsibility for the following:

- finding and following their passion
- using whatever technology is available
- researching and finding information
- answering questions and sharing their thoughts and opinions
- practicing, when properly motivated (e.g., through games)
- creating presentations in text and multimedia

Letting teachers do what they can do best means giving teachers primary responsibility for the following:

- creating and asking the right questions
- giving students guidance
- putting material in context
- explaining one-on-one
- creating rigor
- ensuring quality

Partnering is the very opposite of teaching by telling. In fact, in the partnering pedagogy, the teacher's goal is to do no telling at all (at least to the whole class). Rather than lecture, or even explain, the teacher needs only give students, in a variety of interesting ways, questions to be answered and, in certain cases, suggestions of possible tools and places to start and proceed. In partnering the onus is then completely on the students (alone or in groups) to search, make hypotheses, find answers, and create presentations, which are then reviewed by the teacher and

the class and vetted for their correctness, context, rigor, and quality. The required curriculum gets covered because the questions the students answer are the ones they need to know. And as we will see, there exist levels of partnering to fit different types of students, different situations, and different backgrounds.

Partnering Tip

How you can eliminate telling, or direct instruction, (and what to replace it with) is a great topic for you to discuss with your class, in a specific time that you set aside. Ask your class if they think you talk too much, or more than you need to. Then ask them for suggestions on how you could reduce the amount of time you tell. You will likely be surprised by their answers.

Such a major shift in pedagogy—from telling to partnering—is clearly not a change that either teachers or students will make overnight. It is, in reality, a gradual shift that can take years to perfect. But as thousands of teachers will attest, it can happen. And it must happen for 21st century students to get the education they need and deserve. The good news is that there are now a great many teachers—in every subject and at every level—happily and effectively partnering with their students every day, and you can use them as models.

Partnering Basics: A Simple Example

The best example of partnering that I have ever heard came from a teacher during one of my student panels. The teacher asked the students on the panel this question: "Suppose there are three causes of something that you, the students, have to learn about. Which of the following would you prefer: That I say, "There were three causes of [whatever]. I will now lecture and tell

you what they were—please take notes," or that I say, "There were three main causes of [whatever]. You all have 15 minutes to find out what they were, and then we'll discuss what you've found."

To nobody's great surprise, whenever students are asked this question they almost universally prefer the second alternative. Most of today's students, no matter what their age or grade level, prefer to take an active role and find things out for themselves, rather than be told them by the teacher.

Do Some Things Require Lectures?

Yet whenever I say, "No lectures," I get people who push back with "Some things require lectures." So please take a minute right now to reflect on what, in your subject area, you think might not be possible to teach without lecturing, telling, or explaining, in front of the class. Now ask yourself this question: "Could I reframe this topic or information instead as answers to a series of questions, questions that I might ask, say, on a test to see if the students understood the topic or material?"

At its simplest, partnering is just giving the students those questions to research, explore, and find answers to, and then for the class to discuss and review. I believe partnering can be done in any subject with any material. But it does require a new perspective.

Is Partnering New?

At this point you may be saying to yourself, "Partnering is nothing new. It's just what used to be called [put your answer here]." If so, you are absolutely right. To a great extent, partnering falls into the great pedagogical tradition known, variously, as:

- student-centered learning

- problem-based learning
- project-based learning
- case-based learning
- inquiry-based learning
- active learning
- constructivism
- co-constructing
- learning by doing.

John Dewey famously espoused this form of pedagogy in the early 20th century,[5] and it has probably been used, in one form or another, since Socrates. (One early reader of this book pointed out nicely the lineage from Pestalozzi to Frances Parker to Dewey to Bruner.) Other names for this pedagogy exist as well. The Massachusetts Institute of Technology calls its version technology-enhanced active learning (TEAL). A teacher recently wrote me about process-oriented guided inquiry learning (POGIL). Challenge-based learning is another variation, from Apple. (It was recently described in a report from the New Media Consortium.[6].) Quest-based learning is being tried in a New York City experimental school. All of these are continually being revised and updated.

But while each of these pedagogies has its own proponents, principles, and peculiarities, they are all, at their core, very similar. In a sense, they are merely brands, if you will, of the same general type of learning. The common thread is that students learn on their own, alone or in groups, by answering questions and solving problems with their teacher's help, coaching, and guidance.

