

IS “AS GOOD AS FACE-TO-FACE” AS GOOD AS IT GETS?

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ABSTRACT

We are constantly being asked to compare distance education to traditional education. But by striving to make distance education “as good as” face-to-face education what are we overlooking or sacrificing? In this paper we explore these issues by first reviewing background information from the literature about new teaching theories, methods and technology. We’ll also look at the impact of online learning and whether it can support, or even expand, the new teaching theories and strategies, based on research. We’ll then get a general overview of quality distance education principles and guidelines currently in use, finally addressing the question of whether our evaluation methods and questions serve to free or limit the potential of online learning, perpetuating “doing things differently or doing different things” [1].

KEYWORDS

Guidelines, Methods, Evaluation, Theories

I. STATEMENT OF THE ISSUES

Providing quality learning experiences is the goal and responsibility of all educational programs, assuring student, faculty, and program success. However, it is of special importance to distance learning programs that have historically been considered incapable of meeting the standards of traditional education. But should our goal be to meet existing standards of education or has distance education, and especially online education, opened the door to enhanced strategies in teaching and learning?

The first recorded case of the use of distance education was a shorthand correspondence course in 1840. (Although Ehrmann has suggested that distance education began with the first instructor who said, “Take this manuscript, go away, and read it” [2].) Ever since, people have been trying to prove that distance education is “as good as” traditional education. A recently published book, *The No Significant Difference Phenomenon*, provides a review of 355 research reports, summaries, and papers from the last twenty-five years, compiled by Thomas L. Russell, which found no significant differences based on a variety of criteria [3]. Examples can be seen at <http://teleeducation.nb.ca/nosignificantdifference>. From there you can also go to a page that features comparative studies which *do* demonstrate significant differences, usually finding that distance students do better than their on-campus counterparts.

It is time to put the debate to rest. By evaluating and assessing distance education with the criteria from traditional education models we perpetuate doing what we've always done. Our evaluation criteria shape the learning experiences we create. When we strive to recreate the classroom experience we limit teaching and learning to what works best in face-to-face situations. As Bourne and others point out, the "sage on the stage" becomes the "sage in the box" on video and/or audio clips [4]. Online education can be so much more.

We have always been constrained by our knowledge and experiences. Take the invention of the printing press for example. It took a few generations for printers to realize that the new technology created new possibilities. The early printers tried to make their books look just like the handwritten manuscripts that they knew so well. They were using the new technology to do the same old things differently. They didn't understand that the new technology made it possible to do different things. Eventually they realized they were now able to print much smaller and simpler, thereby reducing costs and improving access and affordability. By focusing on whether we can do the old things just as well in different ways, we are blind to the possibilities of doing new and different things.

The common uses of online education were summarized by Bourne and others. "The most current use of asynchronous learning networks (ALN) transfers traditional classroom/lecture based methods to the ALN setting. There has been little examination of the 'art of the possible'" [4]. Currently online learning consists of online materials, a convenient method of submitting and grading assignments, audio and video clips of lectures, and interaction with students via email, bulletin boards, and listservs. However, online education creates a novel instructional environment with its own particular advantages, limitations, and challenges. Consequently, Internet-based education is evolving its own pedagogy that is challenging traditional education. "Too often we try to emulate the classroom The fact is that online learning is affecting how we teach in traditional classrooms" [5].

Certainly, there are general guidelines that hold true for all educational endeavors, regardless of the content or delivery method. But we need to look carefully at the questions we ask for they shape the programs we develop. We "teach to the test" whether the test is to assess student achievement or to evaluate our educational programs. Old theoretical frameworks and metaphors traditionally applied to distance or traditional face-to-face education may be misleading or serve to limit the potential of computer conferencing. Online education is emerging as a new educational paradigm due to the change in student interaction and independence that telecommunications and computer media can potentially introduce. This new paradigm promotes anytime, anywhere education allowing global communities of learners based on shared interests, changing how we teach and learn, thereby creating a true learning society.

