



PART ONE

RETHINKING EDUCATION FOR
AN ONLINE WORLD

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CHAPTER ONE

ONLINE LEARNING IN THE TWENTY-FIRST CENTURY

Because of the changing nature of students today, economic pressures, and rapid implementation of distance learning courses and programs, definitions of what constitutes education and learning are changing too. Whereas years ago instructors viewed their students as blank slates whose minds could be filled with the information they were imparting, current constructivist theory holds that students create knowledge and meaning through their interaction with one another, the instructor, and their environment. A more collaborative approach to learning, such as that promoted by constructivist thought, can yield deeper levels of knowledge creation (Brooks & Brooks, 2000). The use of distance learning technologies and, more specifically, online learning, have both grown out of and contributed to the changes now occurring in the delivery of education.

The changes stemming from the delivery of online classes in academic institutions are being met with the support of educators but also with some discomfort. Although the level of discomfort may be decreasing for some, skepticism about the quality of online education persists (Allen, Seaman, Lederman, & Jaschik, 2012). To illustrate the changes occurring in the attitudes of educators about online learning, we revisit a sampling of the

opinions expressed by instructors faced with teaching online that were published in the 1999 edition of *Academe*:

Some students learn better in a course in which they can interact with the professor in person. Others, however, thrive in an online environment. Shy students, for example, tend to feel liberated online, as do many foreign students who are unsure of their spoken English. (Maloney, p. 21)

Being there is irreplaceable . . . Education involves more than lectures and class discussions. Our students learn from us what scholars in our disciplines do. We show the discipline of the mind and evaluate whether our students are catching on . . . When students feel themselves identifying with us and our disciplines, they come to appreciate the struggle for knowledge; some may even choose to become part of the intellectual adventure. (Martin, p. 35)

The reality is that technology is playing, and will continue to play, a critical role in teaching and learning. As a pedagogical tool, distance education probably leads to different educational outcomes from those achieved with traditional classroom-based instruction—some better, some worse . . . The real debate needs to focus on identifying which approaches work best for teaching students, period. (Merisotis, p. 51)

Although we continue to hear similar opinions expressed today, online learning has become ubiquitous. As a result, the level of resistance expressed in 1999 has begun to wane to some degree, and we see at least a willingness to try online teaching. A very recent study, conducted by the Babson Survey Research Group (Allen et al., 2012), indicates that instructors report being more pessimistic than optimistic about online learning. They are skeptical about the quality of learning outcomes from online courses and resist teaching online. Interestingly, 75 percent of the sample participating in the study teach full time and are not teaching online. The study indicated that part-time, non-tenure-track instructors are far more open to online teaching than their full-time, tenured colleagues. The authors of the study speculate that the amount of time involved with online teaching, which may or may not be fairly compensated, is part of the problem. And yet the number of students enrolling in online courses has increased dramatically: the number of students enrolled in online courses in 2010 was estimated at 6.1 million (Allen et al., 2012).

Research conducted at the University of Central Florida indicates that what was previously described as a continuum from fully face-to-face to

fully online classes has significantly decreased and soon will no longer exist (Allen & Seaman, 2004, 2005; Young & Chamberlain, 2006). Most face-to-face classes now include some form of technology integration, sometimes termed “supplementation” or “Web facilitation,” and it was predicted that by 2013, the vast majority of courses offered in higher education would be hybrid, meaning that they will be at least 40 percent online (Allen & Seaman, 2004). Based on our experience and observations, this prediction has come to pass. Consequently, the new continuum moves from technologically enhanced classes to fully online classes rather than from fully face-to-face classes to fully online classes.

The advent of mobile technology has served to increase technology use in traditional classes as well. Assignments now include the use of Twitter and texting, as well as the ability to access online course sites by using a cell phone or tablet, such as an iPad. Given the vast amount of technology available, instructors are now at least willing to experiment with its use. A social policy instructor told one of us recently that her concern about the lack of interest in her required class led her to conduct a focus group with her undergraduate students. She found that students wanted to see the use of some forms of technology, particularly wikis, as a way to engage them and allow them to explore the content collaboratively. Students are increasingly demanding the inclusion of technology into courses, and instructors need to respond.

