PART ONE

Making the Case for Transformation

The Case for Transformation

There is general agreement that the schools of America must be improved. There is, however less agreement about what needs to be done to improve them. Most who say schools need to be improved want to reform them in some way. The position taken in this book, however, is that reform is not enough. What is needed is transformation.

In the context of recent efforts to improve schools, *reform* usually means changing procedures, processes, and technologies with the intent of improving the performance of existing operating systems. The aim is to make existing systems more effective at doing what they have always been intended to do.

Transformation is intended to make it possible to do things that have never been done by the organization undergoing the transformation. It involves metamorphosis: changing from one form to another form entirely. In organizational terms, transformation almost always involves repositioning and reorienting action by putting the organization into a new business or adopting a radically different means of doing the work it has traditionally done. Transformation by necessity includes altering the beliefs, values, and meanings—the culture—in which programs are embedded, as well as changing the current system of rules, roles, and relationships—social structure—so that the innovations needed will be supported. Reform, in contrast, means only installing innovations that will work within the context of the existing structure and culture of schools.

Transformation is a difficult and risky enterprise, its dimensions uncertain and difficult to define. It requires men and women to do things they have never done before—not just to get better at what they have always done.

Because it is so risky, transformation requires strong leaders who understand that they are dealing with values as well as technique, meaning as well as skills. Most of all, transformation requires leaders who have a deep understanding of both the reasons transformation is necessary and why an easier course cannot be taken. It requires leaders who are themselves passionately committed to the new organization they are trying to create.

Without such leaders, it will not be possible to mobilize the energy required to make the changes that must be made to transform the schools and stick with the task when things go wrong. Without such leaders, the future of public education in the United States, and even the future of democracy in this country, are at great risk.

WHY REFORMATION IS NOT ENOUGH

The drive for reform in public schools has usually been linked to some perceived threat from the outside. In the 1870s the American high school movement was motivated in part by the need to make American boys competitive with the graduates of European trade schools. In the 1960s the threat was the system of education in the Soviet Union, which was said to be responsible for a Soviet advantage in the so-called space race. In the 1980s, the apparent ascendance of Japanese over American manufacturers was attributed to a rising tide of mediocrity that was said to be besetting America's schools. Today engineers from China and India are the perceived threats, and our declining competitive edge relative to these countries—whether real or not—is attributed to a deficient education system that stands in need of repair.

I have no doubt that the U.S. position in the world is linked to the quality of education our schools provide, and I am concerned about these matters. These are not, however, the primary reasons I am committed to transforming America's schools. My rationale for changing schools flows from a very different and more fundamental source than concern about international competitiveness.

Just as I believe that there is a link between education and the economy, I believe there is a link between the schools and the communities in which they are embedded, and through these communities, there is a link to the civic and

moral health of the nation and the democratic order that defines that nation. Over the past fifty years, the nature of these links has changed. In addition, the relationships between children and those traditional institutions that have historically stood between the young and the larger society until they were judged to have reached maturity have changed as well. These changes are affecting what the young need to learn as well as the way children are learning what they come to know.

Today there is an increasing sense of community estrangement from the schools, and the depth of this estrangement is well documented.[1] Moreover, the relationships between the young and the institutions that have traditionally been charged with their education—the family, religious institutions, and schools—are being altered in ways that are immutable. It is these changes, more than the needs of the economy, that for me are the driving forces behind the need to transform our schools. It is these changes that lead me to assert that reform is not enough.

THE NEED FOR TRANSFORMATION

It is time reformers quit "tinkering toward utopia," grafting one reform after another onto a tree that is planted in soil deficient of the proper nutrients.[2] It is time to acknowledge that the education of children in America is now rooted in infertile soil and to recognize that if education is to be improved, schools must be transplanted into a more nourishing environment. Schools must be transformed from platforms for instruction to platforms for learning, from bureaucracies bent on control to learning organizations aimed at encouraging disciplined inquiry and creativity.

The purpose of schools today is to ensure that all students have access to a uniform quality of instruction. The difficulty, of course, is in defining *quality instruction.* In today's reform atmosphere, it is defined as that form of instruction that has the most immediate impact on standardized test scores and by testing only those things that can be standardized.

