Sharing . . . the Journey

Prequel to the Summer 2011 Paperback Edition of *The World Is Open: How Web Technology Is Revolutionizing Education*

CURTIS J. BONK, PROFESSOR
INDIANA UNIVERSITY

GIVING AND SHARING

Former U.S. president Bill Clinton's 2007 book, *Giving: How Each of Us Can Change the World,* provides a simple yet powerful message of hope, optimism, and change. Throughout the book, Clinton effectively captures a giving spirit through dozens of fascinating vignettes. For example, people like John Wood are quitting their jobs at Microsoft in order to build thousands of libraries as well as computer and language labs, while making educational scholarships available to children in such places as Nepal, Laos, India, Cambodia, and Vietnam through a program called Room to Read. To make this program work, there are thousands of other givers who donate books, software, money, and other resources for Room to Read libraries and educational programming.

In addition to Wood, there is Woods, or, I should say, legendary golfer Tiger Woods, who founded the Woods Center, where volunteers offer mentoring in math, science, and technology to youth of Southern California. Of course, Clinton also highlights AmeriCorps, an organization he was instrumental in creating back in 1993 during his presidency. AmeriCorps teachers travel to places such as South Africa, inner-city Los Angeles, and hurricane-ravaged New Orleans to give their time, talents, and educational services.

Reading Clinton's book is certain to turn any reader into a giver. Clinton's wide-ranging compilation of riveting stories draws the reader to visions of how giving something, however seemingly small or inconsequential at the time, can make a huge difference. People around the world are contributing to efforts to diminish world pollution, discover cures for prostate cancer and AIDS, bring attention to the need for global peace, and provide support to victims of natural disasters and emergencies, such as those devastated by the major tsunami that hit South and Southeast Asia on December 26, 2004, as well as those caught in Hurricane Katrina just eight months later.

Each of us has something to give—time before or after work, physical labor and sweat, innovative ideas and other types of mental effort, money and tangible materials, and

unique talents and skills—that can make a positive impact on the inhabitants of this planet. In parallel to acts of giving there typically is some sense of sharing—the sharing of stories, visions, kindness, wealth, sense of duty, resources, and so on. Indeed, sharing is a part of giving as much as giving is a part of sharing. Sharing is actually defined as an act of contributing or giving something. And sharing is what this prequel, and perhaps life, is all about.

If giving creates hope for someone, then "sharing" potentially multiplies this process to include everyone. In effect, giving, though vital to sustain and enrich human life on this planet, is often unidirectional (that is, going from a giver to a receiver), whereas the fruits of sharing more often extend in myriad directions. Sharing may, in fact, represent a synergistic expression or culmination of giving in which what is provided or shared is duplicated, reused, and extended to people you did not initially intend or imagine benefiting from the act. What is evident is that acts of sharing take place in a highly interactive dynamic; such complexities aside, there is significant overlap between acts of giving and sharing.

Instead of trying to bring to life all acts of sharing here, I focus primarily on sharing in educational settings via learning technologies, while briefly recounting aspects of my own personal journey related to such sharing during the past couple of decades. In the twentieth century, educators were often referred to as givers—those who give back to society without asking for much in return. Such individuals give their time to educating learners at all hours and on any day of the week. They offer their talents in particular subject matter areas, and they invent imaginative ideas and activities so that others can be motivated to achieve at a high level. Of course, such giving is a model for each succeeding generation of educators.

In the twenty-first century, however, opportunities for educators to share may actually eclipse opportunities to give. In contrast to giving to a particular student, classroom, or school, sharing denotes an impact that is much more far-reaching, or, at least, potentially so. Now, with the emergence of the Internet and, concurrently, online sharing, you can have an impact on anyone anywhere on this planet at any time of the day. In particular, sharing has increased in salience within teaching and learning environments due to unique possibilities afforded by online collaborative technologies.

FIRST WAVE OF TECHNOLOGY: DRILLING LEARNING

Until recently, technology has been a key reason for the lack of sharing in education. What was on one person's computer was solely for his or her use and should not be transmitted to others, because that would only encourage cheating or lazy thinking. Key examples of this perspective included programmed instruction and computer-assisted instruction (CAI) in the 1960s and 1970s which were by-products of the behaviorist movement made popular by the famous Harvard psychologist B. F. Skinner and his followers. At the time, technology was primarily used to reinforce learning. With such perspectives came the shaping of people in small steps toward a skill using what many opponents labeled "drill and kill instruction." Shaping trumped sharing. Individualism overrode collaboration. *Result: sharing was virtually nonexistent in that first wave of educational computing technology.*

SECOND WAVE OF TECHNOLOGY: ENHANCING LEARNING

As programmed instruction and its reinforcement style of learning "finally" faded away, many educators in the 1980s and early 1990s began to use technology to expand or broaden what learners could accomplish in basic skill areas such as math, science, reading, and writing as well as other subjects and in even less clearly defined learning pursuits. No longer were they limited to using technology to narrowly focus on discrete facts and dates and pounding them one nail at a time into the brains of awaiting learners. There was a huge and highly welcome funeral procession for programmed instruction and CAI.

I witnessed part of this mass burial firsthand when conducting my master's degree research in a number of schools in Wisconsin during the summer of 1987. I had students using dozens of convergent thinking software packages intended to enhance logical thinking, problem solving, hypothesis testing, classification skills, deductive reasoning, and making inferences. At the same time, I tested a similar set of divergent software packages for fostering originality, brainstorming, spatial reasoning, recognizing patterns and relationships, and designing original works in poetry, art, drawing, animation, and music. This was a far cry from the canned drills of most technology deployed in schools at the time.

Instead of limiting students' educational opportunities to a set of predefined standards or objectives, this wave of software elevated or extended learning beyond what anyone could do alone. Such technology tools worked with and expanded upon human cognitive capabilities to enable highly valuable and novel learning outcomes. Although the second wave of educational computing technology was not especially designed for sharing and collaboration, it was a means to extend human mental functioning. *Result: technology was a cognitive tool to enhance human thinking and reasoning.*

THIRD WAVE OF TECHNOLOGY: EXTENDING LEARNING

By using the second generation of educational technology to "enhance" learning, instead of hammering it in, educators started focusing on computers as cognitive tools that would augment mental functioning, thereby enabling learners to accomplish tasks that were not previously possible. My dissertation project on critical and creative thinking computer prompts embedded in WordPerfect in 1988 and 1989 was a prime example of augmenting learning with technology tools. Such learning enhancements were also found in supplemental resources such as practice exams, current topic readings, outlining and concept mapping tools for writing papers, rudimentary simulations, and other course study aids packaged on floppy disks and later on CDs, which were often glued or taped to the inside cover of the mighty textbook.

This approach was quite common from the late 1980s to the mid-1990s. Unfortunately, sharing was not typically embedded in such efforts, though one could share the disk. In addition, most often the technology provided by the textbook publishers was something that the teacher used to demonstrate, teach, show, and explain key concepts, and was not for students to try out or use to test hypotheses, brainstorm ideas, or collaborate with others. A focus on manipulating and measuring individual learning remained entrenched across all phases of technology design, implementation, and evaluation.

When the Web emerged as a viable educational tool in the 1990s, educators began to experiment creatively with it. At that time, the focus changed from using technology to enhance learning to using technology to "extend" what you do. This was a third generation of educational computer technology.

For example, at Indiana University, from 1996 to 2000, we used third-generation tools such as Web conferencing to organize interinstitutional collaborations between preservice teachers in Indiana and Finland. This project soon expanded to include classes in the United Kingdom, Peru, Korea, South Carolina, and Texas. Students discussed case problems seen in schools and suggested solutions to each other based on their course readings. With such projects, class discussions could take place on the Web late at night, long after the course lecture was delivered and even after the instructors and their assistants had gone to bed. Ideas were not only shared internationally, they were saved online for the next class of students to read, reflect upon, and use.

Activities that extended learning environments also took place in K–12 and corporate education. In K–12 classrooms, for instance, projects and initiatives such as Keypals, the GLOBE (Global Learning and Observations to Benefit the Environment) Program, the Journey North, and Kids as Global Scientists pushed learning well beyond traditional walled classrooms so that children could share their papers or scientific findings with peers in other schools, geographic regions, or countries. They might even have a live videoconference between two or more schools to share their curriculum projects and ideas. Such outreach programming and culturally beneficial activities were intended to foster global awareness and appreciation of cultural differences and similarities by youth around the world.