Regardless of any residual discomfort, online education is here to stay. Ronald Phipps and Jamie Merisotis of the Institute for Higher Education Policy noted in their groundbreaking 1999 report on distance education, “Technology is having, and will continue to have, a profound impact on colleges and universities in America and around the globe. Distance learning, which was once a poor and often unwelcome stepchild within the academic community, is becoming increasingly more visible as a part of the higher education family” (p. 29).

An early survey of trends in online education (Kim & Bonk, 2006) concluded that as the demand for online learning increased, the most important skills for an online instructor would be how to moderate or facilitate learning and how to develop or plan for high-quality online courses. The demand for online courses in higher education has continued to increase; in addition, more K–12 instruction is going online, with students and teachers using a vast array of Internet resources, social networks, and new educational technologies. The Sloan Consortium Survey of Online Learning (Allen & Seaman, 2011) reveals that the number of higher education students enrolled in online courses has exceeded 6 million and shows

no evidence of decline. The Sloan report concludes that the economic downturn in the United States has helped increase the demand for online courses and programs.

As a result, there is a demand for teachers and college-level instructors who have the necessary skills to integrate such technologies into the face-to-face classroom, as well as to facilitate fully online or partially online (blended or hybrid) classes (Lorenzo, 2011), and students of education are seeking to gain these skills. Traditional schools of education are currently not meeting this demand. Given these facts, what has been the impact of this phenomenon on education? How does learning online affect learning in general? How should decisions be made about such elements as course management systems, courses offered, faculty who will teach online, and course development? What are the ethical and legal implications of these decisions? How do we train faculty to understand and use online learning and online learning technologies effectively and about the new teaching approaches required for their effective delivery? How do we teach faculty to build interactivity and community through the use of technology into what might otherwise be a flat, text-based medium? We explore these questions and more in this book as we discuss the lessons learned from today's online classrooms.

In this chapter, we review the state of online learning today, including an initial discussion of current and emerging technology, which we continue in chapter 4. We also review some of the critical issues facing both instructors and administrators in online teaching and learning and look at some of the lessons for higher education that are emerging from the K–12 sector. We close this chapter with a discussion of the effectiveness of online teaching and learning.

Online Learning Today

Not all online classes are created equal. A white paper posted on the website of Blackboard, a course management company, defines online education as “an approach to teaching and learning that utilizes Internet technologies to communicate and collaborate in an educational context. This includes technology that supplements traditional classroom training with web-based components and learning environments where the educational process is experienced online” (Blackboard, n.d., p. 1). We continue to agree with this definition, although it was written many years ago. The technologies that can be used are changing, and the definition indicates

that there is more than one way to deliver online classes, something that is becoming increasingly true as new technologies are incorporated into online teaching. One form is not necessarily preferable to another, however, and the technology used depends to a great extent on the content of the course being taught and the experience of the instructor and students. A good way for instructors to begin is by using technology to enhance an on-campus class. As they gain experience in teaching online, moving from an enhanced approach to one in which a class is wholly delivered online becomes easier.

Enhancement to what is happening in the face-to-face classroom can be achieved through the use of an electronic textbook, which likely includes associated learning activities on a companion website and “lecture” material. Some instructors use an asynchronous discussion board located on a course site online or the addition of chat or synchronous discussions; they may even simply use e-mail. All of this technology will likely also be used in a class that is conducted completely or almost completely online, the difference being that there may be minimal or no scheduled face-to-face sessions associated with the class.