I prefer the term *partnering* to any of the others because it emphasizes that the roles of each group, teachers and students, are different, but equal. Partnering underscores that each party must draw on its own particular strengths to improve the learning process as a whole. I also like what partnering has to say about the role of technology: that it is the job of the students, and not the teacher, to use it, and the job of the teacher to assess the quality of that use. But this last may only reflect that digital technology didn't exist when some of these other brands were established—I think it really applies to all.

Again, what matters is not the name or brand of partnering you choose—that will depend on you, your students, and your context, such as the school, or state, you teach in. What does matter is that you move in the partnering direction. Figure 1.1 points out some of the different ways that work in the partnering pedagogy is split between the students and the teacher.

Figure 1.1 How Partnering Work Is Shared

Teacher	Student
Doesn't tell, *asks*!	Doesn't take notes, *finds out*!
Suggests topics and tools	Researches and creates output
Learns about technology from students	Learns about quality and rigor from teacher
Evaluates students' output for rigor and quality; supplies context	Refines and improves output, adding rigor, context, and quality

Partnering and the Curriculum

One concern frequently raised by teachers is that they are constrained by a mandated curriculum, which somehow conflicts with partnering. Certainly, at least in public schools, there is for every subject and level a required set of (increasingly skills-based) standards to be taught.

But remember that those standards specify only *what* to teach, not how to do it.

Partnering can, and does, work with today's required curricula. But it demands a rethinking of those curricula on the part of teachers from the "this is the material to be learned" approach of textbooks, to an approach of "guiding questions to which students need to find answers." Interestingly, textbooks—most of which reflect the old, telling pedagogy—have gotten things completely backward from the point of view of partnering (and, generally, student interest). Textbooks put the answers (i.e., the content) up front and the questions in the back. Partnering reverses this, putting the questions first, which, as it turns out, is far more motivating to students. Asking "Why?" upfront (Why do we have seasons? Why do opposites attract? Why does English have so many nonstandard past tenses? Why do we forget, or make bad decisions? Why did people from Europe come to America?) is far more likely to make kids think than are lectures on seasonality, polarity, irregular verbs, psychology, or discovery and immigration.

But what students have to know, (and what they will, of course, be tested on in the standardized tests), remains the same regardless of the pedagogy. Partnering teachers find that the process of students actively answering the questions leads almost universally to higher engagement (I've never heard a partnering teacher say that his or her students were *less* engaged.) The increased engagement, in turn, typically produces better retention of material and higher test scores, as in case of the primary school teacher who saw his students' descriptive writing scores go up an entire testing level.[8] Many teachers describe similar phenomena.

Technology in Partnering: The Enabler and Personalizer

And what, in the partnering pedagogy is the role of technology? *Technology's role is to support the partnering pedagogy, and to enable each student to personalize his or her learning*

process. All students and teachers know that students get the greatest reward for their efforts when things are individualized and customized for each student. What's always been needed in our classrooms is a way to deal with each student individually or, at the most, in extremely small groups in a way that is truly implementable and effective. Up until now, though, the combination of large class sizes and few resources outside of textbooks, outdated reference books, and limited library and teacher time have made total individualization difficult, if not impossible, for most teachers to pull off.

The greatest single boon of the arrival—albeit slowly and unevenly—of digital technology in our schools is that it will, in the long run, enable teachers and students to partner in this much more personal and individual way, i.e., for each student to learn on his or her own, with the teachers' coaching and guidance. It will permit students not just to "learn at their own pace," as is often heard, but to learn more or less in whatever ways they prefer, as long as they are in pursuit of the necessary and required goals.

Just adding technology, however, will not make this happen. In fact, in some cases, laptops have already been added *and* removed for having "failed".[9] But the failure in those cases was neither of the students nor with the technology, but rather with the pedagogy. In order for technology to be used successfully in classrooms, it *must* be combined with a new type of pedagogy—partnering. Partnering works with technology because it allows technology to be used, especially by students, to its fullest extent.

Rather than teachers interrupting their lecture for a technology "exercise," partnering enables students to be engaged, from the start of every class, in discovering on their own (and sharing with each other) what the material is and how it works, in finding examples in multiple media, in creating and sharing their own examples, and in communicating with peers and writers

around the globe.

Establishing Roles and Mutual Respect

For any type of partnering to succeed, however, it is key that mutual respect between students and teachers be established. To some readers this may sound obvious, or like something that is already there, but that is not always the case. My discussions with both students and teachers have taught me that there is not nearly enough respect in our schools and in teaching. And it goes both ways—students' respect for teachers and vice versa. Respect is, of course, a key element of any teaching and learning, but it is especially important for teaching and learning via partnering.