[1]See, for example, David Mathews, *Reclaiming Public Education by Reclaiming Our Democracy* (Dayton, Ohio: Kettering Foundation Press, 2006).
[2]Tyack and Cuban use the ideas of "tinkering toward utopia" and "grafting" to help them explain the history of school reform in America. I think they are right in their analysis. I also think the pattern they describe must be disrupted if public education is to survive as a vital force in American life. See David Tyack and Larry Cuban, *Tinkering Toward Utopia: A Century of Public School Reform* (Cambridge, Mass.: Harvard University Press, 1995).

The problem is that the type of instruction that is adequate to ensure that students can write on a standardized form a brief descriptive paragraphs about a poem may not be the same type of instruction that will inspire students to *write* a poem—or to create a novel experiment to test or verify some proposition of concern to them.[3] It is certainly not the type of instruction that will inspire the development of the skills, attitudes, and habits of mind that appear in listings of the skills needed for the workforce of the twenty-first century. It is not the type of instruction that will prepare students to learn in an increasingly digitized environment. And it is not the type that will teach young people how to function as effective citizens in a democracy where men and women are overwhelmed with information and purported facts.

It's Not "Merely Academic"

Certainly some students learn a great deal in schools. One of the primary reasons that this is so is that the backgrounds, experiences, and interests of some students lead them to find academic work inherently engaging. For many other students, however, academic work as it is usually designed holds little inherent interest or value to them.

The work of academics is often of much more interest to members of the academy than it is to most adults and most children. Indeed, many Americans, including many of America's leaders, have a certain antipathy toward academic work.[4] That is why one so often hears highly schooled, if not well-educated, leaders say that this or that proposition is "merely academic."

In the world of schools, however, lack of interest in doing the work that academics do, and doing this work in the way academics do it, is often seen as an absence of intelligence. Sir Ken Robinson, an internationally recognized leader in the development of creativity, has observed:

> The rationalist tradition has driven a wedge between intellect and emotion in human psychology; between the arts and sciences in society at large. It has distorted the idea of creativity in education and unbalanced the development of millions of people. The result

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[3]This argument was suggested to me in Linda Perlstein, *Tested: One American School Struggles to Make the Grade* (New York: Holt, 2007).

[4]The idea that there is a deep anti-intellectual strain in American culture is well documented. See, for example, Richard Hofstadter, *Anti-Intellectualism in American Life* (New York: Knopf, 1963).

is that other equally important abilities are overlooked or marginalized. This neglect affects everyone. Children with strong academic abilities often fail to discover their other abilities. Those of lower academic ability may have other powerful abilities that lie dormant. They can pass through the whole of their education never knowing what their real abilities are. They can become disaffected, resentful of their "failure'" and conclude that they are simply not very bright. Some of these educational failures have gone on to have great success in adult life. How many do not?[5]

Academic subjects are important, but there are many ways to learn them and many ways to demonstrate such learning in addition to the ways academics have contrived. Unfortunately, too many of our national leaders, journalists, and pundits cannot imagine a system that will push everyone ahead—a system in which multiple standards of excellence might be applied. Excellence in schools is still seen as the property of the relative few who are academically inclined, and inclined as well to share the values that academics hold most dear.

Academic ability and interest in matters academic are not equally distributed, any more than are athletic ability or artistic ability. This does not mean that race, poverty, or other genetic or cultural features should be considered a source of variance in these abilities. What it does mean is that abilities of all kinds vary within groups, even more than between groups.

Because schools fasten attention on only one of the many abilities possessed by humankind (and define that ability so narrowly that only a relatively few can be demonstrated to possess it), schools have become as much about identifying failure as about promoting success. Indeed, if by some magic every child in America were suddenly to achieve academically at the level of the present top 10 percent of students, and if the schools should honor this achievement by giving all children A's, there would be a national clamor about schools lowering standards even more. "Every child a success" is a great slogan, but one that has fewer believers than some sloganeers believe.

In spite of slogans to the contrary, most Americans cannot imagine a system of schooling in which all children achieve at high levels. Our system assumes that the success of some children is dependent on the failure of others. As one wag has

[5]Ken Robinson, *Out of Our Minds: Learning to Be Creative* (Mankato, Minn.: Capstone Publishing, 2001), pp. 8–9.

said, "It takes a bottom half to hold the top half up." Until schools are designed to capture each child's full potential, rather than simply develop one dimension of it, and until the word *standards* refers to more than a narrowly defined notion of academic standards, there is little chance that most children will be educated in the way democracy requires, the economy demands, and children deserve.