Emerging technologies are changing the face of online learning. The use of cell phones, smart phones, tablets, and iPods are allowing mobile access to parts or all of a student’s online courses. What are known as Web 2.0 and now Web 3.0 technologies allow users to create content within or as an adjunct to online courses. As a result, students can create presentations, co-construct material using wikis (collaboratively created web pages), and keep blogs (Web logs or online journals) and interact with others who are blogging. Social networking technologies hold the possibility of delivering courses outside the institution’s formal course management system. These exciting developments also carry with them issues and concerns that we address in this book.

One of the main issues continues to be adequate faculty training to construct and deliver high-quality courses. Few campuses currently offer the type of training that faculty need to succeed online. When instructors are simply presented with a course management system and told that a course needs to be developed and presented, the resulting course is likely to have minimal interaction and pay little attention to the development of a learning community, which promotes collaborative learning and helps to achieve learning outcomes. Instead, the instructor new to online learning is more likely to try to replicate what he or she has done for years in the face-to-face classroom. We discuss faculty training needs and good course

construction in greater depth in chapters 2 and 5 and offer a template for faculty training in Appendix A.

Current and Emerging Technologies

Although most course management systems now offer instructors the ability to customize their courses in many ways, emerging technologies are allowing instructors to move their classes out of the institution's system and enabling students to contribute content to an existing course. In addition, asynchronous discussions can be supplemented with the use of synchronous, or chat, sessions. Video and audio clips can be used. Instructors can post PowerPoint slides or other graphic illustrations of the material being studied. Support documents such as handouts, articles, and lecture notes can also be posted to a course site. Links to other sites of interest or to a digital textbook can be established. In whiteboard sessions, synchronous discussion can occur while graphics are annotated or brainstorming sessions are going on.

Learner progress can be assessed in new and different ways. For example, an instructor might have students create wikis or blogs and assess those as part of the course grade. Authentic assessments can be conducted through the use of audio or video in real time or through the posting of artifacts that students create. Students might create and submit a slide show by taking photos on their cell phones and uploading them to a site such as Flickr. Similarly, they may use the video recording function on a smart phone to produce an assignment for a course. Other applications allow audio recording or capturing a computer desktop and recording it with voice-over narration. The texting function on a cell phone can be used to respond to a poll or submit answers to instructor questions instead of taking a quiz in a course management system.

Many of these technological developments may be helpful in accommodating various student learning styles. An auditory learner, for example, may feel more comfortable listening to a brief audio clip explaining a concept than reading about it. A visual learner tends to do well in an environment that presents mainly text or uses video clips. A learner who is more kinesthetic may appreciate assignments requiring visits to other websites on the Internet and the incorporation of online research or the use of texting to submit material to the course. These techniques also help to keep things interesting for students who feel the need for more activity in a learning situation.

The use of mobile technology helps to diminish what has been known as the digital divide—not all students own computers. Many students, however, have access to cell phones. Despite this, we present the new technological developments with a caution: not all students can receive a course that contains all of these technological bells and whistles. A cell phone is not a smart phone, capable of audio and video recording, for example. When constructing a course using new technologies, the instructor needs to determine the technologies to which most students will have access and make accommodation for those who do not. As has been the case since online learning began, simplicity of design is the key.

In our experience, a well-constructed course is logical in its design, easy to navigate, and inviting to users. Generally a simply constructed and easy-to-follow course site will be better received by students than one that relies too heavily on elements such as multimedia and where access is slow due to slow connection speeds. Although many students now have access to high-speed connections and mobile technology, some live in areas where they are required to dial up to get Internet access and where cellular service is spotty. When we ask students to evaluate the effectiveness of their online learning experience, it is the ability to engage in discussion with their peers and instructor that they most value. Consequently, the choice of technology that makes it easier for students to connect with one another, enabling them to form a learning community, is critical.

Emerging Issues for Both Faculty and Administrators

As development and acceptance of online distance learning continue to grow, critical concerns for both faculty and administrators have emerged, including planning for a solid technological infrastructure, intellectual property rights, review and development of agreements with faculty that reflect good understanding of work for hire and copyright, and choice of software for conducting online courses. Another issue is the use of mobile technologies and social networking, which bring concerns about privacy and other issues related to work outside the protected confines of the institution's system. Many of these concerns relate to the degree to which faculty are being involved in the planning and decision making that surround the implementation of online distance learning courses and programs.