The key requirement for respect in a partnering context is that it be mutual; each partner must truly respect the other. I'm quite sure that all teachers want and expect their students to respect them, and all teachers would say, if asked, that they respect their students. But that is often not what happens in reality. Frustrated teachers say (or think) things like "My students can't concentrate" or "My kids have the attention span of a gnat"—things that are just not true overall. (Although these things may be true in the context of school, most students concentrate just fine on topics and activities that interest them.)

I've heard many teachers comment (mostly when students are not around) about their students' lack of caring, interest, motivation, even ability. When students overhear teachers saying these things (and other things that, outside of the school context, are similarly untrue), they feel disrespected—and rightfully so. And in reaction they often turn around and disrespect their teachers right back, frequently by pointing out the teachers' technological illiteracy.

Such mutual *dis*respect almost entirely prevents effective learning and partnering. For learning to take place, disrespect must be rooted out wherever it exists, on both sides of the

teacher's desk. For successful partnering, teachers and students alike must realize and accept that we have entered an era in which both students and teachers have something of equal importance to contribute to the learning process. Each side must respect and learn from what the other has to offer.

Some teachers have used the strategy of putting up a large sign in the classroom that says, "We are all learners, we are all teachers," and some schools have even gone so far as to adopt this as their official motto. These words can be reinforced and internalized by giving students the chance, whenever appropriate, to teach the teacher (for example, about technology) and by the teacher being a willing and eager learner.

Student Roles in Partnering

The metaphor I introduced earlier of students as rockets, needing to be properly fueled by teachers, programmed with self-directing capabilities, and sent to new and distant places is far more respectful of students than the old pedagogy's view of students as empty vessels to be filled with knowledge (or blank slates to be written upon). Making students more active and equal participants in the learning process is a sign of respect—respect that students everywhere are looking for. But what, specifically, are the students' roles in partnering?

Student as Researcher

One important role is that of researcher. When we adopt the partnering pedagogy of no longer telling students what they need to know, but instead requiring them to find it out for themselves (and then to share it with their peers and with the teacher for evaluation), that immediately puts students in this new and very different role. One bonus of doing this is that the role of researcher, being a professional one, carries with it a level of respect not always accorded

to mere "students." For this reason, some schools have actually chosen to officially rename their students as "researchers." Consider the case of a student in Texas, a former dropout, who commented, "That is almost all I do—look things up on the computer." She was quite happy to spend most of her school day in this way.

Take a minute to picture yourself working in such a school. It might be more akin to working at a magazine or a library, where you expect a very professional job from all your partners or colleagues. Obviously, if you get less than you expect from someone, you would give that person feedback, but preferably in a way that would help him improve next time. The atmosphere would be much more equal and collegial, which is exactly the goal in the partnering pedagogy.

Student as Technology User and Expert

A second key role for students in the partnering pedagogy is that of the technology user and expert. Students typically love this role and use as many technologies as they are given access to. I have watched different groups of students in a class simultaneously using video, audio podcasts, games, blogs, and other social networking tools to answer the same guiding question posed by the teacher. Such guiding questions (which I discuss much more in Chapter 5) could range from "How would you like your teachers to use technology in class?" to "How do people persuade each other?" to "What is the evidence for evolution?"

Obviously, no student knows everything there is to know about technology. Some know a lot, and some know surprisingly little. (That doesn't, by the way, make them any less digital natives, a distinction which is more about attitude than knowledge.) Many teachers, of course, are extremely technology savvy. But whether students *or* teachers know a lot or a little, in

partnering it is key for teachers to reserve the role of using the technology for students. Even when some (or even most) students in a class do not know about the technology, teachers should never use technology *for* them. Rather, teachers should only suggest what students might use (and solicit students' suggestions) and then get them to use it for themselves and teach each other (possibly modeling some examples of effective use up front). This is true whether we are talking about interactive white boards, computers, podcasts, blogs, or any other technology.

In the partnering view, even when teachers know a lot about technology and like it, they should not make things for students, they should rather help and supervise students in using technology to make things for themselves (and, in some cases, for the teachers to use). In fact, many partnering teachers have designated the most tech-savvy students in their classes as technology assistants to create things that are needed and to deal immediately with any problems with equipment or with lack of knowledge on the part of the teacher or other students.

Student as Thinker and Sense Maker

Another key role for students in the partnering pedagogy is thinker and sense maker. Most teachers would probably say students are supposed to have that role today, but it's often not clear to the students that they do, or what this entails. When partnering, the role of thinker and sense maker needs to be made much more explicit.

