

Foreword

By Seymour Papert, Allen A. Schmieder and Bernard J. Luskin

I want to ask those who consult this encyclopedia in a sober spirit to let themselves first share with me a moment of being drunk with amazement at its table of contents. This reaction is akin to one that seizes me from time to time as I walk in a city street and find myself imagining how the profusion of technological objects, from automobiles to mobile phones, would astound even the most visionary technological mind, say an Archimedes or a Leonardo, transported by a time machine from an earlier century. The impact of technology on learning may not yet be as transformative as its impact on transportation and communications, and some people still argue that it never will be. About that time will tell, but what I am inviting you to experience right now as an astonishing new feature of our times is not the technology of learning in itself but the fact that it has brought so many people to think and write about so many aspects of the phenomenon of learning. The list of authors in itself attests to the phenomenal growth in number, in diversity and in scope of the learning professions and professionals.

I deliberately do not classify us as professionals of “learning online” or “learning with technology”. Our domain is learning, period. When I was asked in 1990 to make a keynote speech at the World Congress of Computers and Education I teased the attendees by arguing that we should stop organizing conferences on *computers and education*. After all, *the others* do not hold conferences on *paper and education*; they take paper for granted when they speak of education. But their way of talking is backwards: in the modern world it is the computer that should be taken for granted when we say “education,” and those who do not use them should be relegated to special conferences on paper and education where they can, if they like, discuss quaintly old-fashioned ideas such as how to learn with ancient technologies. Of course I was teasing, and do not imply that this volume should be renamed: for the present we need a label that can be understood in the contemporary context. But I was not *only teasing*: my real complaint about the WCCE was not its name but the position of inferiority (“a slave mentality”) reflected in the fact that its content was mostly about using computers to support curriculum and organizations defined by “the others”.

Online learning as represented in this encyclopedia takes a big step not only towards emancipation but even towards leadership by posing issues about learning in general in a clearer form. However there is room for more progress and I shall conclude by formulating my guess (or at least my hope) about what will be the next big area for the development of thinking about the contribution to learning of “being digital”—to use Negroponte’s felicitous language for something that goes beyond the common connotation of “online.”

There has been much more thinking about how to learn than about what to learn; more about the process, including the management, of learning than about the content. The idea of redressing this imbalance might seem like stepping out of our area. One might be inclined to say that just as the designers of word processors leave to the user decisions about the content of what is written, so too theorists and designers of learning systems should leave to users the choice of what they want, or need, to learn. But even in the case of the word processor, neutrality with respect to content was at best strictly true only as long as the computer system stayed close to imitating writing on paper. As dynamic features such as multi-media become more deeply integrated into the word processor, it becomes harder to believe that the computer system does not influence what the writer chooses to write. In the case of learning systems the influence could in principle

be far greater. The idea that users will learn what they want to learn (and so “that’s their decision”) is misleading. It is impossible to learn everything one might want to learn. Since choices must ultimately depend on a trade-off between degree of difficulty and degree of desirability, the way the learning system is implemented can surely influence the choice.

Once you accept that argument it can go very far in many directions. In order to make the general point concretely I cite as an example one direction I have pursued for many years by trying to give the computers in schools movement a different direction: instead of using the technology to achieve incremental improvements in how the curriculum is learned it is really destined to lead to fundamental change in what is learned. Virtually the entire school curriculum is so determined by what is easiest to learn with pencil and paper technology that a very large part of it will be abandoned as primacy shifts from static paper-based media to dynamic, digital media. This is especially clear in mathematics where most of what is included in the curriculum is justified less by its actual direct utility than by the belief that it supports other learning. Just think how often in your real life you have occasion to divide fractions by “turning them upside down and multiplying” or need to factor polynomials. The belief that these things serve as a foundation for other learning may be true or false, but what is certain is that computers open possibilities of learning different kinds of mathematics that *might* serve these ends more effectively. The italicized “might” says that I do not offer this as a fact (although I think that it is) but rather as a signpost saying: “there’s intellectual (and financial) gold over them thar digital mountains.”

Seymour Papert

FOREWORD TO THE FOREWORD

The *Encyclopedia of Distance Learning* will prove to be an invaluable resource for distance and Web-based learning at all levels of education. With the maturation of Internet I and arrival of Internet II, distance

POSITIVE FUTURES

What is the best psychology
For presenting the ecology
Of the new technology,

So as not to depict
The means of the machines
As the miscegenation
Of good education—

As a reversal of
The universal of
The perfection of
The unfettered kind
Of the human mind?