In this paper we will first review the literature on new teaching theories, methods and technology. The impact of online learning and whether it can support, or even expand, the new teaching theories and strategies will then be explored. Next we will review quality distance education principles and guidelines currently in use. And finally we will return to the question of whether our evaluation methods and questions serve to free or limit the potential of online learning, perpetuating "doing things differently or doing different things" [1].

II. OVERVIEW WITH RELEVANT RESEARCH

A. New Methods, New Media, and New Perspectives on Teaching and Learning

New learning theories and teaching methods such as constructivism and collaborative learning, along with concerns for more effective education, are having an impact on how distance education, as well as face-to-

face education, is conducted. Additionally, new information technology and media have added new dimensions and possibilities to the conduct of teaching and learning, creating the potential for more interactive, interpersonal, group environments.

Constructivist and postmodern theories of learning highlight the social nature of knowledge claiming that meaning is constructed as the result of social interaction [6], [7], [8]. “In the last 30 years, virtually every social science and field of humanities has moved away from rationalistic, linear ways of thinking toward an appreciation of multiple perspectives and reasoning in context” [9]. Due to an increased emphasis on constructed learning, educators, both traditional and distance, now focus more deliberately on creating a community of learners [10], [11], [12]. Consequently, discussion and various other forms of group learning have emerged as important teaching methods.

Through group learning participants have frequent opportunities to create thoughts, share those thoughts with others, and hear others’ reactions. The resulting group analysis, debate, and shared perspectives help to develop conceptual learning and higher order thinking skills [13], [14]. Additionally, through interaction, groups provide support and mutual feedback that promote self-understanding and generate an experiential base for learning [15].

A literature review of current learning theories shows that interactivity is considered to be a critical characteristic of education [6]. Interaction between the teaching and learning participants instills emotional involvement and feelings of personal relations that contribute to learning pleasure. This, then, supports student motivation that, in turn, facilitates learning and increases student satisfaction, and completion rates [16], [17].

B. The Impact of Online Education

New theories of distance learning based on group-based instruction are evolving in order to continue to develop effective teaching and learning methods [18], [19]. “As new technologies become more commonplace in the support of instruction, new questions are being raised concerning the effectiveness of traditional pedagogical methods and learning environments” [20]. Distance education can be a frontier for new methods of communication giving rise to innovative teaching and learning practices that may not be possible in traditional, place-bound education. In fact, distance education is being looked to as a force for change in higher education, extending and improving education in general [21], [7]. “Distance education [specifically virtual classrooms] may have a greater impact on the nature of higher education than any innovation since the invention of the printing press” [22]. Ruberg and Sherman feel that computer mediated communication (CMC) provides an opportunity for new development and understanding in teaching and learning. They note, “One of the most exciting outcomes of CMC research is finding that this new medium has provided new insight into the complexity and power of live face-to-face interaction” [23]. In fact, in addition to reaching learners at a distance, distance education formats are increasingly being used to enrich, improve, and expand face-to-face instruction, thus resulting in a “convergence” of educational practices.

Mason and Kaye identified three ramifications of the interactive potential of online education. First, online education blurs the line between distance education and traditional, place-based education primarily because of the opportunity for discussion, collaboration, and the potential for building a sense of community among participants. Second, it affects the traditional roles of teaching, administrative, and support staff, allowing for more give and take between learners and the organization. And third, and perhaps most exciting, is that online education provides access to peers, creating a network of scholars for the purposes of intellectual exchange, collective thinking, collaborative endeavors, and socialization [24].

C. Potential positive impacts of online education

Computer conferencing is a powerful constructivist learning tool because of its capability to support interaction and collaboration among diverse and dispersed students [25], [26]. Collaborative learning theory is based on social and intellectual interaction [27]. It relies on participants sharing information, insights, personal experience and perspectives with the hope of gaining appreciation and understanding of other views and potentially creating new knowledge. To accomplish this there must be sustained interaction. For this reason, this very effective and active learning mode previously has been difficult to incorporate into distance teaching programs [28]. In addition to facilitating the construction of new knowledge, online education supports social negotiation of ideas, providing multiple perspectives on any given topic and access to a vast array of information. According to Jonassen this combination makes computer mediated communication the fastest growing and, perhaps, the most powerful of all “Mindtools” [29]. Online education can support collaboration and networking that has been, up until now, impossible to even contemplate in distance education, often in ways that surpass the on-campus environment.