In corporate training, this third generation of tools enabled learners to work in teams with others in their organization located in different parts of the world using asynchronous discussion forums, Web conferencing, and online chats. Such global worker-training activities built corporate efficiencies and expanded productivity in ways never previously imagined.

As these examples illustrate, it was during the 1990s that online educational activities were taking off in seismic proportions beyond the four walls of the classroom. *Result: ideas related to using technology to share began to crystallize. However, sharing was primarily limited to sharing papers across locations, sharing opinions in discussion forums, and sharing ideas via e-mail.*

FOURTH WAVE OF TECHNOLOGY: TRANSFORMING AND SHARING LEARNING

Though perhaps impressive, all of these activities in the third wave of technology amounted to nothing more than light-touch sharing by today's Web 2.0 standards, where user sharing, contributions, and participation are the norm. Just where such efforts will lead remains something of a mystery, as most educators today have simply walked through an initial passageway leading to a rich labyrinth of sharing opportunities. Many remain hesitant to wander further inside the possibilities of the Web 2.0; afraid to upset any colleagues, students, administrators, supervisors, or other stakeholders. Some lack adequate

support and training. Others lack time or interest. There are many reasons to stand for months or even years at the doorway to transformative technology change in education and simply peer in.

As a result of these barriers, sharing, for the most part, continues to be incidental to the course or learning experience goals and objectives; not the prime motivator for teaching or training with technology. Many educators operating from this perspective fully admit that sharing educational resources, materials, and ideas has wonderful side effects (for example, gaining new colleagues, increased global awareness, automatic course updates, and so on). Their main focus, however, is on enhancing or extending the learning of those enrolled in their classes. Unfortunately, their direct concerns and ultimate reach typically do not include students in other classes or institutions or students who are unable to enroll in their classes for whatever reason. This perspective may change in the coming decades as online and nontraditional learning and learners become the norm.

What should be clear by now is that using technology to enhance and extend teaching and training environments was relatively painless. The next phase of educational technology, which sprouted wings in the late 1990s and is still evolving, relates to using technology to transform the curriculum. Transforming education with technology has not been as widely adopted as some perceive, but an avalanche of change is under way.

Now with fourth-generation educational computing technology, such as the Web 2.0, educational courses are being entirely rethought and revamped to take advantage of authentic learning and real-world audiences for collaboration and interaction. For example, there are online corporate reports for business classes to analyze and discuss, Web-based surveys and polls for research courses to access and perhaps verify, digital movies produced by students and shared in YouTube for cultural anthropology courses, Google maps embedded in architecture or urban studies courses, freely available podcasts of Spanish radio for language courses, and live language lessons via Skype. Students can record, communicate, and debate real problems or cases that one or more of them has encountered, instead of debating canned ones from textbook publishers. And, equally remarkable, the answers to those problems might come from someone that they will never physically meet. *Result: sharing in this fourth phase of technology integration is much more flavorful and multimedia rich; undoubtedly, it will soon be widely accepted as standard educational practice.*

SHARING TAKES ROOT

Despite hundreds, if not thousands, of such transformational teaching examples, there are endless bumps in this road. For instance, during the late 1990s, Murray Goldberg, former computer science professor from the University of British Columbia, built a high-profile user community around his extremely popular course management system, WebCT. Though he did not anticipate it, this community sprang up from a fast-growing user base for his product, thanks to his extensive and insightful grassroots efforts. Allowing instructors to initially use his product for free did not hurt either.

During this growth phase, Goldberg started dreaming of what it would be like if instructors using WebCT shared content, course resources, ideas, and even teaching styles or approaches. As president and founder of WebCT, he hoped that instructors using

WebCT (and similar course management systems) could browse through the shared online content and write to each other for permission to use the resources that they had found. And even though there were 150,000 courses in WebCT format at the time and fifty e-mails a day from an active and thoughtful user group, only two people were willing to put their courses up on display for others to view; a mere two courses out of some 150,000. This certainly was not the exciting sharing culture that he and other online learning pioneers had envisioned. What went wrong?

Well, there were two gigantic barriers to sharing online content: ownership and copyright. Some worried about who actually owned the materials and whether they would benefit if they shared such content. Others were nervous that corporate lawyers at publishing houses would see the course resources that they were using without proper copyright clearance and engage in some type of legal action. Still others noted concerns about the piracy of their materials.

As the red flags of copyright and knowledge ownership were raised, Goldberg and many others hit a wall on sharing. They grasped the new possibilities for online communities of instructors but lacked the process for this to actually happen. Instructors wanted to share, but they simply could not, due to many internal policies, rules, regulations, and administrative mandates as well as external fears, barriers, and concerns on the part of the publishing industry—not to mention fast-changing legal requirements from state and federal governments.

Part of the problem was the newness of online learning. Today, educators and the institutions and organizations they work for have a better, though still imperfect, understanding of what the prevailing laws allow in terms of copyright. These same institutions and organizations also have established more effective internal copyright policies and procedures. Another part of the problem was the fact that the primary reward system for most instructors in higher education was research based; it rarely, if ever, revolved around pedagogical inventions or the sharing of such inventions. And still another issue was the emphasis on individualism in most educational settings (such as individual teaching, individual learning, individual assessment, and so on), not collaboration. Overcoming such fears would take more than a few years of familiarity with online learning environments and sharing content within them.

As these barriers begin to crumble, numerous signposts of the coming tidal wave of change appeared. One key historical marker occurred late in late 2006 when Time magazine named "You" as the person of the year in recognition of the growing use of online technologies that empower people. As made evident in that issue, people can contribute to learning and comment on the learning of others, instead of passively receiving it. At the same time, the copyrighting of scarce knowledge in the centuries prior to the Web 2.0 gave way to the sharing of vast stores of human creativity and innovation after the Web 2.0.

Centuries from now, historians will note that in the early 2000s we entered an age of knowledge and information abundance. For every fully copyrighted document or e-book, there were now several others to pick from that were free to use and share with others. As an added sweetener to the free and open access movement, often these materials could be expanded, remixed, and reused in totally novel ways. A nonprofit organization called Creative Commons rose up to help individuals share and build upon the works of others

while abiding by the assigned copyright designation and rules. With Creative Commons, the tools were now available for the person creating an educational resource to provide freedoms to others who might want to share, remix, or commercially use it. As this happened, the term "ShareAlike" became increasingly used instead of "copyright."

Contributing or giving to others is what both the Web 2.0 and Bill Clinton's Giving book are all about. The Web 2.0 is about sharing. We share podcasts of what we have found online as well as podcasts we have produced. We share ideas in our own wiki or contribute to existing wiki pages found in Wikipedia or WikiQuotes. We share our courses and educational resources with others.

We also subscribe to what others want to share with us. We subscribe to particular online news shows, postings from insightful bloggers, channels from YouTube video creators, and a plethora of other online content. What all these events mean is that you, the people, control your educational experience, instead of someone else controlling it for you.

Thanks to visionary people like Murray Goldberg and the emergence of Web 2.0 technologies, there is now a resounding buzz in education about sharing. During my travels the past few years to places like China, Spain, Taiwan, Thailand, Korea, Ireland, the United Kingdom, Iceland, and Saudi Arabia, people have been talking about sharing and the possibilities that it holds for education. It is starting to make sense, especially when experiencing a budgetary shortfall or economic crisis.

This was not the case just five or ten years ago. For instance, when I gave more than a dozen talks on e-learning in four different cities in Australia in August, 2000 and mentioned sharing, a common refrain I heard was that "sharing may work over there in the United States, but it will not work here." This mantra was repeated when venturing over to Finland nearly a year later, and the year after that to New Zealand, Korea, and, yet again, Australia. Ironically, in the United States, I heard the same comments, only in reverse—it may be viable in those other countries you have been visiting, but not here, not now, not anytime.

Like Murray Goldberg, my optimism on how online sharing and collaboration could change education around the globe had taken a serious blow in the early part of this decade. It really did not matter where I was; each place I stopped provided the same gloomy news, the same questions, and, generally, the same resistance and reluctance to share. I could have been standing in the middle of an international airport filled with educational professionals from hundreds of countries all headed in different directions and each of them would have stopped and stated the exact same thing: "We do not share in my country, period."

Not only did most educators work alone and apart from others, but they also did not want their educational materials to be exposed to or exploited by a world community that might critique or mismanage them. These trepidations were not minute or restrained, but enormous, pervasive, and intense.