A long line of research demonstrates that time on task alone is adequate to improve test scores, and some research supports the notion that highly structured and prescriptive teaching techniques produce relatively quick improvements in test scores (especially among students whose test score history is on the sorry side). But this research does not speak to the quality of the learning measured, and it is the quality of learning that should be of concern.

Transformation of our schools will require leaders who are prepared to repurpose and reimagine schools rather than simply reform them. The strategies that are most efficient in increasing test scores, at least within the context of our bureaucratically organized schools, have little to do with increasing student engagement, and without engagement, the quality of student learning is likely to be low.

We need to accept the fact that efforts to increase engagement may be less productive of quick gains in test scores than some of the drill, review, and test preparation techniques being employed in many of America's schools. The lasting effects of learning that result from engagement will, however, be profound and will show up in ways that can be observed, measured, and evaluated. Unfortunately, the tests needed to accomplish this end are not easily administered on a mass basis. Moreover, they do not meet the requirements of those who would use tests as a control mechanism as opposed to a tool for continuous assessment of direction and goal attainment. Indeed, the challenge that should be confronted by those who want schools to focus on twenty-first-century skills has to do with finding ways to assess in ways that are believable by ordinary citizens such things as creativity, the ability to collaborate, the ability to synthesize data from many sources, and to critically evaluate that data rather than depending on standardized tests to do their assessment for them.

Twenty-First-Century Realities

Three relatively recent changes are already affecting what happens in schools and the relationships between and among parents, teachers, students, and schools:

- The availability of digital learning opportunities

- The creation of the idea of adolescents as a demographic category and the increasing significance of peer groups among the young
- Direct marketing to children and adolescents

These new realities present both challenges and opportunities—challenges to the educational status quo but also opportunities for innovation and transformation.

The Digital Imperative   No single development has done as much to break down the protective boundaries that the family, religious institutions, and the school have traditionally maintained around the young as has the advent of electronic information transmittal, storage, retrieval, and processing technologies, commonly referred to as *information technology* (IT). It is telling, however, that in schools, IT often means *instructional* technology rather than *information* technology. This is so because schools are organized to support and control instruction, and instruction is the defining characteristic of the work of teachers. Indeed, *instructing* and *teaching* are often used as synonyms. Therefore, new technologies are almost always examined in terms of their potential for supporting and improving the work of teachers rather than in terms of their capacity to support the work of students.

The revolution created by the application of digital technologies to the organization, management, processing, and presentation of information, images, data, and all manner of human expression cannot be appreciated as long as these technologies are viewed as tools for instructors. These technologies are in themselves instructive. What is most powerful about them is that they place instruction under the direct control of the person being instructed: the learner. In the digital world, the learner, not the instructor, is in charge of what will be learned, as well as how and when that learning will occur.

Educators are acutely aware of the digital revolution. Unfortunately, too few value the potential of the new tools as tools for learners. Indeed, the common reaction is to try to bring the new technologies under the control of the instructional system. The following comment from an experienced Indiana educator is illustrative of this view:

> It is my belief from experience, practice, and conversations that many educators still believe technology is either the enemy, because it is our number one competition for the attention and time of our

students, or additional baggage, because technology-related skills are something extra that must be added to the myriad content-related learning objectives which students must master. Another school of thought views technology solely as teacher management tools—instruments that will make for better presentations, easier record-keeping, and/or greater access to student data. Until a shift occurs with this thinking, technologies of all kinds will never be effectively used in the schools to make the greatest impact on learning.

The dimensions of the changes that will be required in schooling are enormous. The following statement by a Texas educator who is struggling with these issues gives an indication of just how dramatic these changes are going to be:

> As a result [of new technologies] students are empowered to take on a more active role in the classroom, which becomes a shared space where teachers and students learn together and from each other. These newer technologies also give students a voice, where traditionally they had none, and provide an authentic audience of potentially millions. Increasingly, students will direct their own learning and learning will happen in conversations, as opposed to structured lesson plans. And just as in life, learning will be connected rather than happening in isolation.
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> All of this forces us to rethink how we do school. So much of learning can and does happen outside the four walls of the classroom and with so many more people than the teacher. Learning doesn't just happen between the hours of eight and three. It's a continuous process for both teachers and students. We can no longer artificially filter what students are exposed to and instead have to help them learn to filter on their own. The lines between teacher and learner have to be blurred and the very idea of what is considered content has to be reconsidered.