McComb considers the advantages of online education to be the result of three characteristics: asynchronicity; efficient information access; and increased social distance [30]. The asynchronous nature of online education is undoubtedly more convenient, avoiding schedule conflicts and providing more contact and control. It also allows time for research and internal reflection and space for “collective thinking” [27], [25], [14], [24]. While there will still be personalities that dominate the discussions there is no competition for “airtime” because it is virtually limitless, creating a more democratic environment for group interaction [27], [31], [28]. Furthermore, a study by Hartman et al. demonstrated that online education “did not just redistribute shares of a constant pie, it actually increased the size of the pie” [32]. Asynchronicity, as well as the text-based nature of online education, necessitates communication by writing thereby allowing time for reflection [25]. The processes of writing and reflecting encourage higher level learning such as analysis, synthesis, and evaluation, and promotes clearer and more precise thinking [25], [29], [14].

Efficient access to information was the second characteristic of online education that McComb listed [30]. In addition to course information, updates, corrections, and resources that can be posted, participants also have access to the Internet for related information. Perhaps most intriguing, however, is that a unique and extremely useful byproduct of online education is the automatic paper trail of all discussions. Learners and instructors can then review the transcripts for later reflection, elaboration, or comment. This paper trail is particularly valuable for use in research.

Increased social distance also contributes to the democratic feeling of the conference. The text-only format reduces cues regarding appearance, race, gender, education, or social status bestowing a sort of anonymity to participants. Focus is taken off the messenger and placed on the message creating a status-free environment—at least until participants are judged on their contributions [16], [18]. “Online people meet each other from the inside out”, as Schrum notes [33]. A number of researchers found this to result in a greater sense of equal participation [34], [35], [36], [37]. It has been suggested that this increased social distance permits the expression of emotion (both positive and negative) and promotes discussion that normally would be inhibited. In this way online education bridges psychological as well as geographic distance [33].

Online education is distinguished by the social nature of the learning environment that it offers, potentially creating an interactive community of learners [27], [24], [28]. Online education supports interactive group communication with all its social, affective, and cognitive benefits. “Teachers, trainers, and professors with years of experience in classrooms report that computer networking encourages the high-quality

interaction and sharing that is at the heart of education” [38].

D. Potential negative impacts of online education

Some of the same attributes that enhance collaborative learning can also hinder it. For example, the asynchronous nature of online education takes some getting used to. The discussion is conducted on multiple levels and at multiple speeds due to delayed responses, which makes it difficult for participants to follow. This syncopated communication can affect group dynamics due to the resulting difficulties in performing group tasks in a timely manner [27], [35]. Participants can more easily procrastinate in reading and/or writing communications [31], especially when the participants have limited access or low technical skills, such as slow typing speeds or are unsure of the medium [28]—although Ross found only a marginal effect on participation due to low technical skills [39]. And, if you don’t keep up, the sheer bulk of messages can be overwhelming.

Being text-based makes online education more cumbersome and therefore takes more time than face-to-face requiring extra work or covering less content. Becoming acquainted and comfortable with the conferencing system can also have a steep learning curve, although continued improvements in user interfaces are making the software more transparent and easier to use.

Another consequence of text-based communication is that online education is less responsive than face-to-face, potentially inhibiting expression and eliminating non-verbal communication [25], [27]. This can result in misunderstandings and lack of socio-emotional communication. Additionally, some participants may be hesitant to commit their ideas, experiences, and feelings to print. While these are real deterrents for some participants, the reality is that many studies have found more students respond, responses are longer and more complex, and interactions are increased in online education when compared to face-to-face [35], [40], [31], [33], [41], [28].