Instructors argue that decisions should be made based on pedagogical need, but they worry that administrators are looking to the bottom line. Security concerns are also affecting how decisions about technology use are made. Table 1.1 outlines responses to common concerns. A brief discussion of each of these issues follows.

TABLE 1.1 FACULTY AND ADMINISTRATOR RESPONSES TO COMMON CONCERNS ABOUT TECHNOLOGY

Concern	Faculty Response	Administrative Response
<p>Technology decisions Technology to be used in the delivery of online and hybrid courses.</p>	Want to be involved in choosing technology that serves pedagogical needs.	Often want control over technology purchases for ease of support and maintenance.
<p>Governance decisions Decisions about which courses and programs will be delivered online and who will teach them.</p>	<p>Want to have a voice in which courses or programs are offered online.</p> <p>Want to have the option to opt in or opt out of online teaching and have a voice in workload issues.</p>	<p>Want to maintain control over workload issues.</p> <p>Often use adjuncts to deliver online courses to deal with workload concerns.</p> <p>Generally hold the responsibility for deciding which courses and programs are offered online.</p>
<p>Intellectual property Who owns courses and what constitutes work for hire.</p>	<p>Want to retain ownership of courses developed or materials posted to an online course.</p> <p>Want adequate compensation for course development of their own courses or as work for hire for the university.</p>	<p>Generally see online course development as work for hire, property of the university, or part of the faculty role.</p> <p>Need to be involved in negotiating reasonable agreements with faculty.</p>
<p>Instructor and student training decisions Design and delivery of training programs for both faculty and students.</p>	<p>Need training in course design and development as well as course facilitation.</p> <p>Support the need for student orientation to online learning.</p>	Support for training waxes and wanes with budget concerns. This needs to be a top priority, and training needs to be continuously supported.

Concern	Faculty Response	Administrative Response
<p>Course design decisions How courses are designed and who is involved with course design.</p>	Want to be involved with course design as subject matter experts or in the design of their own courses.	Need to support a team approach to online course design or support faculty through provision of instructional design services.
<p>Instructor workload Decisions about how many online classes instructors should be required to teach.</p>	Instructors realize that teaching online requires more time than teaching in the face-to-face classroom; some resist online teaching as a result.	Need to establish reasonable instructor loads, including teaching both online and face-to-face classes, along with other responsibilities. Overload situations for teaching online should be avoided.
<p>Regulatory environment New regulations from the U.S. Department of Education are dictating the need to make courses and programs relevant to potential jobs or careers and to reduce time in program.</p>	Instructors are feeling pressure due to the push to move students through programs more quickly and align courses more directly with students' career paths.	Need to communicate directly with faculty regarding regulatory demands and collaboratively seek proactive solutions.

Technology for Online Teaching Is Chosen Without Faculty Input

Interestingly, although this was identified as an issue early in the history of online learning, little has been written about this problem other than to cite it as one possible reason that faculty may resist engaging in online teaching (Allen et al., 2012). In 1999, Andrew Feenberg stated, "Professors aren't in the forefront of the movement to network education. Instead, politicians, university administrations, and computer and telecommunications companies have taken the lead, because they see money in electronic ventures" (p. 26). Unfortunately, this continues to be the case. The lack of faculty involvement in decision-making processes that directly affect the way in which online courses will be delivered potentially continues to widen the rift between faculty and administrators where online teaching and learning is concerned. Rather than excluding instructors from

the decisions about which technologies they will use, involvement in the decision-making process required for the selection of course management systems can help elevate the level of faculty expertise required to teach online just by their testing out the various systems before they begin. This can give instructors a leg up in the course development process. Rice (2001) discussed the importance of participatory decision making along with a framework for planning to avoid costly mistakes. Bower (2001) defends faculty resistance as healthy skepticism, noting that many have simply been disillusioned by the technologies their institutions adopted without their input and without the ability to assess how the technologies will help them teach and help students learn.