The questions are whether schools have the kinds of leaders needed to bring about such a fundamental transformation in the authority relationship between students and teachers, and whether the boundaries of the schools can be made sufficiently permeable to safely admit the information that the digital world makes available. Without such leaders, the transformation of rules, roles, and relationships that is required will not occur. And without transformation, about

all that can be expected from school applications of new developments in the IT world is the digitization of past practices. More important is the fact that without the needed transformation, schools will play a less and less vital role in what the young learn and will be less and less important in shaping the worldviews the young develop.

In the future, students will have increasing choice concerning the form their instruction will take and considerable control of the time and place that instruction will occur. This means that if schools are to continue to be central in the educational lives of the young, teachers must be more than designers of engaging work for students; they will need to learn to be guides to alternative forms of instruction. Rather than be nearly exclusive sources of instruction for students, as they now are, they will need to be prepared to help students locate the sources of information and instruction that are most appropriate to their learning styles.

When this change occurs, students, especially older students, will be encouraged by teachers to seek instruction wherever it is available and wherever the style of instruction meets the learning style of the student. Schools will be places where intellectual work is designed that cause students to want to be instructed and will become platforms that support students in making wise choices among a wide range of sources of instruction available rather than platforms that control and limit the instruction available to them.

For this transformation to occur, digital technologies must be viewed as learning aids rather than tools that instructors use to do only slightly better what instructors have done for the past two hundred years. The survival of the American culture and way of life may well depend on the ability of the today's educators to find ways to encourage the young to become engaged in digitized tasks and activities that will call on them to learn those things the wisdom of elders suggests they need to learn.

The Impact of Peer Groups   Up through the 1940s, adults were much more significant in the lives of adolescents than was the peer group. This is no longer true. Adults, especially parents, continue to play a dominant role in the lives of the young, but the peer group, especially the adolescent peer group, is more influential than was the case at the time that America's system of schooling was designed.

This is not to say that peer groups did not exist in the past or that peer group pressure was not important. Rather, since about 1950, the young have become

increasingly independent of their elders, especially in terms of the information they can access and the ways they can process that information. Indeed, one of the earliest major efforts to link the idea of a distinct adolescent subculture to schools can be found in James Coleman's 1961 book, *The Adolescent Society.*[6] Since that time, a plethora of books and articles has been published on this theme.[7]

There are at least two sources for the rise of the influence of peer groups. The more commonly cited are changes in traditional family structures. Increasing numbers of children are living in homes where the presence of adults is much less ubiquitous than it was in earlier generations. For example, the presence of grandparents and large numbers of older siblings in the home is less common than in the past. In addition, the number of children in one-parent families or families in which both parents spend much of their time in a workplace far removed from where their children are located is increasing. In fact, nearly a third of all children live in homes with only one parent, and in 62 percent of two-parent families, both parents work outside the home.[8]

These changes occurred at the same time that the young have gained greater access to information from independent sources, not filtered through the adults who have traditionally controlled it: parents, grandparents, clerics, and teachers. Portable record players and portable radios became commercially available in the 1950s, making it possible for adolescents to hear music and other forms of entertainment free of adult censorship. The car radio and the automobile itself provided similar independence. The paperback revolution and the explosion in niche-marketed magazines, with adolescents being a market niche, occurred largely after World War II. For many years *Boys' Life,* the official publication of the Boy Scouts, was about the only periodical available that was aimed at adolescent boys, and there were virtually none for girls. *Seventeen,* a magazine for young girls, began publication in 1944. Nowadays many children have their own television and their own computer in their bedroom, seldom frequented by parents. All of these converging forces reinforce the relative power of the peer group

[6]James S. Coleman, *The Adolescent Society: The Social Life of the Teenager and Its Impact on Education* (New York: Free Press, 1961).

[7]See, for example, Patricia Hersch, *A Tribe Apart: A Journey into the Heart of American Adolescence* (New York: Fawcett-Columbine, 1998), or Linda Perlstein, *Not Much Just Chillin': The Hidden Lives of Middle Schoolers* (New York: Ballantine Books, 2003).