Our students do think, of course. To say they don't (or can't) is to disrespect them. But the ways they think, and what they think about, is often not what teachers would prefer. It is important in all teaching, and especially in partnering, to let students know frequently that thinking more logically and more critically is one of their primary roles. That is one reason that peer-to-peer communication, both orally and in writing, is so important to the partnering

pedagogy; it lets students see and evaluate just how logically and critically they and their peers think. Teachers with students writing for publicly available blogs have reported an immediate improvement in both writing and thinking quality on the part of students once they know their work will be seen by others.[10] To emphasize this "thinking" role, Ted Nellen, a New York City teacher of the year, calls all of his students "scholars."

Student as World Changer

The fourth student role relates to learning being real, and not just relevant. Real learning, (as I discussed in the Introduction and will do in more detail in Chapter 4) involves students' immediately using what they learn to do something and/or change something in the world. It is crucial that students be made aware that using what they learn to effect positive change in the world, large or small, is one of their important roles in school. For example, some middle school students outside Atlanta, Georgia, made a video on genetically modified food that changed their parents' shopping habits. Another group in the same shcoolused what they learned to raise money to help cure malaria in Africa. Many schools also use what students learn to help their local communities.

Student as Self-Teacher

The fifth role of the student (and the role that is perhaps most different in the partnering pedagogy) is that of self-teacher. That a student can teach him or herself might sound strange at first. But consider how you would learn about something new—say, a disease that someone in your family had suddenly contracted. While you could opt to go to a class and have someone tell you, most likely you would choose to learn on our own. You would do research in books or on

the Internet, ask friends and colleagues for information and guidance, and consult experts when possible. It is really important that students learn these same skills and become self-reliant when it comes to learning, rather than depending on a teacher or anyone else. The best way for them to do so is to be expected to do it repeatedly, with feedback, until they get really good at it. For this reason, the role of self-teacher might be the most important student role of all. One student who learned that his grandmother had cancer was able to find online, by himself, using skills he had learned, not only the best hospital for her to go to, but the name of the doctor with the best success rate in dealing with the particular cancer she had.

It is extremely important to understand, however, that students learning to teach themselves doesn't mean that the teacher's role goes away, or even that it gets diminished. On the contrary. In the partnering pedagogy, the teacher's job retains its importance, but its roles change dramatically. We will look at the teacher's many roles in the partnering pedagogy in the next section. Perhaps unexpectedly, it turns out that these new roles for the teacher are far more important and useful to students than the old role of "teller."

Other Student Roles

Some additional roles for students in partnering include, from time to time, journalist, writer, scientist, engineer, and politician. They also include being the "doer" of the many verbs I will discuss later. I will have more practical things to say about all of these roles in Chapter 3.

Teacher Roles in Partnering

Some of the many roles a teacher plays in partnering, will be comfortable and familiar to almost any teacher. Others, though, may be new and will require some learning and practice.

Teacher as Coach and Guide

In the roles of coach and guide, the partnering teacher sets daily and longer-term goals for the class as a whole and then sets each student free (within appropriate limits) to reach those goals in his or her own way, providing assistance when requested or clearly needed. The role of guide implies taking students on a journey; the role of coach implies each student having an individual helper. Neither coach nor guide is a new role for teachers, but each is one that, in the partnering pedagogy, they can spend much more time on. And these roles allow teachers to provide a much more personalized, or differentiated, education for their students.

In general, today's students much prefer "getting there on their own" to being micromanaged. But not all students can find their way with equal ease. Some find it more difficult than others to work by themselves. This is especially true when confronting partnering for the first time: it is new for students as well as teachers. Part of the coach's role is to monitor each student's work and progress, and to give assistance where it is needed—not by reverting to telling in the old style, but by gently nudging students back on track with useful questions and suggestions for how to proceed (and never doing it for them). For example, a coach might refer a student having trouble to a web site, a YouTube video, an online animation, or even a game, if available.

Some educators, particularly those working in difficult inner-city schools, say, "I'm sure this would work in the suburbs, but our kids need much more structure." No doubt they do. And teachers do need to be able to scaffold the new way of learning for all kids. But as many teachers have demonstrated (mostly in charter schools), *all* kids can learn to partner and take on the responsibilities involved in their part of the learning process. Depending on where they start, guiding some students into partnering can be a long and complex process. But as with everything

in partnering, it is done student by student, rather than with classes as a whole.