THE GLOBAL EXPANSION OF SHARING

Fortunately, the sharing pioneers kept chipping away at such fears. With each passing year, education and training professionals in K–12 schools, colleges and

universities, and corporate, nonprofit, military, and government training settings have all become more comfortable with sharing educational ideas, contents, and best practices. Time, experience in teaching with online resources, modeling and examples of others, and general Web familiarity have broadened the views of those once hesitant or reluctant. Sharing has become a prominent part of the educational lexicon. It is part of what you do when you teach, design instructional materials, or evaluate instructional innovations. You share resources and materials in online portals and content repositories, you place your best practices up on display in the Web for others to learn from, and you share your results. Learners and potential learners from every corner of this planet benefit from the sharing.

Sharing now permeates society. Our casual sharing can have an impact on a child or adult in rural parts of Cambodia, Chile, Chad, or Canada. Let's briefly look at Canada, as an example.

In northern portions of Canadian provinces there typically are no roads, except during cold winter seasons when ice bridges can be formed. Given these physical constraints, education is often shared electronically. In parts of Northern Ontario, thousands of First Nation individuals lack paved roads, plumbing, and other amenities that many of us take for granted. Amazingly, however, many have broadband access to educational opportunities through programs such as Contact North and the Good Learning Anywhere Project. And, as noted below, with this access at their fingertips, these learners in Northern Ontario, as well as learners in any other corner of the globe, can engage with and share course materials from MIT and numerous other universities for free. Why? Because these resources have been shared!

Although examples of educational sharing might not be in the news as frequently as the examples of giving that Clinton documents, they are no less common. Many universities and educational organizations are sharing online course materials and information resources, including MIT's OpenCourseWare (OCW) initiative—a plan to place every single MIT course on the Internet for free.

When Charles Vest, then president of MIT, announced this bold OCW initiative on April 4, 2001, many wondered about MIT's actual intentions as well as the ramifications for institutions of higher learning and beyond. Just a couple years after Vest's announcement, there already were hundreds of courses online and thousands of hours of free content. Given its more than one million visitors each month, the MIT OCW project is certainly making a monumental impact. Testimonials found on the OCW homepage come from individuals in dozens of countries including Croatia, Argentina, Nigeria, Morocco, Indonesia, the United States, and China.

So momentous is this initiative that OCW courses from MIT have been translated into Spanish, Portuguese, Thai, French, German, Vietnamese, and Ukrainian. Thanks to such efforts, a large percentage of the world population can now learn from one person's initial idea to share. Other esteemed universities such as Johns Hopkins, Tufts, Notre Dame, Utah State, Carnegie Mellon, Korea University, the Open University in the United Kingdom, and a consortium of universities in Japan, including the University of Tokyo, have followed the lead of MIT in placing some of their course content online for free.

As such courses are shared, the world naturally nudges forward as a better and more enlightened place to put up your tent, open up your laptop, and live and learn. Though

some are quick to note that typically there is no instructor grading student work within OCW courses, extensive learning is possible without instructors. Self-paced, exploratory, and personally directed learning is certainly legitimate and vital educational activities; and often much more exciting, pleasurable, and beneficial than teacher-directed learning. Keep in mind, however, that at this time, exploring such resources does not lead to any course credit or a degree. The recent emergence of online entities such as Peer 2 Peer University and the University of the People, which exclusively use such open education content, may change that.

Not only are course materials being shared, but so are podcasts or online audio files of lectures, conference keynotes, student presentations, and other valuable educational resources. People are sharing ideas in their online blog posts. In effect, anyone living in the twenty-first century with Internet access can be a journalist. Furthermore, current discoveries and new theories no longer have to wait years in the professional publishing pipelines to be read, discussed, commented on, and revised. Life at Internet speed is highly accelerated, personal, engrossing, and exhilarating!

MY SHARING JOURNEY

The sharing of thoughts, initial research, collaborative ideas, and announcements within a blog or personal homepage helps both the sharer and the receiver. For instance, the results from the simple sharing of a blog post may evolve into a magazine or journal article, or even a book. And with free and open access journals, open source books, and even wikibooks, sharing is amplified from a simple blog post or a rough idea scribbled on a napkin in a restaurant to a series of ideas with collaborative partners around the world. Many scholars today are putting up full books on the Web for anyone to download the entire text or pieces of it as needed.

Not only have I seen such sharing in action, I have personally attempted to develop a series of sharing tools and resources. During late 1998 and on into 1999, about a dozen doctoral students and I developed many sharing tools and associated resources for an undergraduate textbook in educational psychology published by Houghton Mifflin. The goal was for students and instructors who used the book to share instructional activities, events, and ideas online. They could also find advice, examples, and templates for their teaching. We called the resulting textbook sharing site and portal INSITE.

When done with INSITE, we expanded on these ideas with a free global resource for college instructors and corporate trainers called InstructorShare that was developed through CourseShare, a company we formed to help share educational resources with the world for free. The goal of InstructorShare was to facilitate the sharing of learning resources and materials with the world education community. With InstructorShare, instructors in higher education and trainers in corporate settings could share media elements, book reviews, pedagogical innovations, and conference information within more than two hundred communities of distinct fields or disciplines. An important feature was that instructors also could asynchronously or synchronously discuss their use.

Although InstructorShare was quickly used by thousands of people, copyright issues and concerns made us take it offline after a few years. Nevertheless, it remains a model for

online sharing. Now more than a decade later, dozens of other online repositories (databases of content or learning objects) and referatories (databases of links) exist, including popular sites such as MERLOT (USA), Connexions (USA), CAREO (Canada), and Jorum (UK).

And though we decided to terminate the InstructorShare project, we did not give up on sharing. In fact, during the greater part of the next five years, my team also built a series of sharing portals including BookstoreShare, UniversityShare, LibraryShare, TrainingShare, and PublicationShare; only the latter two remain operational. LibraryShare, for instance, indexed digital libraries and online library resources as well as hundreds of public and university libraries in North America. Similarly, BookstoreShare was designed to lead users to the increasingly vital world of free or open access digital books. UniversityShare, in contrast, offered a virtual map to the homepages of colleges and universities around the planet. The only commercial product we developed, SurveyShare, became the most widely used result of our efforts, with tens of thousands of people each year developing online surveys with it and hundreds of thousands taking them for free. Users of SurveyShare could collaboratively build and share their surveys and survey results with their colleagues and friends.

Human sharing epitomizes this fourth wave of technology. Each tool, system, resource, or course built online must have sharing opportunities or consequences for it to be highly valued and used. Fortunately, the world is becoming filled with such virtual sharing devices and options.

OTHER SHARING QUESTS AND QUESTORS

As pioneers in this online sharing journey, we were intent on finding ways to share the knowledge of the world by assembling a compendium of links to all the online libraries, bookstores, and universities we could locate. These were lofty goals, but many organizations and institutions are now building online libraries and content aggregation sites that do just that and much more. For example, personnel from Google, in collaboration with some of the foremost public libraries, colleges, and universities, are digitizing scores of books with the goal of being the primary source on the planet for the world's knowledge. Millions of accessible e-books from Google, or at least pieces of them, are now shared with a fast-growing online world community. And this is expanded with the launching of Google ebookstore near the end of 2010 with over 3 million books to choose from.

Not satisfied with these choices? Well, a coalition led by the Internet Archive is building a free digital library of Internet content. With its own ambitious book-scanning project, the Internet Archive is in head-to-head competition with Google. Incentive comes from the fact that officials at the Internet Archive do not want Google to be the only knowledge-providing game in town. And they are faring quite well in this contest. By early 2011, there were 2.6 million open access text documents at the Internet Archive (including more than one million digital books that can be freely printed). These high-profile races to store the world's knowledge notwithstanding, just think of the innovative ways in which

educators in developing countries could use the millions of free and open access books now available online.

The global pursuit toward digitization of knowledge objects is not just about books. The Internet Archive is attempting to index the entire Web. In the "Wayback Machine," for example, one can look up Web pages by year, month, and date. The Internet Archive not only looks backward but also to present and future states of the Web. By September 2009, the Internet Archive had indexed some 150 billion Web pages. And as of early January 2011, it had indexed 420,000 movies, films, and videos, about 760,000 audio files (including more than 86,000 live music concerts), around 60,000 maps from the United States Geological Survey, 34,000 free software tools, and a vast array of open educational resources. This is one ambitious project!