How do we best sow
Some thousand seeds
Of profound promise,

In order to change
Grinding evolution
Into rapid revolution,

And cultivate
An awesome potential
For human essential?

Allen A. Schmieder

learning will become the mainstream of education around the world by the end of the first quarter of the millennium!

I was delighted when Patricia Rogers, one of the editors of the *Encyclopedia of Distance Learning* invited me to write the foreword to this very imposing and impressive work. If taken in its fullest meaning, range of delivery systems and types, and potential for doing great things for the nation and the world, distance education is surely the most important technology-centered educational approach of modern times. Its many advantages to the current educational programs offered in schools and colleges include: access to a much more comprehensive curriculum; access to a broad range of educational content and services, especially for those in rural and other isolated locations; facilitates video conferences of all kinds; offers specialized training at a much lower cost than for traditional face-to-face instruction; and introduces teachers and students to an example of how technology can expand and enrich educational delivery systems. This foreword emphasizes the remarkable national and world-wide growth of distance learning and its capacity to change the face of education in the 21st century.

In addition to encouraging current leaders in distance education to secure and use this extraordinary *Encyclopedia of Distance Learning* as an invaluable reference, I firmly believe that *it is of critical importance for all educators to know its contents* because they provide a basic and rich, introduction to what will surely become the major type of educational delivery in the first decades of this new millennium.

AN “EARTH-SHAPING” EDUCATIONAL APPROACH

By the turn of the 20th century distance learning had appeared on the scene and was mainly pioneered by the early the correspondence schools. This relatively crude approach to long distance education progressed relatively slowly until today’s burgeoning Internet-based learning systems have made it possible to instantaneously connect to, and learn from, anyone in the world, anywhere in the world, and at anytime. Even more miraculous, educators and their students now have the capacity to connect to the “collective learning resources of the world,” ranging from the knowledge and wisdom of countless past centuries to important lessons and information being created during the very time you are taking to read this foreword.

So it is not a matter of whether or not all educators should take advantage of distance learning, but how soon and in what way. It is no longer a question of whether or not distance learning will become one of the dominant forms of educational offerings across the world, but how soon and to what extent! The *Encyclopedia of Distance Learning* provides what might be the best possible source of information for all those enlightened educational leaders who will get on board and shape and lead in the development of the global distance learning enterprise—which according to educational experts, will become the world’s most pervasive and dominant educational delivery system by the end of the first quarter of the 21st century.

It is possible that distance learning will not only become the “mainstream” carrier of life-long education around the globe, but will become the vehicle that finally unites the world in the kinds of positive ways that will help lead to a more peaceful future for all nations and peoples. In this amazing and infinitely complex world, could there be any more powerful reality than the fact that *learners from any place in the world can now connect with, and interact with, anyone, anywhere at any time?*

This phenomenon is clearly one of the most potentially powerful “earth-shaping” forces in human history. It ranks with the invention of the printing press, radio, telephone and television, as one of humanity’s most transforming communication inventions. And what is so remarkable about these high-speed educational networks that are now extending their educational reach into most nations of the world is that they are already having such a positive global influence—a welcome counter to the hostilities being generated by so-called peace-keeping ventures which are becoming more and more prevalent. Distance learning initiatives have the potential to connect, unite, and strengthen the myriad of efforts being generated and supported by the United Nations, the World Bank, AID, AED, multi-national university complexes, and many other organizations, programs, and institutions directed at raising the quality of education and life in the world’s

countries. With this substantial encyclopedia, the world now has the first phase of an “International Storehouse of Educational Information and Successes,” that is potentially available to every citizen on earth. We need only to accelerate the growth and quality of distance education to fairly and effectively disseminate that information and related educational programs to every corner of the world.

A WORLD-CLASS COLLECTION OF DISTANCE-LEARNING RESOURCES

The extraordinary collection of distance learning resources that follow were meticulously and selectively gathered and organized by the editors—all recognized as experts in the field. It will prove to be one of the most valuable collections of information for all those anxious to take full advantage of this new “universal library” of educational resources and space age communication and education, essentially without geographic or content limits. Delivering and receiving cutting-edge information at Internet speed will become increasingly important in the rapidly changing nature and needs of our 21st century society. The editors have done an amazing job of assembling a broad range of resources and materials. No matter the specialty of an individual scholar, teacher, team of educators, or educational institution, the readers will find one of the richest collections of distance learning applications, materials, programs, and documented experiences and successes related to their specific needs than is available anywhere in the world.