Teacher as Goal Setter and Questioner

In the partnering pedagogy, freed from telling and preparing and giving lectures, the teacher has a number of other important roles to play. One is setting goals for students' learning. These goals are almost always best expressed as guiding questions for students to answer, which are typically open ended and include both overarching questions and more detailed ones. The larger questions are followed more specifically by the kinds of questions that students would or might be asked on a test. Many teachers now hand out or post their guiding questions as they start a term or unit. The premise is that if the students can answer all those questions, they ought to do pretty well on any exam.

Questioner is a truly important role for the teacher in the new pedagogy. Despite teacher training and the professionally developed questions created for standardized tests by Educational Testing Service and other organizations, the art of good questioning has to a large extent fallen into disuse in schools. An important lesson for partnering students is the fact that four-answer multiple-choice questions do not reflect the real questions in the world. The art of Socratic questioning (i.e., asking challenging questions designed to get people to reflect and reconsider their point of view) is an important skill for partnering teachers to relearn and practice.

Much of the work in the problem-based learning variation of partnering has been to develop rich questions that can serve as the basis for extended projects. Some districts and states (such as West Virginia) have been leaders in collecting these questions and connecting them to standards. But although many predesigned questions are now available online and in books, turning any content into good guiding questions is a skill that each partnering teacher needs to

perfect over time. I consider this skill in more detail in Chapter 5.

Teacher as Learning Designer

Another important role for the teacher in the partnering pedagogy is as designer of original learning-creating experiences. No one wants class days that are repetitive; teachers as well as students are hungry for variety and frequent, positive change. In the role of designer, starting from where he or she wants students to wind up in their understanding, the partnering teacher crafts the questions, problems, and suggested activities that will lead students to understanding.

Designing is a role that should not be unfamiliar to most teachers, as it is somewhat akin to lesson planning. But in the partnering pedagogy designing takes on very different forms. For example, there are no presentations or worksheets to design. Rather than all students following the teacher on the same designed path, partnering students need to be coached and guided toward the goal along a variety of individual paths. This makes the learning designer role of the partnering teacher one of increased complexity and importance. When planning, a teacher needs to reflect on and prepare for various ways in which students might come to an understanding of what is being taught, particularly in view of students' individual passions. So a teacher focusing on the Gettysburg Address, for example, might think up ways to approach it from many student perspectives such as conciseness (comparison to Twitter), politics (comparison to recent speeches), arts (comparison to Oscar acceptance speeches), music (comparison to memorable lyrics), visual images (what pictures does it evoke?), oral interpretations and readings, and so on. There is even a web site that illustrates what the address might have looked like as a PowerPoint: e. g. http://norvig.com/Gettysburg/

Abandoning Total Control for Controlled Activity

An important thing for teachers to know and understand about partnering is that it generally involves activity and movement on the part of students. To a casual observer, a partnering class may not seem controlled or disciplined in the traditional sense. A partnering class looks and feels different from a traditional class. For example, one typically does not see students sitting in rows listening to a lecture or filling in worksheets. Rather, one is likely to see desks and chairs arranged in a variety of configurations, students working in groups of different sizes, and groups and individuals using all the technology that is available.

Given the increased level of student movement and conversation in a partnering classroom, it is important to underscore that partnering does not mean chaos in the classroom—that is never acceptable—but rather controlled activity, where each student's movement around the room has a learning purpose. In a partnering class students might be all over the place, some working at their desks or computers, some working or discussing in groups, some at the library or shooting a video. (For this to be allowed, administrators, too, must become comfortable with partnering, and more and more of them are. I have heard principals welcome the idea of having students in the halls, or even outside, shooting videos—just as long as their activity has a clear connection to their learning.)

Check It Out!

For an example of a useful (and fun) student project done in the halls, see the student-made video about not videoing other students and posting it on YouTube, found at www.youtube.com/watch?v=kJEnVzMXK1E.

For teachers new to partnering, who have been taught that control is crucial and lack of order is a sign of students not learning, a higher level of classroom activity may take some getting used to. But when done right, this increased activity is good because it directs students' often high energies in a positive learning direction. While at first it might be hard for a teacher (or administrator) to learn to tolerate this, I recommend having faith and patience, because the end result is worth it.

One high school teacher told me an illustrative story of how she let her class of girls use her room in an "off" period to design their senior class project while the teacher worked at her desk.

> The girls were off the walls, yelling, talking, running in and out of the room. But by the end of the hour, they had designed a fantastic senior project. Still, when I thought about it, I realized that if that had been my class I couldn't have tolerated that level of chaos in the classroom, even if I were sure that the end result would be great.