Garrison asserts that online education provides the environment for collaborative learning. However, he claims the challenge is to understand the technology in order to apply it to create new and more effective learning situations [25]. Perhaps Turoff described the challenge best when he wrote:

The most misunderstood concept in CMC systems is the view that an asynchronous communication process is a problem, because it is not the sequential process that people use in the face-to-face mode. The approach of ‘How do we make CMC feel to the user like face-to-face processes?’ is incorrect. The real issue is how do we use the ‘opportunity of asynchronous communications’ to create a group process that is actually better than face-to-face group communications? [37]

E. Quality Distance Education Principles and Guidelines

Now let’s review the literature on principles and guidelines for quality education starting with a framework from traditional undergraduate education. In 1987, the American Association of Higher Education Bulletin published “Seven Principles of Good Practice in Undergraduate Education”, the product of a review and summary of decades of research on teaching and learning in undergraduate education. These hallmarks of quality education include:

1. Good practice encourages contacts between students and faculty.
2. Good practice develops reciprocity and cooperation among students.
3. Good practice uses active learning techniques.
4. Good practice gives prompt feedback.

5. Good practice emphasizes time on task.
6. Good practice communicates high expectations.
7. Good practice respects diverse talents and ways of learning.

Distance education, especially online education, has the potential to achieve all of these practices (just as face to face education has the same potential), and in some instances fulfills them better than is possible with traditional education. For example, asynchronous communication provides opportunities for interaction among faculty, students, and peers that is not possible when adult learners have to rush off after class to meet work or family obligations. Also, “the extent to which computer-based tools encourage spontaneous student collaboration was one of the earliest surprises about computers” [42]. The above Seven Principles are the starting point for the Flashlight Project which has developed a suite of tools that institutions can use to evaluate how well their distance programs are implementing these principles (Chickering & Ehrmann).

Although the International Council for Distance Education claimed the focus for designing quality distance education should be on the content, the learners, and the learning outcome, such a program would be lacking in other critical areas of assuring success for students [43]. It wasn't until the 1990's that technology criteria, including access to and reliability of the technology, were considered important quality measures for distance education programs. Institutional commitment to the maintenance of the technology infrastructure and technology support for faculty and students are also now common criteria for quality distance education. “Institutional policies concerning learning resources and technology support need to give high priority to user-friendly hardware, software, and communication vehicles that help faculty and students use technologies efficiently and effectively” [44]. The quality of the instructional materials is brought into question, needing to be user-friendly, relevant, interactive, and problem-oriented, thereby engaging and motivating the student.

F. A Gaggle of Guidelines

Many institutions, associations, and accrediting bodies, all faced with evaluating these blossoming distance programs, have developed their own principles of quality distance education. For example, with the advent of the creation of the Western Governors University, and in acknowledgment of the unique environment of online learning, the Western Interstate Commission on Higher Education (WICHE) developed “Principles of Good Practice for Electronically Delivered Academic Degree and Certificate Programs” to be used in addition to standard accreditation measures [45].

In November 1995, the Distance Education Consortium (ADEC), comprised of 46 universities and colleges, launched a multimedia program to enhance the quality of distance education. Distance educators nationwide participated in in-depth satellite video and audio conferences and computer listserv discussion groups, reviewing and discussing print and video materials that included case studies of exemplary practice, and using online computer databases. The background investigation for this educational effort resulted in the identification of Quality Distance Education Factors that were deemed appropriate for all types of distance education technologies. They include: knowing the learners; creating confident and committed faculty; designing for active and effective learning; supporting the needs of learners; maintaining the technical infrastructure; sustaining administrative commitment; and evaluating for continuous improvement. These factors “are standards that help us recognize and define quality DE. Their presence *AND* their absence impact the quality of what we do in DL” [46]. Guidelines produced by various institutions and organizations invariably include these factors.

Accrediting bodies are more than a little concerned about quality assurance of educational programs

delivered at a distance. Distance education, by its very nature, cuts across state and national boundaries - especially online education as institutions connect directly to the homes of learners. Collaboration in accreditation of these programs is essential in determining the usefulness of distance education to students, employers, and society.

In 1992 UNESCO estimated the “world market” for international students was in excess of 1.2 million, based on the number of students enrolled in education institutions outside their countries of origin. Since this doesn’t count the students that would enroll in educational programs if they didn’t have to leave their countries, the total number should be much larger. The Global Alliance for Transnational Education (GATE) was created in 1995 for the purpose of certifying the quality of international higher education programs. The main addition they made to the list of quality criteria was that of legal and ethical compliance with the laws of the host country.