Reread those numbers and then pause for a moment and think about how much learning can now take place not just at this moment in time or particular year, but for decades or even centuries to come. Think of all the human lives that such educational resources might touch and change for the better.

As these colossal scanning and indexing projects unfold, sharing is no longer debated or resisted; instead it is a key part of what it means to be in education, no matter what setting you are in. What these numbers tell us is that we are a sharing species. I believe that such acts of giving and sharing may ultimately define who we really are as human beings.

With such momentum, the conversations surrounding sharing have vastly changed. When I travel to different countries and cities today, the reactions are much different from what they were in 1999 or 2000, or even just one or two years ago. I witness new possibilities for sharing with each journey I make. When in Taipei in July 2005, I met with Lucifer Chu, who has donated hundreds of thousands of dollars of his own money to translate MIT courses to traditional and simplified Chinese in a project called the Opensource Opencourseware Prototype System (OOPS). Lucifer is a highly energetic, funny, and charismatic leader who is changing the world through translation efforts and the ensuing sharing.

Fortunately, Lucifer's OOPS project is hardly a one-act play. Sharing is about connections and one phenomenal resource for making them is, in fact, called "Connexions." A visit to Rice University in Houston, Texas in November 2006—where the Connexions project is headquartered—confirmed that they had developed one of the fastest-growing and most widely used collections of online scholarly material in the world. As of January 2011, Connexions contained over seventeen thousand course modules available for download in such areas as physics, history, music, computer science, nanotechnology, and biodiversity, resulting in over one-hundred million page hits each month. With the innovative ideas of Professor Richard Baraniuk, the founder and one of the chief architects of Connexions, the Connexions people were not merely housing an extremely large repository of educational materials—they were building a powerful set of free software tools and resources to expand these sharing and collaboration efforts.

A similar and somewhat more established site, MERLOT, evolved out of the California State University Center for Distributed Learning in the late 1990s. By January 2011, it contained more than twenty-six thousand content resources and could boast ninety thousand members around the world using shared online resources as well as evaluating

them in a peer-review rating system. Each time I explore MERLOT, I find the resources it contains stunningly impressive. And, as later explained in this book, if I am a teacher, I can just as quickly connect to Curriki for free K–12 contents or to over to the Global Text Project for free and open access digital textbooks intended to help educate disadvantaged populations in Africa and developing countries around the globe.

But the journey continues. Just four months after my November trip to Rice University, I was back on that campus in late March 2007 to attend a Hewlett Foundation grantees meeting. This gathering in Houston brought together those with funding from the foundation to share experiences about the open educational resources (OER) that they were developing, promoting, and evaluating—this was a meeting of sharers about sharing. Without a doubt, the OER movement is the single most fascinating and globally life-changing educational event to occur in the past few decades. It may be the pinnacle outcome of the Internet. Indeed, OER has far-reaching consequences. Simply stated, as education is shared and consequently transforms the lives of millions of youth, so too are economies and international relations transformed, leading to further transformations in personal self-esteem and the potential for minor as well as major educational achievements and untold new competencies.

JOINING THE SHARING REVOLUTION

It does not matter where I travel or with whom I communicate now, the stories I hear are much different and, at times, exceedingly optimistic. The seeds of sharing have successfully grown and ripened into assorted educational fruits. No longer are there mass protest rallies against online learning or the sharing of such resources and learning. Visits to various cities in Mexico, Australia, Singapore, Malaysia, Saudi Arabia, the UAE, Korea, and Canada in 2009 and 2010 confirmed this for me. At each stop, people asked me if it was acceptable to videostream my talks. In response, I quickly told them to podcast, videostream, Webcast, pubcast, or do whatever they wanted with it. And feel free to post my slides, my talk abstract, picture, or bio as well. All education should be shared. The more we share educational resources, the more the knowledge of this planet is opened to its learners.

So what can you share to help education around the world?

1. **Mentoring:** You can sign up to be an online mentor, coach, or tutor in your area of expertise. Many professional organizations today include some type of mentoring services, including engineering, business, and nursing.
2. **Course Content:** If in postsecondary education, you can share instructional content you have created in places such as MERLOT.org or Connexions. If in K–12 education, perhaps contribute to or use Curriki or one of many online lesson plan sharing sites. Those in corporate, nonprofit, or government positions should talk to your training directors or chief learning officers about what sharing is possible within your organization. And informal learners and citizens of the world can create a course homepage or shell, podcast, or online instructional videos wherein

they share educational ideas and experiences.

3. **Join the OCW Movement:** At an organizational or institutional level, you can share entire courses or programs in the OCW movement. Administrators need to consider putting forth proposals and strategic plans for such.
4. **Guest Expert:** You can be a guest expert in an online chat or Webinar. You might also podcast a lecture on a topic and place it on the Web for others to access for free, such as in iTunes. Along these same lines, you might videostream a lecture you give in a class, at a conference, or in a workshop for free distribution to the world community.
5. **Collaboration:** You can sign up at ePals or Keypals to engage in online collaboration with another school. You might also share cultural artifacts or lessons for such collaborative activities and events. At the corporate level, you can share software problems and solutions, new product training, and additional intellectual capital in wikis, blogs, podcasts, or other appropriate technological outlets.
6. **Translator:** You might volunteer to translate open educational resources or OpenCourseWare in your native tongue.
7. **Portals:** You can create, index, or aggregate educational portals of online content. You can also market or showcase any new or consistently useful portals that you find.
8. **Evaluator:** You can help in the evaluation or rating of online content. You might also develop the methods and forms of evaluation to be employed.
9. **Software Developer:** Software developers can offer open source or introductory free versions of their software or special discounts for education.
10. **Blogger:** You can blog on current events in education to share what is happening. At the same time, you can add hyperlinks within your blog, thereby stretching your post to other valuable educational resources, documents, trends, and events.

The list above is only a fraction of what is now possible. Clearly, opportunities for sharing our educational lives are exploding. This is a key part of the giving that Clinton was talking about. Sharing education is among the most powerful acts of giving that human beings can engage in. And such educational sharing can take place in a wide variety of formats.

Sharing can be casual among friends who teach the same course and want to benefit from what each other has developed or accomplished. Such collegial sharing might involve a new instructional activity to test out, or a video you've just found in YouTube, CNN Video, or the BBC News and Videos. Each instance of sharing among these friends and colleagues, casual as it might be, allows for innovations, changes, and new ideas to be piloted and perhaps someday flourish in other disciplines not originally intended. Online educational sharing is often creative, spontaneous, and somewhat haphazard. As a result, it is virtually untrackable. But as evidenced by the millions of visits to these sites each day, it is happening!

The scope of online sharing certainly varies. It can occur among just a few individuals or perhaps benefit only a single person for it to have value. At the same time, it can be used by teams, schools, local communities, countries, regions, or the world community. Sharing can be sensed in a fleeting moment in time and then dissipate. It can also be much more lasting and even viral, thereby spreading to people far beyond the originally intended audience and recurring a million times over.

The fourth generation of educational technologies has not only made sharing possible, but also highly encouraged. For millions of people spread far and wide across this lovely planet, these technologies are indispensable; this is how countless individuals today spend the learning-related aspects of their lives. Consequently, stories of sharing in education will be part of teaching and learning lore for decades to come. Teachers will continue to be givers, but everyone involved in education or training, no matter the role or capacity, will be sharers as well as sharing receivers.

There are no shortages of sharing opportunities today, nor will there be in ten, twenty, or a hundred years from now. With each passing generation, sharing will become increasingly synonymous with education, because sharing, like giving, is at the forefront of what it means to be human. Each person walking this planet will be expected to share his or her ideas, talents, expertise, wisdom, products, computing power, bandwidth, scientific discoveries, and educational materials with others using various forms of online technologies. Such is life in the twenty-first century and beyond.

As in Bill Clinton's documentation of how giving can change the world, through sharing, anyone can make a small dent in solving educational problems and implementing progressive educational reforms. What will you share and where might your journeys in this exciting arena lead? I hope you find time to share your results.

Please let me know what transpires. I look forward to hearing about your innovative sharing pursuits.

Curtis J. Bonk

Indiana University, January 1, 2011

This document is a prequel to the Summer 2001 paperback edition of:

Bonk, C. J. (July 2009). *The World Is Open: How Web Technology Is Revolutionizing Education.* San Francisco: Jossey-Bass. (A Wiley imprint).