[8]U.S. Bureau of Labor Statistics, "Employment Characteristics of Families Summary," May 20, 2008. Accessed June 10, 2008, at http:///www.bls.gov/news.release/famee.nr0.htm.

and diminish the power of traditional authority to serve as a meaningful base for controlling the activity of the young.

In the face of this reality, schools must be organized in ways that take advantage of the power of peer groups and the networking that these groups suggest. Educators must learn to take into account and exploit for positive ends the social networking available on the Internet. Educators must not allow fear of the harm that can be done by these developments to divert attention from their efforts to invent ways to exploit the good.[9]

If educators fail in this regard, other developments in American society, especially in the world of the Internet, make it likely that most of what students learn will be outside the direction of the school (and even outside the direction of parents) and will be increasingly under the control of peer groups and commercially oriented marketers. Such a "curriculum" will clearly not be as likely to result in a more civil society and a more thoughtful citizenry, as would be the case if the curriculum were an expression of a clear set of community values and beliefs regarding what it means to be an educated person.

Young people have more control of their own learning today than in the past, whether adults like that or not. Adults must find ways to engage the young in activity that causes them to exercise this control in personally and socially desirable ways.

Marketing to Children   Prior to the 1940s, to the extent that marketers were aware of the youth market, they aimed their efforts at parents rather than the young themselves. But radio began to provide marketers with direct access to the young. This access was later expanded through television, youth-oriented magazines, comic books, and now the Internet.

Marketing to children today is a far cry from what was used in the early days of radio. For example, the first memory I have of being directly "marketed to"

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[9]The situation suggested here roughly parallels one found by researchers studying efforts to apply scientific management techniques to production work in a factory. They discovered that the peer group had more to do with controlling the performance of workers than did the rational system of incentives provided by management. The studies that demonstrated this point, known as the Hawthorne Studies, are classics in the management literature, and numerous other studies have replicated the findings. For many years, managers tried to fight against peer group influence. Today wise business leaders understand that peer influence can also serve as a powerful source of positive motivation.

is when, as a child in the 1940s, I listened to *Captain Midnight* on the radio and was invited to send in an Ovaltine wrapper in exchange for a "secret decoder."

The marketing aimed at my six-year-old grandchildren is much more sophisticated and more ubiquitous than these early efforts. And modern marketing is not limited to cereal, soft drinks, and clothing. Indeed, the fastest-growing market for the young, including sometimes the very young, is the world of electronics: electronic games, iPhones, iPods, and so on. These items are clearly much more relevant to the way children can and will be educated than was Ovaltine.[10]

What I find most interesting and important about this development—in addition to the possibilities that it might suggest for direct applications in school—is the fact that those who engage in marketing to the young and designing games for the young seem to understand better than do most religious leaders, teachers, or even parents the fundamental fact that the power relationship between the relatively young and the relatively old has changed in immutable ways: parents, teachers, and religious leaders no longer control young people's access to information and knowledge. Moreover, marketers understand that if they are to gain access to the attention and commitment of the young, they must be willing to compete for that attention and vie for their commitment.

Commercial marketers understand that they must design products and campaigns in ways that appeal to the values of the young. Many educators have yet to discover this fact. Rather than seeing themselves as marketers who try to discover and appeal to the motives of their customers, educators are more likely to see themselves as salespeople who try, by providing incentives, to induce students to buy what they have to offer. Sometimes these inducements involve such extrinsic rewards as grades and free passes to concerts, and sometimes they involve reducing the effort that must be expended to receive the reward—something akin to lowering the price. Some teachers frame the problem as one of needing to compete with professional entertainers. Most teachers, however, do not feel they can compete in this world. Such a framing of the problem can do little other than to increase despair.

Even more interesting is that many marketers have turned to some classic educational thinkers for guidance in how to proceed. For example, the work of Jean Piaget, the famous developmental psychologist, is often used as a basis for differentiating the market so that campaigns and products are geared to appeal

[10]For a powerful discussion of many of the issues suggested here, see Kathryn C. Montgomery, *Generation Digital: Politics, Commerce and Childhood in the Age of the Internet* (Cambridge, Mass.: MIT Press, 2007).

appropriately to different age groups.[11] It is perhaps time that educators consider the lessons these observations by marketers might suggest and then begin to organize their schools and classrooms in ways that take these lessons into account.