This insight led the teacher to begin to change the level of what she could tolerate in class.

At every level, kids today do not want to—and in many cases cannot—sit quietly in neat little rows. They need to be much freer, and they often do their best work when free to relate in ways that are much "wilder" than in the past. More and more teachers and parents are realizing that they benefit from tolerating more of this. Teachers often get better results by taking a much more flexible view of control (while still being sure that students are always learning and on track and that a class does not devolve into actual chaos).

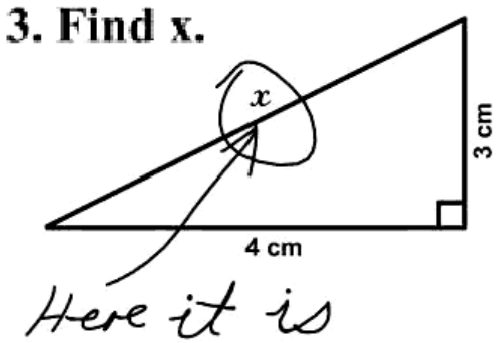
What most allows this increased classroom flexibility to happen, and to happen without chaos, is mutual respect, with teachers respecting students' need for freedom in how they work and students respecting their teachers' need for real learning to take place. Achieving this ideal state and balance for each partnering classroom is not something that happens automatically; it is a teaching skill that must be learned and practiced. Remember, though, it is possible to have an animated, even noisy, classroom, and still be "in control."

Partnering Tip

If the concept of a less tightly controlled class is a tough one for you, you might try it first with a single partnering project, first talking with your students to mutually set rules and parameters, and afterward assessing the results. You can then expand from there as you and the students become more comfortable with the process. As a group, you might decide, for example, that no permission from you is needed for students to use technology in the classroom or talk to each other when working in groups, but that non-work-related comments or disturbing the work of others is inappropriate and will cause a student to lose group or technology privileges.

Teacher as Context Provider

Yet another important role of the partnering teacher is context provider. While students in their role as researchers are often good at finding content, they are often less capable of putting that content in the proper context. My favorite example of the importance of context is the following test answer by a student:



While most of us laugh at this response, it is important to realize that, in a searching context, it would be perfectly correct. It is wrong (and funny) because we know it is in a math context. Every subject has a context from which individual facts and ideas derive their true meaning. Whether helping students understand the role of Wikipedia in a research context or the existence of hate mongering in a free speech context, providing context is a key role of the partnering teacher. As with most things in partnering, this role is best accomplished through asking (e.g., through Socratic questioning) rather than through explaining or telling. Students can be asked what things are right or acceptable in some contexts but not in others. This would be a great lead-in, for example, to an English class discussion of types of writing and speech, and their contextual appropriateness.

Teacher as Rigor Provider and Quality Assurer

The last two major roles of the teacher in the partnering pedagogy are rigor provider and quality assurer, which are closely related although not precisely the same. What they have in common is setting the bar really high for student accomplishment. I strongly believe that, in general, we set the bar far too low for students and that they are capable of (and want to do) much, much more than we generally ask or require of them.

The place where I first truly learned the meaning of rigor was in my freshman literature

class in college. I had not done much writing of literature papers in my public high school career, so I was very much at sea in writing my first required paper. I ended up handing in only a single, difficultly produced page. When the instructor handed back the papers the following week, I kept my eyes lowered, fully expecting an F. The instructor stopped at my desk. "Prensky," I still remember him saying to me, "I'm not even going to grade this. You go out and learn how to write a literature paper and then turn it in, and then I'll grade it." Somehow I did, and I learned that there is a minimum floor that work must rise above in order to be considered acceptable.

Rigor is that floor. In partnering, when you give students a task to do, you don't give those who are below the level of acceptability an F—you just don't accept anything less than that floor.

Quality, on the other hand, is something else. Quality is what separates a merely acceptable effort from a really good one. Of course, we have a system of As, Bs, Cs, and Ds (or 0–100) for administrative purposes, but for partnering students those grades alone are not good enough. Letter or number grades exist only in school, not in life. A boss or supervisor will rarely if ever give you a letter or number grade, but will certainly have a minimum standard and will almost always reward you for high-quality work. So students need to have a good understanding of what high-quality work is. Therefore, for partnering teachers, assessing quality—not just by assigning letter grades but by explaining to students why something they do is or isn't high-quality and helping (and requiring) them to iterate until it is—is perhaps the most important part of the job.