In response to the need for standards in the quality of distance education programs, the six regional accrediting bodies of higher education in the United States created an interregional staff task force to develop criteria for institutions offering distance education. They began with three assumptions:

1. Distance education offerings by an accredited institution can be considered a part of, rather than separate from, the institution’s other educational offerings;
2. Distance education can be congruent with an institution’s individual mission as well as its accreditor’s standards and, therefore, can be reviewed by the same organization responsible for assessing all other aspects of its behavior;
3. The expectations of the regional accrediting associations can be sufficiently universalized so that offerings throughout the country can be expected to fulfill similar minimal standards of quality. [47]

Besides the accrediting standards for all educational programs, specific concerns were identified for distance education. To address these concerns the regional accrediting association task force established additional criteria for the admission, promotion, and graduation of students; for the availability of student services; and for integration of distance education into the institution as a whole to ensure sustainability with sufficient support and resources.

Jointly, the American Council on Education and the Alliance: An Association for Alternative Programs for Adults created a task force to “formulate principles that could guide learners, educators, trainers, technologists, and accreditors/state regulators in the development, delivery, and assessment of formal learning opportunities” [48]. The result was a booklet, “Guiding Principles for Distance Learning in a Learning Society”, published in May of 1996. As a preliminary assumption the task force determined that the practice of distance learning contributes to the larger social mission of education in a democratic society. As a starting point for the guiding principles they made some significant assumptions about the core values that support a learning society, listed below. Online education’s unique qualities are particularly suited to upholding these values.

- Learning is a lifelong process, important to social, cultural, civic, and economic life.
- Lifelong learning involves the development of a range of learning skills that should be explicit outcomes of learning activities.
- The diversity of learners, needs, contexts, and modes must be recognized if learning activities are to achieve their goals.
- All members of society have the right to access learning opportunities.
- Participation in a learning society involves both rights and responsibilities.

- Because learning is social, learning experiences should support interaction and the development of learning communities.
- The development of a learning society may require significant changes in the roles responsibilities, and activities of providers as well as learners.

In April 2000, The Institute for Higher Education Policy produced a study, sponsored by the National Education Association (NEA) and Blackboard, Inc., that provides more tangible measures of quality specifically for online education. They investigated the quality assurance benchmarks identified by a variety of different organizations and then set out to determine whether the benchmarks are applicable to online distance education. "In short," asks the first page of the Institute for Higher Education's 2000 release, "are the current benchmarks appropriate and necessary to ensure quality Internet-based distance education?" A comprehensive literature search for the benchmarks recommended by other organizations, institutions, as well as publications found considerable overlap among the various benchmarks of quality, so that 45 discrete benchmarks were eventually identified. Next, six institutions with substantial and exemplary experience in distance education and leaders in Internet-based education were singled out. These programs were assessed using the 45 benchmarks, followed by interviews with faculty, administrators, and students for their perspective of the presence and importance of the benchmarks in ensuring the quality of the program. Benchmarks were considered mandatory if the absence of the benchmark would detract from quality. Of the original 45 benchmarks, 13 were eliminated, a number of others were combined because they addressed the same issue or were related, and three more were added as a result of interviews with the participants. The final list of 24 benchmarks, which fall into seven categories, were determined to be the most essential to the success of an Internet-based distance education program at any institution. An overview of each of the categories follows. Benchmarks related to each category not considered essential are in italics. (For a full list and explanation of the 24 *Benchmarks for Success in Internet-Based Distance Education*, go to: <http://www.ihep.com/quality.pdf>.)