Note: To order *The World Is Open* book or to access free related resources (including excerpts, Web resources, references, reviews, prequel, postscript, and a free e-book extension with the same chapter sequence but different content), go to: http://worldisopen.com/

To order the book directly from Wiley, go to:

http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470461306,descCd-buy.html

An Open Letter to the Learners of This Planet

A Postscript to the Summer 2011 Paperback Edition of *The World Is Open: How Web Technology Is Revolutionizing Education*

CURTIS J. BONK, PROFESSOR
INDIANA UNIVERSITY, USA

When you went to sleep at night in the twentieth century, you were not likely dreaming about your next learning moves or adventures. Today, who can afford not to? Each day is a learning experience that can be enhanced by hundreds of freely shared online video sites, tens of thousands of open access journals, millions of books, and hundreds of millions of bloggers. Locating and checking out similar text, audio, or video resources would have taken days, weeks, or perhaps even months only a decade or two ago. Today they are can be accessed online in mere seconds at the click of a button. And a large percent have huge educational implications.

You may not see it each time you walk outside or drive down the street, but the educational world is in a state of rapid transition. Part of the reason is that millions of educational resources are being made freely available for the first time in the history of human civilization. Anyone who searches for information on the Web is quickly overwhelmed with free and open access to learning materials. Members of the media, politicians, educators, students, parents, and others are asking important questions about the quality of such content. Some want to know if personally selected content might lead to school or college credits or even degrees. Organizations, agencies, and institutions are also sorting out what should be free and what should cost money. Interesting ideas and solutions are just starting to emerge.

In the midst of this discussion and debate, human learning is transforming so rapidly that teachers do not know what to do. Schools and colleges are unsure how to react. Corporations are often left with the job of reskilling and testing new learning and evaluation approaches. Unfortunately, such training programs continue to rely too much on formalized training with prepackaged content and preset rooms, chairs, podiums, and times. Instead, they should be training employees with timely and on-demand podcasts, virtual conversations, and online brainstorming in a wiki or synchronous chat. Such tools can support and put into action new management processes and practices eons faster than can be accomplished in traditional classroom training. And when combined with face-to-face

meetings either during or after work in a blended learning approach, it is even more powerful. Traditional learning is integrated into the virtual and informal, and vice versa.

THE LEARNING CENTURY

Let's declare this the "Learning Century." To live up to the name, of course, we need on-demand access to teachers, mentors, tutors, and other learning facilitators. More than a couple of millennia ago, Plato was perhaps the first distance learning educator, as humans across the planet read his works years, decades, or millennia after his instruction had taken place. Today you can call up his books in Scribd, Google Books, and countless other sources. The same will likely be said for each of us millennia from now. Be careful what you say, write, or record.

In this millennium, everyone can be an educator as well as learner at any moment of the day or night. With Web technology and an abundance of open educational resources, we can learn just as effectively at 3 am as at 3 pm. We can be teaching others when on a Norwegian tanker breaking through whatever ice remains at the North Pole as well as when sipping tea or coffee in our study back home.

Without a doubt, new forms of teaching and learning will emerge in this century. One interesting trend will be the rise of super e-mentors, tutors, and coaches. Such people will understand counseling and human development, the various pathways to learn online, and one or more subject-area disciplines. Of course, more personalized and elevated forms of mentoring were always possible if you could afford it; now it will just be more apparent, accessible, accepted, and affordable.

By the close of the next decade, most learners will have experiences with one or more online mentors or tutors. And well before the close of the century, each learner on Planet Earth will be assigned a super mentor or coach. This will be a person to consult with at critical junctures in your learning process. Such individuals will be critical in helping sort out the myriad ways you can learn today as well as the interesting routes you might take to reach new learning milestones. As learning becomes increasingly essential in our lives, super mentors will continually provide the breath of life by leading us to relevant and meaningful learning paths.

Online environments free learners from the constraints of formal schooling and education while providing them with hundreds of formal learning venues where few or none previously existed. Jay Cross and others remind us that informal learning already comprises more than 80 percent of learning. We Google something. We casually check a fact in Wikipedia or the Encyclopedia of Life. We subscribe to the online writing of experts, such as Jay's insightful Internet Time or Informal Learning blogs. We listen to online audio files of conference keynote speakers months or years after they gave their talk. And we watch professors from Seoul National University, the University of Pretoria, or Stanford University present their lectures in biology, computer science, or business marketing even though we are not students in any of those classes or seeking credit. In this gigantic learning expedition, we are just hyperlinking to the next learning experience, one after another. And we are no longer tethered to a desktop computer. With laptops and devices such as the iPhone, iPod, and Kindle, learning can go where you go.

Heading further into this century, we will find that informal and more mobile learning will constitute an even greater percentage of our learning experience. That is not to discount formal learning venues. We will be learning longer, faster, and more efficiently than ever before. By 2070, formal education to age thirty will be commonly accepted. Why? Simple math. As knowledge within each discipline continues to explode and lifespans expand, a year will be added to educational requirements during each decade this century. On a yearly basis, such changes in learning milestones are subtle, but they are happening to you as well as all your friends and family members.

Despite formal learning to age thirty and beyond, informal and on-demand learning will dominate educational discussions and policy decisions during this century. When this happens, age may no longer matter. Soon you will be in work teams or committees in which centenarians will be helping you tackle huge global problems while others of this older age group will be in graduate school pursuing their master's and doctoral degrees as well as conducting research in post-graduate study. At the same time, some elementary and middle school youths will be online teachers and mentors to others or graduating from college. Current young phenoms like thirteen-year-old Adora Svitak illustrate how this is already happening.

As humans, we naturally learn. We learn every single day. Ideally, you are learning something right now. Although other creatures do learn, the capability to quickly respond to, reflect upon, and later refine new ways to learn is what distinguishes us from all the others.

YOU LEARN

This is your time to learn and to make a contribution to the evolving Web of Learning. You can generate or add to a Wikipedia entry. You can fashion and update a blog. You can have a weekly podcast about a topic of cultural or scientific significance. You can design and post a video to YouTube that benefits other learners of this planet. You can decide to join a group in social networking spaces such as Facebook, MySpace, or Ning. And you can subscribe to the blog, video, wiki, Twitter, and Facebook posts of others.

This is just a start. With each passing year, such ways to learn will become more integrated and personalized. Each of us will have customized the methods that accelerate and monitor our own learning. Earth will be a learning planet, not one known for industrialization, smog, or the endless mismanagement of resources. You need to help push ahead this journey today, not tomorrow. The only way to solve global problems is through thinking, education, discussion, and group collaboration.

Recheck your occupational goals and lifelong aspirations. Your standing as a productive member of the human race in the twenty-first century will not likely be measured by the firm you founded or the legal cases you have won. During the coming decades, learners as well as learning innovators, providers, and supporters will be celebrated. We will learn together as citizens of this more open planet. As we do, we will celebrate the ongoing learning accomplishments in each phase of one's life and perhaps reach new life vistas never before experienced or imagined.

LEARNER RIGHTS AND RESPONSIBILITIES

This is your learning world. You have the right to learn where, when, what, and how you want as well as from the people who fit your learning needs. Throughout history, billions of humans have lived and died on this planet. None of those who left this world prior to the end of 1999 had the learning resources you now possess. Not a soul!

Keep in mind that you do not even need Internet access to benefit from the explosion of Web content and learning technologies. All that is required is for you to live in a community that has an organization or institution that is connected to or touched by the Internet. People from around the world can give their time, talents, and money to it; often making their contributions or commitments from a Web page or link. As this happens, we all learn.

Learner Rights

Learners of any century need rights, but this is especially true for learners of this century. As we push into the technology-rich twenty-first century, you—the learners of this planet—can see your rights crystallizing before your eyes. I suggest that we all have the following ten learner-related rights:

1. The right to learn when and how you want in a learning environment that is personally safe and comfortable.
2. The right to access any content you need at any time you need it.
3. The right to learn from the best educators and learning guides on the planet as well as from as many instructors as you so choose.
4. The right to help others learn.
5. The right to share your learning-related discoveries and ideas with others (such as experts, peers, instructors, friends, and family) for their prompt and candid feedback.
6. The right to self-monitor your learning progress as well as obtain feedback from others on that progress.
7. The right to share content that you create as well as comment on or evaluate the educational resources that you find.
8. The right to form groups of individuals or learning communities with similar learning interests and experiences to discuss, debate, and extend such ideas while finding personal learning identity and meaning.
9. The right to create new tools, materials, and resources to facilitate your own learning as well as that of others.
10. The right to teach, train, tutor, and mentor others using Web tools and resources.