Of course, doing that—and not just giving a letter grade—is a very time-consuming and intensive task, especially with large class sizes. That is why a successful implementation of partnering pedagogy needs to include a large amount of peer-to-peer teaching, learning, and

evaluation, as we shall see in the next section.

An important issue arises when assessing quality in student projects done in media that are unfamiliar to a teacher. How do you judge what is a high-quality machinima, game, or mashup? I have occasionally had teachers show me, with great pride, student work that most kids would totally dismiss as unworthy of even a D. In such cases you will need to rely on your student partners to teach and guide you. Between their knowledge of the media and your own experience, you should be able to arrive at fair quality assessments no matter what the medium.

Peer Roles in Partnering

Many of today's students, given a choice, would prefer to learn not from their teachers but from their peers. I have been told this by hundreds of kids. Some people might find it upsetting that today's kids often trust their peers' opinions (and even abilities) more than those of their teachers. But this is not necessarily a bad thing, particularly if monitored by the teacher. Although a teacher's contextual framework is likely to be much deeper than a friend's, one's friends share the same references, the same generation of TV, movies, songs, etc. In students' terms, they all speak the same language.

If it is used to the teachers' (and students') advantage and if monitored well, peer-to-peer teaching and learning can be a great ally to partnering teachers. It is a tool that teachers could benefit from much more than they currently do. Not only do students enjoy learning from their peers, but a great many students really like it when teachers give them the opportunity to teach other students. One strategy that has worked well for some partnering teachers is to directly teach only a few kids in a class and make those kids responsible for teaching the rest, in whatever ways they all want. Giving students this opportunity is yet another way of showing respect. For these

reasons, peer-to-peer learning is an important part of the partnering pedagogy.

A striking example of the power of peer-to-peer learning in action is the phenomenal music teaching program from Venezuela known as *El Systema.* In this program, poor kids from all over Venezuela—often street kids—are trained to be truly fine classical musicians in local, regional, and national orchestras, mostly through peer-to-peer teaching and learning.

Check It Out!

You can learn more about El Systema and see it in action—along with its amazing results—by watching the videos on the program at www.ted.com.

One of El Systema's major principles is that as soon as kids learns something, they have to teach it to someone else. This is not all that different from the surgeon's model of "watch one, do one, teach one."

There are many ways of using the power of peer-to-peer learning in partnering, and partnering teachers are constantly figuring out new ones. For example, peer-to-peer is an excellent (and possibly the best) way to spread the knowledge and use of technology among students and bridge any digital divide that may exist in your classroom. Also, because of the power of peer-to-peer learning, for some partnering tasks, such as understanding or evaluating a particular text or finding a solution to a problem, putting two or three students in front of a single computer may be as good as, or even better than, having each student work individually.

The School Principal as Leader, Facilitator, and Partner

The participation of the school principal (and the school administration) in the partnering pedagogy is crucial, in the multiple roles of leader, facilitator, and yet another partner. Although

it is not impossible for partnering to survive and flourish without strong administrative support, it is difficult.

Many teachers have told me that they have wanted to try, or even did try, to use some or all of the partnering pedagogy described in this book, but were frustrated by the lack of support from the administration in their school. Yet I hear just as often from principals who are frustrated and often have trouble when attempting to get their teachers to try these new methods.

Clearly, to be most successful, teachers and administrators must work in partnership. In the long run, teachers must be supported by their administration in order to succeed in partnering with their students. An administrator who formally observes or just walks into a class where the teacher is coaching and not telling, where students are teaching themselves and each other with various amounts of controlled activity going on, and where students are presenting and critiquing in a truly vigorous give-and-take manner needs to understand that all of this is producing learning that is as good as or better than that which results from traditional direct instruction. Things will go much more smoothly if principals and other administrators do understand and accept this new approach and are willing to support their teachers in transition and guide them to the new partnering pedagogy. But a principal or administrator who believes in partnering can and should do more than just support and encourage. He or she should be evaluating teachers on where they currently are along the continuum from telling to partnering (see Figure 9.1) and providing assistance to those who are moving more slowly, or not at all. Such assistance can come in the form of pairing teachers who are further along the continuum with those who are less advanced, pairing teachers with advanced students, and offering teachers professional development. But—and this is crucial—administrators should make sure that any professional development or training offered focuses not (at least at first) on using various technologies, but

rather on shifting teachers' thinking and actions to the partnership mentality and pedagogy. Unless and until this is done, the technology training is unlikely to prove fruitful.

