

# transformational **TEACHING**

IN THE INFORMATION AGE

MAKING WHY AND HOW WE TEACH  
**RELEVANT** TO STUDENTS

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## INTRODUCTION

To say we live in a fast-paced and changing era is an understatement. The rate at which knowledge is exploding and the ease at which information is accessible are breathtaking. In 1969 the late Neil Postman and Charles Weingartner wrote about change in *Teaching as a Subversive Activity* using a clock tuned to the rate of communications inventions. They employed the clock as a metaphor of 3,000 years (1 minute = 50 years) to demonstrate how in the past two centuries (last 4 minutes) so much has happened so fast: 11 minutes ago the printing press; 4 minutes ago the locomotive and telegraph; within the last 3 minutes the telephone, photograph, radio, automobile, motion pictures, and airplanes. Television appeared less than 2 minutes ago. Lasers, communications satellites, and computers were invented in the last minute. Within the last 30 seconds, the Internet and the personal computer appear. Within the last 5 seconds have come cell phones, digital technology, biotechnology, smart phones, and more. Before 11 minutes ago on this clock, we would have to return to the invention of writing itself, close to the beginning of recorded time.

Postman and Weingartner asserted that their clock would show the same pattern with other invention-concepts like medicine or science: 2 minutes ago, antibiotics; 1 minute ago, open heart surgery; 1 second ago, statin drugs. The sheer volume of information and knowledge is increasing at an unprecedented pace. Their concept was that change has changed. The degree of change is new.

Although it is easy to exaggerate change and become fixated on our own age as though this world has never experienced change before, their point seems valid. As they add, “Just when we have identified a workable system (of values, beliefs, and patterns of behavior), it turns out to be irrelevant because so much has changed while we were doing it” (p. 11). Change happens whether we name it or not, and behavior patterns can die slowly.

Many teachers still believe they are in the information-giving business, which was perhaps reasonable until a minute or two ago on Postman and Weingartner’s clock. In a poignant film from a few years ago, *Finding Neverland*, Mrs. Snow asks *Peter Pan* author James Barrie, “I suppose it is all the work of the ticking crocodile, isn’t it? Time is chasing after all of us, isn’t that right?” Our point: Time chases information as well as people.

Many teachers have the tendency to put their heads down, noses on grindstone, and plow straight ahead through what it is they think they are supposed to be teaching. Suddenly they look up to see that not only has the subject matter changed almost overnight, but that students themselves have changed. All this of course is symptomatic of Alvin Toffler’s future shock, where we are confronted by the notion that the world we were educated to believe in does not exist. What we are teaching today may be obsolete in the immediate future.

Thomas Friedman (2007) argues persuasively that we are living in a unique period and that our world is flat. Indeed, transportation and communication advances in the past few centuries have reduced the world’s size from medium to small. Since 2000 many technological factors came together, creating a newfound power for individuals to collaborate and compete globally through a “flat-world platform” (p. 10). A flat world, in which everyone and everything is easily accessible to everyone else, is made possible in part by the convergence

of the personal computer, fiber-optic cable, and the rise of workflow software.

Friedman says change is so different now because individuals are being empowered “to plug in and play” to connect globally. Most tellingly, to ensure their job survival, these individuals must focus on “value-added” or risk having their work outsourced. What is your value-added as a teacher? What is the difference *you* make? How educators perceive this value-added for our learners is crucial and is a theme of this book. How can teachers cope with such a new world? We think a beginning point is to understand why we are teaching in the first place.

## Informational Teaching

The Information Age centers upon computer technology and the converting, storing, retrieving, and transmitting of information. Wikipedia (2008), itself a controversial creation of the digital age, defines the Information Age as being a global economy shift in focus from producing goods (the Industrial Age) to manipulating information. Indeed, even the process of finding this wiki-definition is a testament to the digital age. We were part of over 2.7 billion searches on Google during a single month in 2008 (Fisch, 2008). As we write this book, the offer has come for training on Web 2.0 online tools called Zotero, Ning, Podomatic, Technorati, and PB Wiki. We would compare the initially bewildering verbiage to mass transit, with disembodied-sounding intercom announcements of street stops. It is a new day. There are strong implications for educators’ adjustment to this new age, especially for why and how we teach.

Efforts in schools to teach standards-based curricula in lock-step fashion, to evaluate learning through standardized examination, and to punish educators for quantifiable failings on test score gains are all symptoms of how the Information Age is changing educational systems. One important coping mechanism that can be used to make sense of these advances as they relate to education is to ask key questions. Through it all, we must stay focused on foundational questions that go beyond “What do we teach?” and “How do we assess it?” to

“What does it all mean?” “What should schools be doing?” “What is the teacher’s role?” “Who are we teaching?” “How do learners learn?” and “How should we teach?” Ultimately, the question is “Why do we teach?” Unless we are careful and mindful, education’s mission is lost.