1) Institutional Support Benchmarks would be evident in policies that encourage the development of online courses and in activities that ensure a conducive environment for maintaining quality distance education. This would also include a technology plan outlining electronic security measures to ensure quality standards and the integrity and validity of information. A benchmark that ensures the reliability of the technology delivery system was added to this category. *Although faculty incentives and rewards were considered important to ensuring quality, they were not deemed essential to the development of quality distance education. "Innovative distance education is happening every day without this benchmark. Moreover, many interviewees noted that distance education should be treated no differently than traditional classroom-based teaching" (p.23).*

2) Course Development Benchmarks involves guidelines regarding minimum standards for course development, design, and delivery. Learning outcomes should determine the technology used and materials and activities should be designed to engage students in analysis, synthesis, and evaluation. *Benchmarks regarding assessing and designing for student learning styles were considered unnecessary for ensuring quality. Likewise, course design teams comprised of faculty, content experts, instructional designers, technical experts, and evaluation personnel, while thought to be effective and useful, were not considered to be necessary across the board.*

3) Teaching and Learning Benchmarks focus mainly on the interaction between students and faculty, and among students. This interaction is considered essential to quality distance education and should be facilitated through a variety of methods, including email and telephone. This category of benchmarks also addresses the quantity, quality, and timeliness of feedback to the student. *While many courses incorporated collaboration among students into their course designs this teaching/learning strategy was not considered mandatory to ensure quality. The same was felt about modular learning units. The incorporation of collaboration, as with modular learning, should be based on a variety of factors such as subject matter, difficulty of the content, course*

level, and maturity of the students.

4) Course Structure Benchmarks refer to organization of and preparation for the course. Students are advised before the course about technical requirements and expectations of distant learners, and faculty and students agree on expectations regarding assignment completion and faculty feedback. Supplemental courses information outlines objectives, concepts, and learning outcomes. Access to library resources is assured to all learners. *More prescriptive benchmarks regarding specific expectations for the amount and timeline for doing coursework and timeframes for faculty feedback were eliminated. Instead, a benchmark that has faculty and students agreeing upon expectations for student assignment completion and faculty response was adopted because it reinforces interaction and constructive faculty and student relationships without constraining pedagogical innovation.*

5) Student Support Benchmarks account for all the services available to on campus students, including admissions, financial aid, and academic support. In addition, students need adequate and convenient access to technical assistance with hands-on training in the electronic media being used and in securing material through electronic methods, i.e. electronic databases, interlibrary loans, news services, etc. An additional benchmark regarding timely and accurate replies to questions directed to student service personnel was added to ensure that online students do not feel abandoned.

6) Faculty Support Benchmarks ensure assistance for faculty throughout the process of development, delivery, and evaluation. Faculty are provided and encouraged to use the technical assistance available during transition and beyond. Instructors receive training and peer mentoring in the pedagogy of online learning and environment, which continues during the course.

7) Last, but not least, Evaluation and Assessment Benchmarks cover formative and summative use of data. The educational effectiveness and teaching/learning process is assessed with several methods using specific standards. Intended learning outcomes are reviewed for relevance, appropriateness, and reasonableness. Data on enrollment, retention, costs, and use of technology are used to evaluate and improve the program. Factors to consider include student demand, student retention, student satisfaction, faculty satisfaction, student achievement, and financial efficiency.

III. ISSUES FOR FURTHER CONSIDERATION

We would be hard pressed to argue the value of the 24 benchmarks outlined by The Institute for Higher Education Policy. However, before we wholeheartedly embrace these benchmarks I would like to get back to our original question of whether these evaluation benchmarks promote “doing things differently” or “doing different things.” Below I propose some questions for further consideration. I propose we use these for topics of discussion, along with others you put forward, at the joint Sloan/PFT meeting in Madison later this month.

A. Are We Asking the Right Questions?

“It takes as much effort to answer a useless question as a useful one. The quest for useful information about technology begins with an exacting search for the right questions” [49].

First and foremost, we need to evaluate our learning objectives. Are we teaching what learners need to learn? Are our learner outcomes appropriate and relevant to the students’ purposes and needs? Once we determine our learning objectives we need to study which teaching and learning strategies are best, including those strategies that would not be feasible without the newer technologies. Then, we determine

which technologies best support those strategies. Steve Ehrmann admonishes us that the technology is not what matters, but how it is used; how the student's use of the technology promotes larger improvements in the student's education; and what we can learn about our own programs and students [44].