These are the inalienable rights for learners in this century, a time period when we are inundated with seemingly limitless learning opportunities. Each of these rights is easier to visualize, support, and actualize with Web technologies. With these ten rights in place, cultures and people can advance in more harmonious ways and at a much quicker pace than

in the past. We can learn whatever we want with whomever we want at the times and places that we want.

Learner Responsibilities

Along with learner rights regarding Web technology, we also have responsibilities. Among these are the following ten learner-related ones:

1. The responsibility to take ownership for our own learning when and where appropriate to do so.
2. The responsibility to seek out the most accurate and credible information while questioning and examining online information and knowledge in a critical and reflective manner.
3. The responsibility to dialogue with children or any other unseasoned learner about how to evaluate the quality of the educational content found online.
4. The responsibility to contribute to the learning of others in a productive and humane way.
5. The responsibility to educate others about the learning potential of the Web—to show them how to contribute to the Web and how to receive learning from it.
6. The responsibility to seek help when online tools and resources are overwhelming or frustrating.
7. The responsibility to respect those who provide meaningful educational content and tools as well as all the teachers, trainers, tutors, mentors, and learning guides you encounter in your online learning quests and queries.
8. The responsibility to test and experiment with new learning resources and discuss and report on their utility with others.
9. The responsibility to report online educational resources that are inappropriate or potentially harmful (as well as the people who placed them there).
10. The responsibility to think about how online educational materials can benefit those beyond your household, neighborhood, community, or region of the world to your global brothers and sisters who have different educational and cultural backgrounds, needs, opportunities, and supports.

THE LEARNING WORLD IS OPEN

The Web has accelerated access to learning. There has never been a time in the history of this planet when so much learning was possible throughout our lifetime. Not only is learning access instantaneous, but you can also learn from global partners via technology that is increasingly social, ubiquitous, and inexpensive. Despite persistent complaints about the state of education today, when it comes to opportunities to learn outside as well as inside schools, these are auspicious times.

We can look back to preceding generations within our own families, cultures, and regions of the world. There is likely no other group of learners that has been so fortunate. Of course, billions still cannot afford direct access to the Web and a large percent of such individuals lack sufficient food, shelter, and clothing. With each passing day, however, tens of thousands of additional people have the chance to learn from mobile devices and local learning centers equipped with technology that did not exist for their parents and grandparents.

To explicitly demonstrate this open learning world, I continue to work on an e-book extension of *The World Is Open* with the same chapters, just different content (to be made available from http://worldisopen.com/). The e-book extension will be freely available for anyone to download, print, disseminate, and forward to others. At that site, you will also find the references and Web resources to both books as well as several book excerpts and book reviews.

Share any part of this that you want—the world is open to you. And as you do, please write to me about the innovative ways you are participating in the open education movement. I look forward to hearing from each of you.

Enjoy your adventures in this open learning world.

Curtis J. Bonk

This document is a postscript to the Summer 2011 paperback edition of:

Bonk, C. J. (July 2009). *The World Is Open: How Web Technology Is Revolutionizing Education.* San Francisco: Jossey-Bass. (A Wiley imprint).

Note: To order *The World Is Open* book or to access free related resources (including excerpts, Web resources, references, reviews, prequel, postscript, and a free e-book extension with the same chapter sequence but different content), go to: *http://worldisopen.com/*

To order the book directly from Wiley, go to:

http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470461306,descCd-buy.html

Foreword to the Chinese Edition

Open. If there is a word to describe this book, it is that short, convenient one we use every day to announce our respective arrivals and departures. We open doors. We open rooms. We open buildings. We open parks, zoos, and museums. But, today, the world is open. And I am making my case that it truly is open by prominently using that word in my book title. Many may counter that such a simple title can be confusing and contentious. What or where exactly is this open world that I am talking about? Is there a huge neon sign planted somewhere on Earth that says "Open for Business?" Would astronauts see the word "Open" when circling above it? Surely they can easily discern the blue oceans, the green forests, the barren deserts, and the masses of ice covering Greenland and Antarctica. They can also see your Great Wall when circling the planet some 250 miles above it in the International Space Station. But how would those flying above Earth recognize it is open? How would you know it is open? And what do I mean by the word "open"?

The openness that I am referring to relates to human learning and education. Helping to set the stage for a discussion of this openness was a book by Thomas Friedman, Pulitzer Prize–winning columnist from the New York Times. In his 2005 book, *The World Is Flat: A Brief History of the Twenty-first Century,* he claimed that the world was flat. The flatness he had in mind was economic in nature. Throughout his book, Freidman accurately noted that technologies had converged to allow people to collaboratively create, market, and distribute innovative products across geographic time zones in ways never before seen. Technologies that were virtual, wireless, collaborative, and mobile were supercharging this process. Perhaps you are one of the millions of people who have read his book and become convinced by the premise or seen the ideas he points to in action. Without a doubt, Friedman offers economic hope as well as a framework or structure from which to reflect and debate the massive changes confronting us in the early stages of the twenty-first century. But not all people have had their lives changed for the better by this flatter world.

I can accept the premise that to some extent, the world of economics and business has become more flat. As noted, I use a different four-letter word, however, as my overarching metaphor in an attempt to help people visualize the world we have entered into. My word is "open," not "flat." The mantra surrounding a more open educational world is that—thanks to Web-based learning technology, including recent tools commonly referred to as the Web 2.0—anyone can now learn anything from anyone else at any time. Without much doubt, I am stretching the possibilities of free and open learning from technology beyond the reality of most people on this planet. At the same time, it is clear that we are living in a new age. Let's call it the "learning age."

What is happening today across all areas of education was not possible before. Never! Think about it. When could you instantaneously access students, experts, and instructors—not to mention text, audio, animations, simulations, and rich video resources—with the click of a button? Here in 2010, you can look up nearly any piece of information

that you want online. And you can talk to others in online discussions about what you have found. The world is open to bring in well-known experts, former students, or entire classes from other schools or universities to help out. For most of us who were born and raised in the previous century, one intensively based on instructor lectures or passive activities like television watching or radio listening, such educational possibilities are remarkable.

Do you feel the openness? Have you been affected by it or seen one of your friends or family members discovering and sharing exciting learning opportunities that they had never before encountered? New careers are born each moment today via online learning courses, resources, and associated advice and guidance from experts. Count to 10: 1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 . . . 7 . . . 8 . . . 9 . . . 10. During that short time, there were likely millions of people around the world clicking on a Web link to what they believed to be a vital or intriguing learning resource that they did not know about previously or that they wished to review more deeply. Among these searches, there were individuals looking for medical information about some illness that they or a close family member have contracted. Alternatively, they may be interested in the outcomes of some hotly contested political race or highly advertised sporting event, the courses and degrees programs offered by nearby and distant schools and universities, the train schedules for different cities or countries, or the availability of basic or advanced language lessons in podcast format. Others in academic settings may be trying to locate the dates and keynote speaker information for a new conference or research papers and reports. Family members may also be seeking customer reviews of laptop computers, new cars, or popular books (perhaps a few were searching for more details on this very book). At the same time, still others were exploring thousands of other topics and items. But all were attempting to learn something—be it formal, informal, or both.

Their resulting learning was due to self-directed and purposeful browsing of the Web. Keep in mind, however, in those millions of clicks over that short span of time, thousands of people found a new interest area or topic to pursue that they did not anticipate. Let me restate this from a human potential standpoint. There are likely thousands of life-changing events occurring every ten seconds on the Web. It is difficult to estimate just how many of those hyperlinks would directly or indirectly lead the person to a new career. But it happens. People find new career paths, goals, and life purposes each day. They also find partners in which to pursue their life quests—both professional and personal.