We can all agree upon some purposes for education, including fostering a lifelong learning ethic, teaching for deep understanding, and developing students who care not only about achievement but about other people. Brooks (2004) says that the “issue at hand isn’t our lack of collective knowledge or ability. It’s our lack of collective vision and will. We don’t do a very good job of creating the classrooms we want” (p. 9). We agree with this assessment and would add that educational goals must be reprioritized.

Jackie, a teacher, said that she longs for schooling to be first about the students as persons and then about results. One unsettling characteristic of education in the Information Age is the demand for uniformity and conformity. Education standards in many states call for programmed “sameness.” For example, all 5th grade teachers in some districts must teach the same skill from the same text using lessons from the same website on the same day. Urban districts are particularly obsessed with standardization because many of their schools have been placed on a failing schools list. Standards have made many teachers feel they are not trusted; they feel commanded into an oppression of teaching to dogmatic policies. Uniformity and conformity march together.

Add to this schema the alliance of political and business “essentialist” leadership, and we have “informational teaching” as a dominating pedagogy in education. It is pedagogy with little concern for deep understanding and even less concern for the values of socialization. The thinking in classrooms has generally gone like this: We have subject matter to cover, not enough time to do it well, and the test is looming and daunting because successful schooling now seems to be mostly about raising achievement scores. When others suggest different priorities like teaching the whole child, they are accused, as Marge Scherer (2007) relates, of being “squishy and subjective” (p. 7).

As teachers we may want to linger, enjoy some discussion, ask some more questions, allow students to think, talk, and ask questions,

spend some time outside class in dialogue, express some interest in their lives. Time is our enemy, however, and we must move on. Concern with a deeply intellectually satisfying and socially responsible life is important, but not what teachers are paid to do. Current priorities in schooling have consequences.

Fully two out of every five teachers (40 percent) in the United States are disheartened about or disappointed with their jobs (Yarrow, 2009), according to a research study funded by the Gates and Joyce foundations and conducted after the 2009 school year. Attitudes and motivations of teachers are vital, and critical as to why they entered teaching as a profession. Most teachers will say, if we ask them, that they chose to be a teacher because they want to profoundly affect the lives of their students. No doubt, teachers *live* for moments like the joy of hearing a 1st grader read fluently or seeing a shy child begin to exhibit leadership qualities. As a teacher, excitement and fulfillment come from watching a student learn. When students learn and change, teachers change, too. However, teachers now find that the focus is on academic knowledge or on the essentials of this kind of knowledge. The job, the mission, is to spur measurable achievement in our students, and there the priority is found.

Why not such a priority as achievement? A generation of students, especially disadvantaged youth, has not only fallen behind but lost its way. The solution, however, is a single-minded focus on essential skills and accountability. In public schools this priority is a reality. No Child Left Behind has been an obvious culprit, although some would say NCLB was a reflection of misguided thinking that has been evident in schooling for many years. Focusing on the intellect alone denies children's complete identities. A fulfilled life requires more than intellectual pursuits.

## Help Wanted: Nurturing Teachers

Nurturing teachers are needed. Our early 21st century students have grown up with an access to information through technology that is mind-numbing. They often demonstrate only a veneer of learning. They have been convinced that their disaggregated information is

knowledge, and they place great confidence in their presumed understanding. Our students seem busier than before, but their lives are hardly turned toward academic pursuits. Instead of these pursuits, we find a different kind of immersion. Our students are attendants in the kingdom of electronic devices where learning is more finger based than brain based. A recent software management commercial is close to the point when it asks, “Is the question ‘How can I get more information?’ or is it ‘How can I put it all together?’”

Nurturing is needed at many levels to build the kind of deep understanding that transforms individuals. Great teachers not only call students to new levels of inquiry that build deep learning, but also model a social and spiritual authority that is missing in our students’ lives. Robin Collins (2009) relates how she began knitting together her 5th graders at Columbine Elementary School in Woodland Park, Colorado:

To heighten awareness of interdependence, I tried a new group-building activity. At one weekly meeting, as each student complimented someone, he or she tossed a ball of yarn to another student in the circle, first wrapping the yarn around a hand or finger. We continued to toss the ball back and forth until we built a web. Once we were entangled, I elicited students’ observations. (p. 82)

Students’ observations deepened to the point that they realized the web shook when someone moved “because we are all connected.” As educators we can find ourselves far from this vision of connectedness, instead disfigured by the isolating forces of an otherwise wondrous time in history. Myopia is a symptom of such isolation. Educational myopia occurs when we cannot seem to see what is directly in front of us: our students! We do not see our students when we fail to see who they really are and when we fail to teach to how they learn.