Parents as Partners

There is one more group that is key to the success of the partnering pedagogy, and that is parents. Unless they are properly initiated and engaged in the partnering process, parents can often be a point of resistance to the changes it brings. In particular, many parents expect (or at least say they expect) their students to be taught as they were, i.e., by telling. Unless their understanding of the partnering process is complete, parents may view what they hear their children are doing, or what they see them doing if they come to class, as a reason to complain.

In most cases, though, this distrust goes away with time, as kids arrive home much more excited about school than in the past and talk positively about their accomplishments. "[Now] when we sit down to dinner," says one parent, "the kids talk nonstop for twenty minutes, telling us what they did and what they saw. This is literally every day!"[11] It also helps when the kids' grades and attendance rise accordingly.

Most parents know instinctively that the 21st century is different; they see the changes all around them. What they really want is to be assured that their children are being well prepared for their future lives and jobs. Partnering teachers need to help parents understand that colleges and employers are also changing their expectations. Teachers need to let parents know that the teaching is changing to keep up with these new expectations, emphasizing what students can do as much as what they know and giving young people many more future-oriented capabilities and skills than just listening and taking notes. It is terribly important that parents understand this, not just for the partnering pedagogy, but especially for students. Having this dialogue with parents is

the responsibility of the entire school, faculty, and administration.

In that dialogue, parents should be encouraged, just as educators should, to respect their kids as users of technology, even when that technology baffles or alarms them (as is often the case with video and computer games). Like teachers, parents need to be encouraged to talk with their kids frequently, to ask them about what they are doing, both school-related and not, and to praise them for their creative accomplishments, both in and out of school.

It helps enormously when a school or district employs technology as a means to reach out to parents. Wi-Fi coverage of students' homes, as well as dedicated web sites for parents (with feedback from them), is now, with judicious use of grants, within almost every district's financial reach. For a great example of what can be done with relatively little, look at Lemon Grove, an economically-below-average school district in Southern California (www.lemongroveschools1.net). Its Wi-Fi system to schools and homes, created entirely with government grants, is so robust that the district was able to pass along some of the upkeep costs to the local police and fire departments, who use it as a backup.

Getting Motivated to Partner With Your Students

Hopefully, you have already begun the move to partnering. But if not, how can you, as a teacher, get motivated to make big changes? And, even more important, how do you stay motivated to continue changing and not fall back to old, familiar ways at the first sign of trouble? The best way, I think, is not to make the changes in secret, but to be as open as possible—with your students, your administrators, and your colleagues—about what you are trying to do. After all, the goal is to improve your students' experience, your own experience, and the test scores.

The easiest and most effective way of doing this is to enlist the help of those who have

gone before you and succeeded. These can be colleagues you know, and hopefully there are at least a few where you teach. But help can also come from people you don't know, people whom you will meet online by joining support groups, such as listservs, blogs, and Ning groups (see Chapter 7) and by searching YouTube and TeacherTube. Many teachers, several quite experienced, have e-mailed me to say how much these partnering ideas have reinspired them and brought them back to the original level of excitement they felt when they started teaching.

It is also crucial to enlist your supervisors, your students, and their parents in your own personal change process. Often, when they understand your goals, they will be quite supportive.

Have Courage, but Also Have Fun

For most people, doing anything for the first time elicits some fear. You probably felt fear the first time you stood in front of a class as a student or first-time teacher. When you feel such fear and need the courage to proceed anyway, it often helps to remember the lion in *The Wizard of Oz*—you don't need the medal, because the courage is inside you all the time.

But also keep in mind that change is not all fear and pain. In fact, it can be quite invigorating and exciting to rethink your job from a new perspective. Thinking not in terms of material or content but in terms of the questions the material answers is often liberating to long-time teachers.

And do not think that teaching in this new way will necessarily make your job harder. A very important lesson I have learned from the partnering I do regularly in workshops with students and teachers is that there are times when the best thing I can do to enhance everyone's learning is actually nothing at all. After I offer guiding questions and the teams or individuals get to work, I ask frequently if anyone needs my help. But I often get no requests for assistance from

the busy learners. So I walk around watching, asking what people are doing, and usually they are right on track. In those moments of teaching when no one "needs" me, I have learned to smile to myself and think, "What a nice job I have."

My hope is that, as you change your pedagogy, this same thought will occur, more and more often, to you as well.

In the remainder of the book, I'll discuss how to apply partnering step by step. I will do this not by presenting you with preset lessons and plans, but rather by considering general principles of partnering and providing numerous examples and practical suggestions. That is the equivalent of teaching you to fish—you'll eat for a lifetime.