In a way, such learning from free and open online resources, courses, and technologies gives our lives a richer meaning infused with a sense of optimism. People discover unique ways to grow personally each day and opportunities to help those around them develop their potentialities. As I write this foreword, I am listening in my car to an audiobook by Viktor Frankl called *Man's Search for Meaning*. This bestselling book has sold over twelve million copies since it first came out in 1959. Frankl, a survivor of four concentration camps during World War II—including the worst of these, Auschwitz, where more than one million people died—describes how some people have what others find to be an unfathomable resilience and the ability to survive extremely torturous events despite encountering the most severely repressive human conditions. While in these camps, for instance, Frankl did not know that both of his parents, his brother, and his pregnant wife had died, and only his sister had escaped by emigrating to Australia; as a result, Frankl

continued to live for them. At the same time, he also lived in the hope that one of his books could get published.

With such goals, there was value that he could contribute to the world. If Viktor Frankl had died during his years in the camps, and he came extremely close dozens of times, so too would have a field of psychotherapy he invented, known as "logotherapy." Since his release, logotherapy has helped countless individuals around the world. A logotherapist believes that the main motivation in our respective lives is to find meaning. Such meanings can come from doing a kind deed for another, producing a product, or valuing or loving something or someone else. According to Frankl, a third way to discover meaning is from suffering, such as in concentration camps, when other forms of personal expression are not possible. He quotes Nietzsche in pointing out that when someone has a "why" to live, he can endure or bear any "how" or difficult situation. Humans have an internal will or striving to find meaning in life no matter their circumstances.

Suffice it to say that we members of the human race all need a sense of personal meaning and identity. Today the personally fulfilling meanings—the intimate or more casual relationships, the goals or personal life paths, and the opportunities to care or commit to someone or something—are often fervently pursued and ultimately realized online. Much of that meaning, of course, is embedded in our individual and group learning quests. Sometimes it is formal and at other times it is informal, or a bit of both. In a more open educational world, one intensified through a continually renewing host of Web-based learning technologies and instructional approaches, relationships and meanings are seemingly endless. We have only just arrived at the entry gate for Web-based learning. What I attempt to provide in this book is a simple way to make sense of these possibilities. If people truly understand the vast learning opportunities through which purpose and meaning can be actualized, we might experience a cultural shift in who we are and what we do as a species.

Such is life in the twenty-first century. It is a far cry from the previous one. The era I was born into, while in transition to the Information Age, still heavily relied on factories and obedient workers punching timecards. In fact, I experienced it firsthand, having worked in a couple of factories to earn enough money to pay for my college tuition. As we all realize, this all-too-often dehumanizing age of business and industry gave way in the latter part of the twentieth century to the information or communication age, when technologies emerged to help people connect, collaborate, and communicate more expediently. Some feel that we are now entering the age of globalization. I predict that in three or four decades people will reflect back on this time and call this the "learning age," though globalization will certainly be front and center in such discussions. In effect, you and I are card-carrying members of this wonderful learning age and may not yet realize it.

Make no mistake, this is the learning century. The forms and types of learning we encounter at each moment of the day are twenty times more abundant and within reach than those to which my peers and I had access during grade school a few short decades ago. The multipliers would be much higher still when compared to the educational opportunities my grandparents had a century ago. And many educational resources at that time were reserved for the rich. During the past decade, open educational resources from such prestigious universities as Harvard, Yale, MIT, Johns Hopkins, Stanford, and Berkeley, to name but a few within the United States alone, take us from the educational world reserved

for the noble, the wealthy, and the pious to one available to everyone finding a functioning Internet connection. Technologies such as Moodle, YouTube, TED (Technology, Entertainment, and Design), Facebook, iTunes, and Skype are enabling millions of people to learn something new as you read this very sentence.

I realize that many higher education institutions in China have embraced Moodle as their course management platform in addition to other open source technologies. However, if you have not explored or found access to shared online video resources like TED, Link TV, YouTube, TeacherTube, Academic Earth, or TV Lesson, you should try to find a way. I personally watched several twenty-minute videos in TED while taking a break from revising this document; three were about adventure learning stories at Mount Everest and the North Pole (accounts of people skiing to or swimming in these extreme places), and another was from Gordon Brown, the former prime minister of the United Kingdom, who made several incisive comments about how the Web can connect human civilization in a global way and offer hope in combating climate change. In addition to being quite informative, each of these videos was inspirational, engaging, and passionately presented.

I learned about climate change issues from a totally different perspective than that obtained from television documentaries, news stories, or academic articles. And I could start, stop, and replay each one as my time allowed. I was in control of my own learning. My teachers were coming to me online from events taking place in the far reaches of the globe. One of these TED videos was recorded five years ago and I personally knew the presenter, having interviewed him for one of my books, whereas another had just entered the news that very day. He too I will likely contact in the near future as part of my current research project on extreme learning. With various forms of communication and connectedness, the Web offers us not just information, but also access to the experts behind such information. In addition, we can quickly discover potential colleagues, peers, and mentors on a scale so massive, pervasive, and instantaneous that our sense of personal identity and competence is forever altered. And along with that, our concept of humanity is not some vague or vacuous concept, but is deeply rooted in our global interconnectedness.

How exciting it is to be alive at this very moment, especially as we humans have the internal wiring to search for purpose and meaning. There is much to find, filter, and feed anyone's personal quest for meaning each moment of the day. Humans have roamed this planet for millennia but at no time before have there been so many unique ways to learn and such a wide variety of people and cultures to learn from or with. China, like the United States, is an expansive country geographically, culturally, ethnically, and economically. However, it is the possibilities for educational expansion that I highlight in this book—because it is education, above all else, that has benefited from the emergence of the Web and has thrown all sectors of education, from primary school to corporate training, in a state of extreme flux. Today we do not just learn with those in our neighborhood, city, state, province, or country, but with people from vastly different regions of the world. As this happens, we gain new appreciation and insight into our fellow human beings and the successes, challenges, and frustrations of their respective learning journeys.

This book, in fact, is a journey; one that finds expression in at least three distinct ways. First, it is intended as a pilgrimage into our humanity. The chapters you will read offer insight into how the people of this planet have learned in the past and might alternatively learn in the future. It is an exploration of our human potentialities and as such,

may offer a glimpse of some aspect of the human species that has heretofore not been visible or as readily noticed. Might there be stages in human development not previously identifiable or perhaps even possible due to educational, social, cultural, or interpersonal limitations? Could the ability to take perspectives of other cultures through videoconferencing and other forms of Web interaction serve, at least in part, to connect seemingly disparate people or to reduce conflict and tension in and between highly volatile regions of the world? Could those sensing tragic injustices or insensitivities find greater understanding and common ground through the technologies and pedagogies of sharing and collaboration? The global interaction and feedback now possible online offer hope for advancing each of us in terms of our level of social cognition and perspective taking.

Second, *The World Is Open: How Web Technology Is Revolutionizing Education* is a journey into the possibilities of using Web technologies for learning with those of any age, gender, ethnicity, or culture. So many technology tools are announced each month that have the potential to extend, enhance, or transform human learning. It is incumbent on us all to help determine how, when, and where we can. The tools you select may not ultimately matter; what does matter is that you can now explicitly and implicitly play a more self-determined role in your own learning and in that of your friends, family, and others you will likely never meet.

Third, this book offers a set of stories of people who have done their part, large or small, to use educational technology to bring about new learning opportunities for others. There are dozens of anecdotes about famous people and about individuals you have not heard of who have changed the world. Whether these learning pioneers are aware of it or not, they have each played a key role in bringing us to the doorsteps of the learning century. In writing this book, I wanted to highlight the fact that anyone can create a new learning tool or resource that can benefit learners and teachers alike around the world. Someday this might be you. What will you do to have an impact on any of the nearly seven billion people (that is, learners) of this planet? What, perhaps, have you already done?

Many people who have read my book since it first came out a year ago have asked me about my vision of the future. A few times each week I am asked if teachers will no longer be needed. Will new forms of universities replace old ones? Then there are personal questions such as whether people will record on their résumés all the free and open courses and materials that they have read through and pondered or responded to. Or if they should list the social networks, online communities, or wiki groups that they have joined. Others ask me which technologies will have the most impact on learning in the next five, ten, or twenty years. At the same time, parents and grandparents often walk up after I give a talk and ask me what they should tell their children to major in or which e-book reader or laptop they should purchase for their grandchildren. So many questions arise, from the highly specific to the global. I am humbled by the breadth of concerns and the depth of insights that many people possess about the advances of Web-based learning technologies and about the race toward a more free and open educational system.