For example, most teachers’ dispositions seem to lie more naturally with analysis than synthesis. Indeed, many of us may have chosen the profession of teaching because of our ability to break down a concept or idea or piece of knowledge so that it is more understandable for our learners—an important teaching skill. We think that if we can just show our learners how simple a concept is, they will get it. So

we begin with small details. The big picture of teaching and learning involves synthesis, however, and can only be clearly focused when all aspects are considered and taken as a whole. It may seem counterintuitive, but the great majority of learners understand new concepts when the subject is introduced generally before it is described or taught specifically (Bransford, Brown, & Cocking, 2000; Sawyer, 2006). Yet we often teach inductively, the opposite way from how most of our students learn.

Carlos discovered how his students learn best when he was crafting a bulletin board for his classroom. He was only able to finish about half of the project before his 8th grade students came to class. They were so intrigued by the question, “What makes people people?” that they harassed him most of the day to finish the bulletin board. Carlos suddenly realized that it would be best if his students helped finish the project. So, he made it a learning tool as he went about meeting his original objectives.

The bulletin board was completed by the students as an inquiry lesson with sociological, anthropological, biological, and historical implications. Carlos was so impressed by his students’ response to his “discovery” that he made the pedagogy of inquiry an integral part of his teaching repertoire. The desire to complete the incomplete seems built into most learners, which is one way of thinking about deductive learning. Carlos mindfully honored the way his students learned.

### **What Matters?**

It is easy for teachers to become confused about what really matters in the classroom. The grand scheme of U.S. education in the 21st century, indeed globally, would seem to deny a more holistic perspective on what we might generally refer to as “respect for the learner.” Results-oriented education is in vogue with test scores serving as not only evidence of learning but learning itself.

While this achievement paradigm certainly has merit and validity—graduates must compete in the global marketplace—it is part of a bigger picture of focusing on the goals of education. While objective measurements are an important part of schooling and one indicator of success, it is important not to overreach. Every child or adolescent

is more than a future employee. And, each of us is far more complex than our scores on standardized tests. What really matters in education is not what but who.

Robert Sternberg (2008) calls for us to assess what matters: learners without expiration dates. He asserts that we need schools that teach to the analytical, to the creative, to the practical, and to wisdom, which surely represents a moral dimension of education. His notion is that we should teach students to become active and engaged citizens of the world. In contrast, “if we teach only for facts, rather than for how to go beyond facts, we teach students how to get out of date” (p. 21). Teachers ultimately respect our students when we believe that they are more than vessels for knowledge. We can teach for holism *and* depth.

The values of life, of citizenship, and of being a moral person are social goals that must be placed beside the 3 R's and in lieu of the 4 T's (teaching to the test). It is an issue of academic integrity that our focus must be allowed to shift to our students. Priorities and attitudes make a difference. We desire, and our students deserve, nothing less than the transformation of our students in mind, body, and spirit.

## Organization of the Book

Attitudinal openness to richer dimensions of knowledge demands that we listen to ourselves and to others, but it also requires that we ask foundational questions and formulate principles that define our concept. The book is organized into two sections. Part 1 is the educational philosophy section where basic assumptions and beliefs about teaching are addressed, such as Why do we teach? What is our fundamental motivation for teaching? What goals are important? Why do teachers teach to some goals but exclude others? Who are we as teachers and learners? What fundamental roles do teachers play in the classroom? What does it mean to teach the whole student? Why should teachers place students at the heart of their teaching?

Part 2 is the educational psychology and pedagogy section where classroom process and behavioral concepts are explored and we examine ideas and questions, including What is teaching as compared

to learning? How do students learn? Why is process so important in teaching and learning? How can teachers teach students how to learn? Why are questions so vital to teaching and learning? How do we teach by asking questions? How can teachers engage learners?

Part 1 asks many *Why* questions because philosophy and theory demand a variety of arguments, theories, and justifications of our points of view. Formulating a response to *why* or accepting anyone's response to the question is also theological because the response requires something of an abiding faith and trust in authority. We recognize that asking why necessitates asking who teaches and who learns. Leaving it there is not sufficient for educators. Part 2 asks many *How* questions and is necessary architecturally in psychology and pedagogy, because teachers must be responsible for planning what can happen after explaining their rationale for education, for supporting the rationale with evidence, and for moving from theory to practice. Thus, we will conceptually begin with *why* and move into *how* later in the book.

With the two parts of the book, we formulate eight principles of transformational teaching, with one chapter for each principle:

Part 1. Why We Teach: Relevant Concepts

1. Inspire Your Students
2. Embrace Your Role as a Whole Teacher
3. Teach the Whole Student
4. Place Students in the Center

Part 2. How We Teach: Relevant Strategies

5. Teach for Learning
6. Know How Students Learn
7. Teach Students How to Learn
8. Teach by Asking Questions

In addition to the organization of the chapters, we have included special ideas that we would like you to “take away” with you when you finish reading the book. These ideas are prefaced with an arrow and are meant to provide further explanation of and insight into the text (see p. 17). The goal is to provide clarity, application, and understanding throughout the book.