If instructors are being asked and even expected to teach online courses, and the type of technology that they are expected to use can significantly affect the teaching and learning process, should they not be involved in its selection? Unfortunately, in our experience, rarely are they brought into the selection process in any meaningful way. Although administrators have the dollars and authority with which to spend them, instructors are the end users of the technology and should have something to say in its choice. Involving faculty will help them buy into the online teaching process and facilitate use of the software, thus allowing them to focus more on pedagogical than technical issues. Bates and Sangrà (2011) suggest that technology decisions should be made at a program and course level rather than an institutional level.

Administrators, along with faculty and students, need to be educated about the realities of online teaching and the impact that good technology can have on this process (Bates & Sangrà, 2011). The concern should be pedagogical, not budgetary. As we have already discussed, technology can be an effective enhancement to the face-to-face classroom. Well-constructed online courses can expand institutional offerings, thus attracting students who prefer this mode of learning. Online learning is not appropriate for all students, however, and is not likely to completely replace face-to-face classrooms.

Governance Issues Have Emerged

As with the choice of technology to be used for online courses, the selection and design of courses and programs that will be taught online are also being made with little or no instructor input. In many institutions, department chairs are being asked which courses they will offer, and programs are being designed by administrators rather than faculty, adding

to the level of faculty resistance (Bower, 2001). “When administrations in their hurry to launch potentially lucrative online programs forgo the usual channels of faculty consultation, quality suffers” (Maloney, 1999, p. 21). Concerns about quality continue to be primary contributors to faculty resistance to teaching online (Allen et al., 2012). Instructors also object to the creation and spin-off of for-profit arms of universities devoted to the development and delivery of online courses, citing poor quality.

Accreditation raises yet another set of issues related to governance. As courses and programs are delivered online, those charged with judging academic quality face the challenge of developing new standards. There is a belief that online classes cannot be evaluated through the traditional model of academic accreditation (Middle States Commission on Higher Education, 2011). As a result, new standards have been developed because online courses are not a reproduction of those delivered face-to-face. Barry Dahl (2012), an educator and online learning consultant, notes in his blog that although the newer accreditation standards evaluate online programs separately, they encourage comparison of online programs to face-to-face programs, thus indicating that somehow online programs will not measure up to their face-to-face counterparts. Additional fears are that quality standards are being bypassed, thus degrading public perception of the value of a college degree (Allen et al., 2012). Others, however, believe that new standards for the quality of online courses and programs should be determined through student feedback and institutional responsiveness, resulting in new sets of accreditation standards. Because national and regional accrediting agencies accredit whole institutions, they hold online courses and programs to the same standards as their face-to-face counterparts. However, there is a recognition that online teaching and learning are different, and that consideration has been built into current standards.

To complicate the picture, new regulations for both online and on-ground programs have been issued by the U.S. Department of Education. These regulations are meant to shorten time in program for students, thus reducing the level of financial aid debt required to complete a degree. Colleges and universities are also now required to demonstrate that the courses and programs they offer will support students in seeking and obtaining a job once they graduate. Finally, a regulation that will have a significant impact on institutions offering online courses and programs is that the college or university must be approved to offer education in any state where a student resides. Given that institutions offering online courses

could potentially draw students from every state, concerns are emerging regarding the administrative load required to meet such a regulation. At the time of this writing, this regulation has been deferred, but institutions are well aware that they will need to prepare for it should it come to pass. For their part, faculty have a sense of increasing pressure to meet timely completion demands and also to increase the level of career relevance in their courses. This may not be as much of a concern to someone who teaches computer science, for example, but for an instructor who teaches literature, the concern is great.