The Democratic Imperative

Democracy is based on the belief that ordinary citizens can be trusted to make civic and political decisions that will affect their own lives and the lives of others. In nondemocratic states, these rights are reserved for the elite.

There is, of course, always the fear that the masses will prove too ignorant and too ruled by runaway passions to be trusted with such matters. This is why public education is so central to democratic life. It is through education that the ability to make disciplined and discerning judgments and to create new options is developed, and it is this ability on which democracy depends.

In a world where ordinary citizens are increasingly bombarded with facts and information, high-quality mass education is more important than ever before. Moreover, it is no longer simply facts that citizens need. They need disciplined ideas that they can use as tools to organize these facts. Without ideas to organize facts, citizens will be overwhelmed by information, and in their confusion, they may be easily deceived. Critical thinking skills, skills in collaboration, and skills for working in groups are not only work skills; they are, as they have always been, essential citizenship skills as well.

In a democracy, all citizens must develop a taste for excellence so that the judgments they make will lead to excellence rather than mediocrity.[12] Assurance that this will be so can be granted only by a strong public education system that provides all students with the opportunity to learn to think and to reason and to use their minds well.[13] Simply put, modern democracy requires an elite education for nearly every student. This is a tall order. It assumes that nearly everyone is capable of learning at high levels and that they will learn at high levels if given the right opportunity to do so.

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[11]Ibid.

[12]Alexis de Tocqueville, the famous French observer of American democracy, as well as many others who have commented on the consequences of democracy, believed and believe that democracy inherently leads to mediocrity. It is my view that this thinking is flawed, but the only thing that makes it so is the assurance that all citizens can be, and are, well educated at public expense.

[13]Those who are familiar with the literature of education will know that I have been influenced by Theodore Sizer. See for example, Theodore Sizer, *Horace's Compromise: The Dilemma of the American High School* (Boston: Houghton Mifflin, 1984).

Many Americans fear that an inadequate system of education will compromise America's ability to compete in the global economy. In fact, they have more to fear from the possibility that young people who graduate will lack the skills and understandings needed to function well as citizens in a democracy. Americans have more to fear from the prospect that the IT revolution will so overwhelm citizens with competing facts and competing opinions that they will give up their freedom in order to gain some degree of certainty than they have to fear from economic competition from around the world. Leaders should be more concerned that Americans will cease to know enough to preserve freedom and value liberty, equity, and excellence than they are with how well American students compare on international tests. As numerous scholars have shown, authoritarian leaders and charlatans thrive in a world where ordinary citizens are overwhelmed with facts and competing opinions and lack the ideas and tools to discipline their thinking without appealing to some authority figure for direction and support.[14]

All students must have a sufficient educational acquaintance with the academic disciplines to enable them to distinguish sense from nonsense, an ancient notion that dates back to Aristotle. In a multiethnic, multicultural society characterized by religious pluralism, it is also essential that attitudes of tolerance and empathetic understanding be fostered, for without these attitudes, balkanization is almost certain to occur. Indeed, even now the fabric of American society is being strained more than ever in the past, at least in part because differences have become more important than the common good.

The continued vitality of American democracy, as well as the nation's economy, may well depend on the ability of educational leaders to transform schools. Surely what students need to know and be able to do to live well in a democracy will also serve well as a basis for their becoming the scientists and engineers our society needs to maintain its standing in the world of commerce. At the

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[14]Studies of the rise of authoritarian states are not as popular today as they once were, but those who care about the future of this nation could do worse than to read, or reread, authors like Hannah Arendt and Eric Hofer. In this age of information overload and extreme commercialization of nearly every aspect of life, America may have as much to fear from what Arendt called the "banality of evil" as from the many other evils Americans are being encouraged to fear. (By "banality of evil" Arendt is talking about the tendency of ordinary citizens to blindly follow political and cultural leaders without exercising independent judgment and critical faculties.) See Hannah Arendt, *Eichmann in Jerusalem: A Report on the Banality of Evil* (New York: Penguin, 1994). See also Eric Hofer *The True Believer: Thoughts on the Nature of Mass Movements* (New York: HarperCollins, 2002).

same time, the education students are provided might serve as a basis for some becoming the artists, historians, novelists, journalists, and musicians needed to make living worthwhile. More important, such an education might increase the prospect that the young will learn what they need to know to more fully appreciate the quality of life that democracy makes possible for all citizens. Finally, it might enhance the attachment of the young to each other, to their elders, and to their sense of the common good.