PREPARING FOR THE NEW EDUCATION THAT WILL BE DEMANDED BY GENERATION Y

The kids are coming and will soon bring an unprecedented demand for technology needs and assets into every aspect of K-20 education. If we do not prepare for them they will quickly pass us by as if we never existed. The new Web-based generation of youth being spawned all over the world—not just in Anglo-America and Western Europe, but in China, India, and all of the western Pacific nations—will soon be demanding access to as much of the world’s knowledge base as they can get their “hands (computers) on.” If all those enlightened people contributing to this distance learning “guidebook” weren’t sufficiently far-sighted to create this 21st century publication for today’s still too scarce technology-centered educators, the children of Generation Y would soon invent it themselves. In 1996, well over 90% of learning was in a traditional classroom led by an instructor. In 2004, it has been estimated that distance learning in its many forms, now constitutes approximately 50% of educational delivery in the world.

As indicated earlier, distance learning was pioneered for many years by correspondence schools. Those of us who have grown up with the Internet and World Wide Web and see its remarkable possibilities, will find it hard to understand and give proper credit to those early educational programs that reached out to students through the mail. A learner would respond to a list of specific and topic-related questions in a hard copy educational package, mail it back to the “teacher,” who would, in turn, send the learner another package through the mail. “Snail mail” earned its reputation fair and square. Surprisingly, distance education as a significant form of educational delivery is not much more than ten years old. Once started, it filled a very critical need, so it grew very rapidly. By the 1999-2000 school year, approximately 750,000 (about 6%) college students took distance education courses via the Internet. They differed from the typical postsecondary students in that they tended to be older and were more likely to be employed full-time and attending school part-time. They had higher incomes and were more likely to be married. Things have changed and expanded so rapidly that today, its users reflect the general profile of any face-to-face course or program.

MANY LARGE AND COMPLICATED BARRIERS AND ISSUES STILL LIE AHEAD

This spectacular growth and nation-wide and world-wide impact of distance learning will, understandably, create a numberless list of complicated issues and challenges that must be overcome if its impact is to be fully realized. Just to name a few: the quality of the supporting communication infrastructures must be dependable and cost-effective; to facilitate the full range of educational possibilities, users must have a large bandwidth; language barriers must be eliminated; new ways must be found to blend traditional face-to-face learning with distance learning; new ways of certifying teachers and accrediting institutions must be developed; ensuring high quality and trustworthy content; and minimizing political interference, both within nations and between nations, will be crucial if educational opportunities are to be maximized. This encyclopedia includes a number of excellent publications describing many of these barriers and possible ways to overcome them.

ENABLING ACCESS TO ALL NATIONS AND ALL LEARNERS—NO MATTER THEIR DIFFERENCES

There is no question but that the full promises and possibilities of distance learning cannot be realized until all countries of the world have developed robust infrastructures and enabled access of all of its citizens to the Internet and supporting technologies and software. But the increasing demand for distance learning is already spurring the development of high performance networks in business and government—and education can't be far behind. Contributions like this encyclopedia will surely help speed the day when there are no insurmountable technological barriers to effective Web-based, worldwide communication and education.

There are already dramatic improvements in the quality of Web-based teaching and learning; ever new technologies already support educational programs and pedagogical approaches that are not too different from traditional learning environments and interactive video technologies are enabling face-to-face education that is almost as good as the “real thing”. What a wonderful world!

Allen A. Schmieder

My own years in this field have afforded me the opportunity to put the first computer in a community college in 1963, to launch a college without a campus in 1976, and the first fully Web-based accredited university in 1996. Through the years, I authored several books including the first high school data processing textbook, a best-selling college computer textbook, launched the first compressed cable network, produced the first electronic encyclopedia of Media and Technology, the first Grolier's Encyclopedia on CD, and the first Compton's Encyclopedia, each in collaboration with colleagues at the various companies. In 1992, working with Paramount Worldwide Video, we put the first 50 movies on CD in MPEG format. I have shared a great deal of unique and exciting experiences over the years with others in this field and I note these because so many of these experiences culminate within the topics included in this encyclopedia.

We have all watched computer-centric initiatives grow and proliferate in many directions. Now, General Motors is one of the largest computer manufacturers in the world. My recent book, *Casting the Net Over Global Learning: New Developments in Workforce Training and Online Psychologies*, addresses the emerging application of psychology to media and as well as global computer-based learning including exploring the new literacies that are evolving.