Nothing takes the place of good planning in the creation of any new academic endeavor, especially in a new regulatory environment. Some institutions have bypassed a planning process in developing an online program, claiming faculty pressure to get courses online or the need to expand their market share quickly. However, as with the creation of a single course, planning with the end in mind will move the institution closer to a realistic use of technology to strengthen teaching and learning. What this means is that institutions should conduct assessments of the learning and programmatic outcomes they hope to achieve through online courses. The inclusion of faculty in this process should assist in creating a balanced approach focused on both pedagogical and budgetary goals.

Online learning will not save the academy by attracting large numbers of students while reducing infrastructure costs. However, through good planning and evaluation processes, institutions can avoid costly mistakes by developing realistic programs that address realistic student needs.

Intellectual Property, Course Design, and Course Ownership Issues

Numerous articles appearing in journals and online discuss who owns courses developed by faculty for online delivery. Interestingly, this is rarely a subject of discussion when it comes to the face-to-face classes that faculty members have taught for years. When members of the faculty leave for another institution, their courses generally go with them, and another instructor is hired to develop and deliver the same course. Furthermore, it is usually not questioned that two instructors teaching the same course may choose to incorporate different concepts and material and are likely to approach the course very differently.

Online, however, a growing trend is for the institution to claim ownership of courses. Because online courses are generally housed on a university server and can be archived or kept intact indefinitely, the question of

ownership has become a topic of contention. Some institutions are calling the courses “work for hire” and claiming ownership, whereas others have few policies regulating how online courses are viewed (Kromrey et al., 2005). In addition, many institutions are hiring faculty from outside the institution—people who are considered to be content experts—to develop courses or are purchasing or licensing such courses, which the institution’s own instructors are then expected to teach. The quality of development and degree to which these courses can be customized is an issue that we discuss in more detail in chapter 6.

Just Like Faculty, Students Need to Be Trained to Learn Online

Many of those we have spoken with around the country continue to believe that the key to faculty training lies in familiarizing them with the technology they will be using to deliver courses. As we have conducted our faculty training seminars, we have frequently encountered faculty who tell us that although they mastered the use of the course management system, they still wondered how to deliver the course effectively. Why were students not participating? Why was it that most or all of the interaction occurring in the class was between students and instructor rather than between students? Why was it that students seemed unwilling or unable to take the initiative in making the course “happen”? Both the problems and the answers may be related to one issue: faculty training in more than just the technology in use. Those who teach online need instruction in the differences in online teaching and what is required to build a learning community online. We return to this subject in chapter 2.

Instructors are not the only ones who need training. The same mistakes are made with students. Again, it is assumed that if students can navigate the course management system, they should successfully complete the class. In our experience, however, students also need training to learn what is expected of them in the online classroom. In chapter 7, we discuss the issues involved in working with virtual students.

Finally, administrators, politicians, and all those involved with decision making for online programs also need training. The financial realities and the ability of technology to resolve budgetary problems should be conveyed to the decision makers, along with the realities of online teaching and learning. Administrators and decision makers have been persuaded that online learning can replace campuses and faculty. This is a myth that needs to be dispelled so that faculty and administrators can work together to create pedagogically sound, learner-centered online programs.

Instructor Workload

Managing instructor workload is a major factor in faculty resistance to teaching online and an enormous concern for both new and experienced instructors. Conceição and Lehman (2011) note that workload concerns generally emerge from administrative demands, the perception that online instructors are available twenty-four hours a day and seven days a week, inexperience with online instruction, and how to create a sense of presence with learners. The absence of training and support contributes to the problem of instructors feeling overloaded when asked to teach online.

Bower (2001) reported that faculty incentives in the form of reduced workload were not consistently offered to faculty to assist with this problem. In fact, in our conversations with faculty around the United States, many report teaching online classes in an overload situation.

We contend that providing institutional support and training to instructors is likely to reduce resistance and help them develop strategies to manage their work life when teaching online. This, coupled with institutional sensitivity to the need to better plan for and manage what is expected of instructors when teaching online, is likely to result in higher-quality online courses and programs taught by willing faculty who are skilled in online teaching.