It is always difficult to give a clear response to any of these questions. No one knows everything about Web-based teaching and learning or which technologies will find the most traction in education. Instead, most people in the field become experts in regards to some minor sliver of it. In response, I often point out that any predictions of the future are bound to be too conservative. What I do know is that during the coming decades we will all need

to pursue a wide range of new learning skills and competencies in order to be successful. Perhaps additional degrees or certificates will come along with it. In addition, humans will go through life with more teachers and learning partners than they ever had before, many of whom will be global rather than local. And learners will increasingly have the power to select or deselect those partners. They will also have more records of their respective learning interests and accomplishments. These records will be not only visual but also auditory. More important, there will be an assembly of people who arise to guide others through all this learning. We all need personal moments of reflection and wise individuals along our learning paths who can help us make sense of what we have just experienced.

Through the mass of possible predictions one thing is clear: learning will be the lone constant in life; not our jobs, political affiliations, friends, social outlets, hobbies, and so forth. We all strive to learn each day. I learn through an array of technologies including the Internet, television, radio, audiobooks as well as physical books, and simple pen and paper. As I wrote the first draft of this foreword, I was listening to an award-winning audiobook about Sir Winston Churchill. He accomplished much in his life, but Churchill is best known as the prime minister of United Kingdom during World War II, when he delivered many inspirational speeches. One of Churchill's most famous speeches came on June 4, 1940, before the House of Commons. It ended with the following quote:

> We shall not flag nor fail. We shall go on to the end. We shall fight in France and on the seas and oceans; we shall fight with growing confidence and growing strength in the air. We shall defend our island whatever the cost may be; we shall fight on beaches, landing grounds, in fields, in streets and on the hills. We shall never surrender and even if, which I do not for the moment believe, this island or a large part of it were subjugated and starving, then our empire beyond the seas, armed and guarded by the British Fleet, will carry on the struggle until in God's good time the New World with all its power and might, sets forth to the liberation and rescue of the Old.

This was a testament to the will of those in England to fight. It was replayed over and over during WWII to inspire not only troops in battle but also citizens being attacked by Nazi bombing raids every evening. This speech is still heard in resounding triumph today. But what if the quote was shortened and the word "surrender" was replaced with the words "quit learning," "fight" was replaced with "learning," and "island" was replaced with "chance for an education." The resulting passage would be:

> We shall not flag nor fail. We shall go on to the end. We shall learn in France and on the seas and oceans; we shall learn with growing confidence and growing strength in the air. We shall defend our chance for an education whatever the cost may be; we shall learn on beaches, landing grounds, in fields, in streets and on the hills. We shall never quit learning.

As this rewritten quote makes clear, we all learn, and this learning can take place anywhere and at any moment we so choose. We learn when on an airplane, on a train, in a boat, climbing a mountain, or in a classroom. The Web offers learning possibilities to each

of us no matter where we happen to be. Today we have Internet access and mobile phone reception on land, at sea, and in the air. We have successfully pushed out learning to the extreme edges of humanity. Wherever we have sojourned, so too have educational possibilities arisen and been taken advantage of. Learning need not be restricted to a classroom building or a school. In truth, there is learning in each step we take as we walk outside our school grounds or our neighborhoods. This learning has intensified with online access joining with us along each of these steps.

This premise that WE-ALL-LEARN in myriad settings and environments, as you will soon discover, is the key message of this book. Do we need such a reminder? I doubt if anyone would believe that an advanced species such as ours would. However, it could also be the case that we are not so advanced. Perhaps the world is not a flatter one today but a more open one. Perhaps education is about to take center stage in human evolution, thereby usurping economic development as the key marker of those in power or in high demand. Perhaps emerging technologies for learning are a means to elevate humankind to a new level of development never before seen. How will we know when we have arrived at such a destination? Will developmental psychologists, historians, and anthropologists recognize and label it? Will educational leaders create ingenious ways to take advantage of it? Or might the changes be so subtle and emergent that we fail to properly identify and plan for it?

This open learning world exists for everyone: young and old, rich and poor, male and female, novice and expert, Chinese and American and everyone on the globe. There is no selectivity involved in whether people can enter it except insofar as they have access to the Internet or some downloaded derivation of it. Do you have access to the Internet? Does your family? How does access to a more open learning world affect our sense of identity or personal self-worth? Might it lead to a resounding belief that people can learn a new skill or trade when and where needed?

I am much delighted to have had several requests to translate this book into simplified Chinese. I am deeply indebted to Professor Jiao Jianli, director of Future Education Research Centre and deputy dean of the School of Information Technology in Education at South China Normal University. He and his highly skilled and dedicated team have spent many months translating my *World Is Open* book for you. I am also thankful for the people of East China Normal University who excitedly decided to publish the result. I hope that this translation sparks meetings, discussions, retreats, plans, and personal reflections in China and elsewhere about the ways in which emerging learning technologies can be thoughtfully used to refashion schools and universities in addition to corporate, military, or governmental training programs.

Without much doubt, the entire world will continue to look to China for indicators of how a country can effectively deal with immense societal changes, especially in the realm of education. China is an extremely powerful magnet that draws educational experts from around the world for conferences, debates, and summits. When I see the line-up of keynote and invited speakers coming to Beijing, Shanghai, or Hong Kong for some type of e-learning conference or educational technology event, I am always very impressed. When I talk to my colleagues here in the United States, I often compare the early part of the twenty-first century in Beijing to the 1770s and 1780s in Boston in the United States when many great individuals congregated to bring about a new form of government. Back then, such individuals were making a difference in people's lives through ideas, debates, news, and

politically inspired marches, riots, and armed battles. It was a physical as well as intellectual and cultural revolution. Today, the revolution and overriding change is not as much political as it is educational. It is a quieter, though no less important, revolution.

There is much to consider. Never before have there been so many ways to learn with technology. Never before have so many individuals expressed interest in a college education. As witnessed by the enrollment surges in higher education in China, millions of Chinese people are dreaming of higher forms of education than ever before. However, the construction of schools and universities and the associated infrastructure of transporting those who want such educational possibilities cannot keep up with this demand. In China, among young people and more senior people in the workplace seeking additional knowledge, however, there is optimism that Web technologies can offer learning outlets that satisfy this new thirst for learning. At the same time, the global economy is banking on them finding and succeeding in their online and blended learning pursuits.

Such are the bright lights paving the roads ahead for education today. The world is open for anyone's learning interests 24 hours a day, seven days a week. It does not stop offering learning on Friday night as people head home from school or work or when on holiday, vacation, or sick leave. This is certainly a revolution. But for the most part, this is a revolution of intellectual spirit, educational hope, and human optimism. To be sure, countless people have yet to participate in this educational revolution and there is no preset timetable as to when they will. However, we do know that with each additional Internet access node established, laptop purchased, and learning portal created, educational content and activities will soon be streaming down the pipes.

The coming decades will see more engaging and personally meaningful content. As this occurs, there will also be more familiarity with and acceptance of online learning pursuits. Soon we will drift our revolutionary boats into the bright blue waters of the learning century. That is where I believe we are headed. By no means have we landed there yet. But today in 2010, as I write this, we are treading closer to such a designation (that is, the learning century) and destination. After practicing in safe learning harbors within virtual worlds, simulations, games, and online forums, we will drop anchor and land our boats on shores that are more participatory, more global, and with more enriching, culturally relevant, and engaging learning experiences than any human cohort has experienced before. Some boats will undoubtedly sink or fall victim to educational pirates. Others will find their crews have lost their will to meaning and turn back to traditional teaching methods and procedures. But others will set sail to unknown learning destinations where they will charter and claim new territories that others have ignored or not risked searching for.

The learning century is still in its infancy. This is the time, however, for all of us to shape its direction and outcomes. The rest of the world will be carefully watching what happens in China. This monitoring is of prime interest because the range and extent of educational openness that is possible in China lies at the outer edges of the dreams of people anywhere else in the world. It is in China, therefore, that this Web-based learning revolution will find renewed momentum, direction, and purpose. Perhaps you will be among those crafting some innovative initiative, program, or agenda that will in turn change the lives of people you pass by each day on the bus, train, or local streets. You can make a difference, large or small, in what they learn and what they ultimately become and contribute back to

their respective families, communities, and society as a whole. What you do in open education will create completely new identities and possibilities.

I look forward to reading about how this revolution of educational openness plays out in China and in all of Asia. In the meantime, enjoy your personal quest for meaning in this increasingly open—not flat—learning world. And never quit learning, whether on land, at sea, or in the air.

Curtis J. Bonk
Indiana University, December 21, 2010