Most of us continue to watch the computer change, network and globalize. Learning applications are at the center of this growth. China, India, Korea, the UAE, The Netherlands, Ireland, Scotland, Wales, the UK, New Zealand, Australia and Russia are some examples of nations that are realizing the exploding internationalization of the computer in learning. We have now watched the Internet grow dramatically, we observe worldwide changes in the demographics of its users, we see new specialties in technology, the emergence of a new understanding of related psychology, and the changing and expanding definition of literacy, including new literacies in computer-based learning.

The *Encyclopedia of Distance Learning* is a publication whose time is here. This encyclopedia will be a tool of empowerment. There is no limit to what we can know. We are only at the beginning of our technological evolution. Our international computer-centric world is now both wired and wireless. Distance is dead. We are in global communication...globally linked and there is a lot going on.

Neologisms are emerging apace. A neologism is a new word or new use of a word. We have gone from fishing to *phishing*, from *telecourse*, which meant a television course, to the computer-centric telecommunications telecourse of today. Cybermedia (a term coined in the middle 1950s combining *cyber*, i.e., artificial intelligence, and *media*, i.e., pictures, graphics and sounds, now morphs into Psybermedia (psychology and cyber/artificial intelligence, and media). Psybermedia combines psychology, artificial intelligence, pictures graphics and sound, and evolves from cybermedia. Every field has professional language and the language of computers fostering iconography, emoticons, screen design, user interface, and a large new vocabulary are fundamental to communication in the new international computer centric world.

Today's convergence has brought many of our devices together and we are in the crucible of change. If you think about the computer and learning in recent perspective, the 1980s may be remembered as a decade of spreadsheets, accounting and business systems. With the invention of the digital signal-processing chip, we began to invent smaller, cheaper, faster appliances of all types in the 1990s, which may be seen as a decade of emerging "digital gadgets" of all types. Only now is technology moving toward sufficient bandwidth to engage the concept of psybermedia on a worldwide scale, which may be seen as the decade of emotionally compelling programming and media at the center of the human experience. We are beginning to understand something about sensory psychology and the computer literacy of the world is advancing at an accelerating rate. This evolutionary process is explained, especially in the Editor's Note by Gary Berg in this encyclopedia, as only a beginning, albeit, a powerful beginning.

We cannot go back, and we do not want to backtrack. The old adage, "a little knowledge is a dangerous thing" may apply. If that is the case, one is motivated to ask, "How much knowledge does it take to get out of danger?" The answer is that each of us must continue to gain knowledge for purposes of our own global well being, to succeed in the global marketplace and to be effective 21st century citizens. Learning is a *process*... and there are no limits on what one can learn, and knowledge is portable, pliable and can fly through the air.

This extensive *Encyclopedia of Distance Learning* is a new mind stretching resource for individuals with the component skills and the will to build the future. It is a resource that takes you from adult development and learning theory, through global issues and opportunities, from K-12 and home schooling through the lifelong learning of senior citizens and their computer uses. It explains corporate universities, new types of professional opportunities, the psychologies of the media, advancing practices in distance learning, and explores where one's work and one's life come together. The array of distinguished contributing authors and relevant subjects is truly impressive.

It is imperative that we all understand the international uses of the computer in learning so that all people may grow closer together for a better world. In this regard, this encyclopedia is valuable for:

1. Corporate executives who need to stay competitive in the new information age.
2. Educators who need to educate and graduate literate and employable students.
3. Administrators at all levels currently working in all facets of education.

4. College and university students interested in the impact of computers in learning.
5. All of those interested in the computer in a global media age.
6. Professionals in education, commerce, health care, entertainment, and publishing who are interested in understanding the international computer-centric world.
7. All of those exploring new career opportunities in education and training.

The *Encyclopedia of Distance Learning* is a good source to help us understand more about media literacy in a global sense, as well as in education and learning. Computer-based learning is at the core of media literacy. It is evolving like a glacier, exerting tremendous constant pressure, unstoppable in a sea of change, sometimes imperceptible and deceiving, but always pressing with unrelenting tremendous force. There is no question that the content of this encyclopedia offers important seminal information and is a foundational resource, an excellent staging point for any media literacy research and practice, and an empowerment tool of exceptional value created by an exceptional international network of accomplished leaders in many fields and blended into this important work.

Bernard J. Luskin