The Moral Imperative

One need not be a proponent of censorship to acknowledge that some elements of the entertainment industry and the mass media expose America's young people to forms of art and music that coarsen the culture and the individual. Try as they might, however, neither parents nor religious leaders can protect the young from these forces. Neither can schools, but a well-rounded education can help ensure that students become more discerning in their tastes. Education can sensitize their judgments regarding what is beautiful, honest, elegant, and refined.

Knowledge may not be power, but ignorance certainly does not bestow bliss. There are differences among joy, delight, arousal, and titillation. There are differences between art and pornography, and between music and sheer noise. Opinions supported by and consistent with facts are better than opinions that are at variance with facts and have no support other than the passions of the person expressing the opinion.

If all graduates left high school with sufficient understanding of the academic disciplines to distinguish sense from nonsense and with enough understanding of the arts to appreciate the impact of feeling and emotion on the human spirit and thought processes, they would also be well equipped to function as members of a world-class workforce in an information economy. Properly educated, they would also be in a better position to evaluate the art and music they are exposed to in the mass media, as well as to evaluate the claims of marketers and politicians. More than that, they would be prepared to assume roles as responsible citizens and enjoy the benefits that accrue to men and women who have discovered how to learn independent of teachers and schools. The necessity of providing such an education is yet another piece of the argument that schools must be transformed rather than merely reformed, for without transformation, the education that schools provide most students will become increasingly formulaic, uninspired, and superficial.

Learning to Exploit New Opportunities

Teachers lament the fact that peer group loyalties distract students, especially young adolescents, from their schoolwork. Parents and teachers alike complain that television advertising and some of the cartoon programming that goes with these ads are harmful to the physical and mental health of children. School boards spend countless hours figuring out how to formulate policies limiting the use of cell phones, iPods, and Internet access in school buildings.

These concerns are legitimate, but they cannot be dealt with by denial, outrage, or the wish that the world were somehow different. For teachers, parents, and other adults to properly understand and appreciate the changes that are occurring in the lives of the young, they must stop seeing these changes as threats and instead identify the opportunities they present.

What must be acknowledged is that the traditional authority principles that have defined relationships between children and adults have been altered in immutable ways. Not only do students now often have access to information before their teachers or their parents do, but they are often the first to learn the newest techniques for gaining access to information and of creating content and processing information. There are indeed parallels between intergenerational relationships affected by information technology and the relationships between natives and immigrants. Marc Prensky, a digital guru, has in fact used the terms *digital immigrants* and *digital natives* to describe this phenomenon.[15] And in the digital world, the young are often the natives and the adults the immigrants, whereas in the not-so-distant past, this relationship was reversed.

Peer groups supported by new technologies present a serious challenge to traditional authority relationships in school. To deal productively with this situation, teachers and school administrators have to learn how to turn the power of peer group loyalty into a mechanism for fastening student attention on useful educational ends. Rather than fight electronic networking, educators need to learn how to exploit these innovations for positive educational ends.

Finally, although direct marketing to the young has its unsettling dimensions, what the work of marketers and the designers of games for the young might teach educators is loaded with potential. As a quick Google search using the key words *marketing* and *children* will reveal, much of the research done by marketers is just as available to educators as it is to the marketers themselves. Educators

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[15]Marc Prensky, "Digital Native, Digital Immigrants," *On the Horizon,* 2001, *9,* 1–2.

and those who educate educators need to become at least as familiar with this literature as they are with the more classic education literature dealing with student motivation.

Moreover, those who design games for the young are astutely aware of the motives and values the young bring to their products. Many understand, for example, that electronic networking and the building of virtual communities is as important to some forms of gaming as is the activity of the game itself. Game designers also understand that the ability to fail without punishment is an important part of the appeal of games, as are the clarity of standards and the access to multiple ways of meeting those standards. School reformers can learn much from studying the work of those who some consider to be the competition.