Rountree points out two opposing types of error common when evaluating distance education:

- One is to focus on how the distance learning tries to “compensate” for not being traditional teaching and thereby overlooks the ways in which it may be giving students a superior learning experience; and
- The other is to be so blinded by the razzmatazz of some technologies that one fails to notice that certain essential teaching functions that are taken for granted in traditional teaching are not being reflected. [50]

B. Separate but Equal or Different for All?

One basic conflict is whether distance education programs should have separate or additional guidelines. The US Senate Committee Report on Higher Education advised that distance education, even when delivered through new means, should meet the same standards of educational quality as on-site education. The Department of Education should not subject distance education programs and courses to separate or additional quality criteria and should not accept lower standards with regard to DE. However, distance education is forcing a fundamental reexamination of the policies and procedures that define the business of higher education. Are there universal truths about quality education? Will we end up with different and perhaps more rigorous standards for traditional programs as well as distance education programs?

Ehrmann makes a case for two valid ways of looking at most any educational program:

- As an effort to impact all learners in the same way (which he calls uniform impact);
- As a resource that different learners will use differently with qualitatively different and somewhat unpredictable consequences (unique uses). [49]

Each of these perspectives requires a different approach to evaluation. The first fits the predominant paradigm for education and evaluation, measuring performance against predetermined expectations of learner outcomes. A high quality uniform impact program would demonstrate high achievement in a specified area for all students that could be replicated in new settings with similar results. The second begins with a global search for significant outcomes, positive and negative, and then assesses each of the outcomes individually. The unique uses perspective considers consequences that are unpredictable, fresh, and useful in different ways for a variety of settings to be evidence of exceptional quality of the program. It is through the open-ended nature of the second evaluation that innovation is identified and valued.

C. Is “As Good As Face-to-Face” Good Enough?

Can we all agree to quit striving to make online education as good as face-to-face and stop comparing it to traditional education? Or is this a necessary comparison to make for any of a variety of reasons? How can we keep from falling into the rut of simply comparing new methods, strategies, and media to what we know? Is there a way to build in a search for the unexpected outcomes so as to learn from them and inform future practice, such as Steve Ehrmann's “unique uses” evaluation [49]?

D. Issues Specific to Health Education

Frequent reservations about the use of distance education in the health professions include the teaching of

clinical skills and the socialization of the learner to the culture of the profession. How is it possible to accomplish these goals at a distance and how will we know when we've done it? What benchmarks will we use for evaluating the socialization of the learner? How can we use mentors and preceptors and do we need additional quality benchmarks to ensure the quality (uniform? unique?) of the clinical training.

IV. RECOMMENDATIONS

To take advantage of the potential of online education we need to understand the technology and how it affects human communication and interaction. Basic research, in addition to evaluation, is required to expand our understanding of the processes of communication, group dynamics, and teaching/learning, as well as the potential uses of online education beyond the scope of traditional teaching methods and outcomes. Below are a few identified research needs in no particular order. We will undoubtedly add to this list. We need research on:

- How to foster the social, interactive nature of online education and the development of personal relationships and a sense of community;
- What is involved in “socializing” students into professions? How do we impart the cultures of professions in traditional education and how can that be done at a distance?
- How are clinical skills best learned and how can they best be taught at a distance;
- Total programs versus individual courses or individual students;
- Dropouts: why they dropout, what would help retain them, what information are we not getting from these disenfranchised students and how does that affect our results;
- Identifying and understanding the most important elements of face-to-face group meetings;
- The impact of the interaction of multiple technologies;
- The effectiveness of digital libraries and ways to improve them;
- Synchronous versus asynchronous - when is each appropriate?
- How to “scale up”;
- What happens to the experience when we “scale-up” by increasing numbers;
- The most effective ways to lower costs without sacrificing quality;
- What works and what doesn't;
- What are reasonable tradeoffs? We are always juggling access, quality, and cost.
- Ways to increase access *AND* quality – *AND* be cost effective;
- How to reduce the high level of effort required to create ALN courses.

“Biases against distance learning programs are still very much in evidence, and skeptics abound. Nonetheless, distance learning technologies are growing at a rate that outpaces our ability to develop sufficient guidelines. The challenges are enormous, and very real—so are the opportunities” [48].

“Be all that we can be.” (*US Army*)

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