Recent Developments in K–12 Online Learning

Higher education professionals can begin their own learning process by taking note of the exciting developments occurring in K–12. Although technology has been used as an adjunct to elementary and secondary teaching for a while, virtual high schools and other virtual support services for school districts continue to emerge, bringing with them the development of standards for online teaching.

The delivery of online classes in the K–12 sector is increasing dramatically, promoting a need for training for online teaching in teacher training programs. Deubel (2008) reports that the demand for “virtual schooling” is increasing at a rate of about 30 percent per year, and with that comes the demand for experienced teachers who can teach online. Watson and Kalmon (2006) report that as of 2006, there were twenty-four state-led virtual schools with twelve more states in the process of developing them. Like their counterparts in higher education, teachers need training in the

theoretical, pedagogical, and technical foundations of online work. They also need to understand how to effectively facilitate an online class, including the use of effective discussions, managing learners, incorporating collaborative activities, and conducting online assessments of student work.

For the most part, virtual schools rely on asynchronous technologies in order to accommodate school schedules and individualize pacing of the delivery of content. In some cases, a combination of technologies is used, with some tutoring and discussion held in synchronous virtual classrooms. Scheduling and pacing generally coincide with the school year, with some virtual schools operating on an open or year-round schedule.

Similar to higher education, student-teacher communication generally takes the form of e-mail exchanges and course discussion boards. Some virtual schools require regular phone communication between teacher and students or participation in synchronous sessions by virtual classroom or chat. Also similar to higher education are the many roles and tasks of the instructor, including facilitation of instruction using asynchronous or synchronous means, leading discussions, and assessing student performance. One difference is that online K–12 teachers are also expected to conduct regular tutoring sessions with students, which are generally held at scheduled times and generally run through synchronous media.

Virtual school programs can be fully online or hybrid (or blended) approaches. Three main models are used (Van Dusen, 2009):

- *Blended models.* This is the approach most often used by charter schools or homeschooling. The model allows students to work from home in online classes for the majority of their work, but they do come into a face-to-face classroom setting with the same instructor for a short period each week.
- *Supplemental models.* This approach allows school districts or multiple districts to fill in curricular gaps through the use of online courses. In this case, students are predominantly in face-to-face classrooms but may take an online course or two in order to move beyond what their school might offer. In general, this approach has been used to fill the gaps caused by budget cuts, which have predominantly affected the ability to offer electives, Advanced Placement courses, language courses, and the like. These models have also been used for the provision of summer school programs and for credit retrieval for students who need credit toward graduation.
- *Classroom-based models.* This approach focuses on technology integration in face-to-face classroom. However, it goes beyond simply

using technology to enhance classroom delivery by potentially using purchased online courses delivered in the classroom or engaging all students online while in the face-to-face environment.

The demands of online teaching in K–12 are likely different from those of higher education due to the developmental level of students, the ways in which the courses are offered, the nature of the curriculum, and the need to be responsive to multiple audiences (students, parents, schools, districts, states, and even the federal government). Because of this, standards for the development of online courses and their delivery have been developed and published by the International Association for K–12 Online Learning (iNACOL). To accomplish this task, iNACOL organized a team of experts consisting of online teachers, professional developers, instructional designers, researchers, course developers, and administrators to review these new standards and the new literature on the topic. The result is a comprehensive set of three categories of standards: National Standards for Quality Online Courses, National Standards for Quality Online Teaching, and Quality Standards for Quality Online Programs. Unfortunately, no such equivalent exists in higher education, so the quality of online courses and best practices in online teaching have been somewhat elusive concepts in this sector, leading to skepticism on the part of many instructors as to the value of online teaching (Allen et al., 2012).

The growing trend toward virtual high school education is one that we in higher education cannot ignore. The students who participate in online high school classes are likely to seek out the same forms of education when they enter college. They will likely be skilled in navigating the online environment and in working collaboratively with their peers. The question then becomes, Is higher education ready for them?