WHY WE TINKER: THE PROBLEM DEFINED

As I noted above, Tyack and Cuban have rightly observed that most efforts to improve America's schools have involved tinkering. These efforts have not been radical. They have barely scratched the surface of the problems that confront public schools and certainly have not gone to the root of the problems. When tinkering has exceeded the limits of the existing systems, as was the case with many of the curriculum reforms of the 1960s, such as flexible scheduling, non-graded classrooms, and open classrooms, rejection or domestication have been the predictable results.

Those who occupy power positions in the education bureaucracy, and many of those who advise such people, assume that the test of the merit and worth of an innovation is its ability to deliver within the context of the existing bureaucratic arrangements. This assumption clearly limits the types of innovations that can be installed and made eligible for comparative tests. Moreover, it ensures that the existing system will be maintained pretty much in its present form, because it does not allow the implementation of the systemic changes that would be required before the disruptive innovation might produce the effects it promises.

Such a scenario almost certainly dooms public schools to the ash heap of history. Knowledge and information are at the heart of the educational enterprise. The knowledge development and transmission system assumed by bureaucratic schools is a linear system that requires the physical presence of a person or a book, magazine, or some other form of print for instruction to occur. It provides a platform for systematizing instruction.

The major innovations of our time have had to do with storing, retrieving, processing, and communicating knowledge, information, images, and voice communications by electronic means. It is now possible to store and access knowledge and information in a random, nonlinear fashion. Educational systems that can draw on the new capacities provided by random access are more likely to thrive than are educational systems that can use them only if they are domesticated and adapted to existing linear assumptions. For example, content no longer needs to be preorganized into textbook chapters. Students can create their own "chapters" once they have determined what questions they want the chapter to answer. Schools must therefore become platforms for optimizing learning opportunities for students (and adults as well).

In the digital world, print- and person-dependent learning is not the rule. And as businesses are beginning to learn and religious leaders are beginning to discover, these new technologies threaten existing boundaries and existing arrangements of power and authority in fundamental ways. Organizations that are change adept—that is, organizations that can learn as well as encourage learning—will survive and thrive in this new world.[16] Organizations that require stability, tranquility, and predictability will perish. And bureaucracies absolutely require stability, tranquility, and predictability if they are to function in optimal ways, a topic explored in the following chapters.

If the limitations of bureaucracies continue to be imposed on or accepted in schools, the only alternative available to those who desire a high-quality education will be to create a new system of education outside the range of the state and federal bureaucracies that now dominate public schools. Indeed, such a system is likely to function outside schools more generally, as most private schools are structured on the same organizational premises that guide public schools, and thus are based on assumptions that are not valid in a world where digital learning opportunities abound.

If schools both public and private cannot become more adept than they now are at absorbing and supporting disruptive technologies—and it is clear that digital technologies, properly exploited, will be disruptive in bureaucratically organized schools—then customized, commercially provided education is likely to replace both public and private schools, at least for most students. Those left

[16]See Rosabeth Moss Kanter, *On the Frontiers of Management* (Boston: Harvard Business School Press, 1997), for a discussion of the ideal of change-adept organizations.

behind will be the children of the poor, who will be trained in state-run bureaucracies rather than educated in outstanding schools, making even more real the social class divisions that are tearing at America's social fabric.

The problems with America's public schools do not reside in the quality of teachers or school leaders. Nevertheless, as they now are organized, public schools too often encourage teachers and school leaders to value passive compliance over active involvement and to value the amount of time spent on tasks over the quality of the energy invested in the task. Rather than fostering a sound grasp of the fundamental tools needed to pursue a vigorous intellectual life, schools too often encourage teachers to settle for students' passing a state-mandated test whose primary virtue is ease of scoring in large numbers and in a relatively short period of time. Schools focused in this way are more likely to encourage teachers to value docility and compliance in students above creativity and intellectual curiosity. Those who work in such environments are likely to confuse rigor with rigor mortis and submission with discipline. Indeed, given the circumstances that now exist, most teachers are already accomplishing more than the schools were designed for them to accomplish. Indeed, America is fortunate to have so many teachers who are as successful as they are in spite of the systems in which they work rather than because of them.

If we are to provide every child with the best education possible, we need schools that give a central place to creativity and imagination and enforce standards of excellence through shared commitments, collegial reinforcement, and collaborative agendas rather than through bureaucratically managed external controls, extrinsic rewards, and threats of punishment. The chapters that follow point the way toward the creation of such schools.