The Effectiveness of Distance Delivery

A debate that we hoped would be resolved at the time of this writing but that unfortunately persists is whether online learning is as effective as the face-to-face classroom in achieving learning outcomes. Accompanying this debate are concerns that plagiarism and cheating are more easily accomplished online. Research on this topic continues to emerge with somewhat disappointing results and continues to indicate that instructors on the whole are not convinced that online learning is effective,

despite the demand from students (Allen et al., 2012). The classic report released by the Institute for Higher Education Policy, *What's the Difference?* (Phipps & Merisotis, 1999), reviewed the research comparing the outcomes of online and face-to-face instruction. Because it is almost impossible to engage faculty in a discussion of online learning without this topic emerging, we feel that it is important to review some of that literature here.

Phipps and Merisotis, the authors of the report, in summarizing their review of the literature on the effectiveness of distance learning, noted that the studies conducted tend to fall into three broad categories: student outcomes (including test scores, grades, and comparisons to on-campus students), student attitudes about learning through these means, and overall student satisfaction with distance learning. One such study, conducted by Schutte (1996), randomly assigned students in a course on social statistics to face-to-face or virtual classes. Lectures and exams were standardized between the groups. The study found that the students participating in the virtual class had better results on tests. Schutte concluded that the performance differences could be attributed to the enhanced ability of students to collaborate in the online class: "In fact, the highest performing students (in both classes) reported the most peer interaction" (p. 4). However, Schutte noted that the element of collaboration is a key variable that needs to be controlled in future studies.

Phipps and Merisotis (1999) noted, "With few exceptions, the bulk of these writings suggests that the learning outcomes of students using technology at a distance are similar to the learning outcomes of students who participate in conventional classroom instruction" (p. 2). Others who have also compiled the research on distance learning have come to the same tentative conclusion (Hanson et al., 1997; Russell, 1999). Phipps and Merisotis offered this conclusion with a caution, however; noting that most of the research conducted on learning outcomes from distance learning classes is questionable. Many of the researchers, such as Schutte, noted variables that cannot be controlled, and many studies were based on qualitative rather than quantitative measures. In addition, the research did not define what is meant by *learning outcomes* or conceptualize what knowledge looks like (Boettcher, 1999). Consequently, much of the previous research attempted to paint the picture of "an illusory 'typical learner,' which masks the enormous variability of the student population" (Phipps and Merisotis, 1999, p. 5) and did not account for differences in learning styles. Despite problems with the

research being conducted on effectiveness, Phipps and Merisotis offered important implications that have come out of it:

Although the ostensible purpose of much of the research is to ascertain how technology affects student learning and student satisfaction, many of the results seem to indicate that technology is not nearly as important as other factors, such as learning tasks, learner characteristics, student motivation, and the instructor. The irony is that the bulk of the research on technology ends up addressing an activity that is fundamental to the academy, namely pedagogy—the art of teaching . . . Any discussion about enhancing the teaching-learning process through technology also has the beneficial effect of improving how students are taught on campus . . . The key question that needs to be asked is: What is the best way to teach students? (p. 8)

The 2012 Babson report illustrates that the issues outlined here have not been resolved: online learning has not been well studied as an entity of its own. Despite the criticism and skepticism, we now turn our attention to what it takes to assist faculty in developing high-quality courses. In so doing, we offer the following principles of good practice in undergraduate education. They were first published by the American Association of Higher Education in 1987 and reproduced at the conclusion of the Phipps and Merisotis report (1999, p. 32) as a guide:

- Encourage contact between students and faculty.
- Develop reciprocity and cooperation among students.
- Use active learning techniques.
- Give prompt feedback.
- Emphasize time-on-task.
- Communicate high expectations.
- Respect diverse talents and ways of learning.

These principles continue to form the backbone of a well-constructed online course because they encourage interactivity, active learning techniques, and the expectation that the instructor will be present and involved but not control the process. With these principles in mind, we now turn to the important topic of faculty training.