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Back to the Future Redux: Research Directions for Distance Learning

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Introduction

Nearly one hundred years ago, the mathematician David Hilbert addressed the International Congress of Mathematicians in Paris. His address, outlining 23 major mathematical problems to be studied in the 20th century, is often recognized as the most influential speech on mathematics. He began his philosophical message with:

> *Who of us would not be glad to lift the veil behind which the future lies hidden; to cast a glance at the next advances of our science and at the secrets of its development during future centuries? What particular goals will there be toward which the leading mathematical spirits of coming generations will strive? What new methods and new facts in the wide and rich field of mathematical thought will the new centuries disclose?*

Those of us working in the field of distance learning cannot help but wonder what the future will bring and what new knowledge is needed in this upcoming millennium. David Hilbert singularly influenced the guiding questions for the field of mathematics, yet the field of distance learning has many voices suggesting what issues to study. With all the myriad of voices involved, how can we discern which issues are fundamental to best practice and which issues need more exploration in order to encourage productive research? While the field of distance education does not have a David Hilbert to set an agenda for the pursuit of scholarly knowledge on distance learning, there are many individuals and resources to guide us in the study our field.

Research Questions

The purpose of this paper, then, is to articulate a possible approach to a research agenda that, while not as ambitious as that of Hilbert, is similar in tone in that our proposed research agenda asks the reader to lift back the veil and speculate what it is that we need to know in issues pertaining to distance learning. We offer six topics of possible research. Each of the suggested topics of research contains a series of questions that may serve as a starting point from which any potential researcher may want to depart. We end our paper with both a warning and a summoning to our colleagues to engage in research in our field so that one hundred years hence, our future colleagues may echo the words of Bernard of Chartes and say, "If I have seen further it is by standing on the shoulders of giants."

Topic 1: Who Are We?

It seems logical that a starting point for a research agenda in any field begins with an agreement on the terminology. Without starting from the same basic reference point, the likelihood of reaching common understanding diminishes. An often citied definition of distance education is provided by Willis (1994): Distance education (or distance learning) takes place when a teacher and student(s) are separated by physical distance (perhaps miles apart or in today's Internet world, the separation may only be a room apart), and technology (i.e., audio, video, data, and print) is used to bridge the instructional gap. Is this definition appropriate? Is too broad? Or do subsets in our field warrant a more specific definition? Given that this definition is close to ten years old, does it still ring true, or do we need a new definition(s)?

Topic 2: How Do We Define Distance Education?

Perhaps the real question is simply, "Do we even need a definition for distance education?" A decade ago practitioners and researchers tended to emphasize how different distance education was from a mainstream university instructional mission. Faculty on campuses agreed and, for the most part, wanted little to do with this emerging area distance education. Today, campuses are advocating mainstreaming and providing seamless education, with or without technology, and distance education practitioners can't seem to take "yes" for an answer. (Green, 1997). We in this field possibly suffer from a type of academic schizophrenia when we ruminate with our 'traditional" colleagues in that we want to be accepted and yet judged as fundamentally different at the same time. We compete among ourselves on campus in trying to decide where distance education should be housed, while the main campus accelerates the integration of technology into all aspects of campus instruction. How will we know when distance education has "arrived"? In response to that question, this sentiment is often heard that when we do not call it distance education anymore, we can feel relieved. Education is education, regardless of how, where, when, and at what pace it is delivered." Are we truly a profession or simply trying to justify our existence along the continuum of a highly "compartmentalized" higher education system? Or is distance education an area that should be discipline specific?

Topic 3: What is the Role of Distance Education in Academia?

Given its existing definition, distance education hardly sounds controversial, yet it is. Advances in global digital communications and increasingly sophisticated learning technologies are expanding distance education options and, as such, are contributing to the rise of emerging competitors to traditional institutions of higher education. According to data released in 2001 by the National Center for Educational Statistics (NCES) , 90 percent of public 2-year and 89 percent of public four-year institutions offered distance education courses, yet about half of the institutions that offered distance education courses offered 30 or fewer courses.

If we take this a step further, the question that emerges is how much competition is enough competition? Today, institutions that want to be considered "progressive" and "mainstream" feel the need to get into the distance education game. It should be remembered that in the United States we have fifty states developing and implementing broad-based educational policy. Add up the institutions, public and private, in each state and the landscape gets pretty saturated. Duplication runs rampant and the fact of the matter is higher education doesn't know how to collaborate in the broader context around distance education, and so we seldom stop long enough to ask how can we build strong state and regional partnerships that increase access and reduce duplication with technology? More often that not, going it alone has been the motto for institutions engaged in distance learning, and this is certainly not a very sound approach in an era of limited economic resources to higher education.

Some of the controversy stems from distance education's impact on the more than three thousand traditional higher education institutions in this country. To assume, however, that competition is the only issue raising concern when it comes to distance education is to be naïve. Yet, we should question how we can promote access and how to view competition by distance education as an opportunity and not a threat. Distance learning technologies are influencing higher education's landscape in the 21st century in more ways than just creating additional institutions or expanding the markets of existing ones. But in what ways?

Will we look back in 100 years and see with the clairvoyance that "predicting the past" provides that distance education was "wolf in sheep's clothing" if you would, calling some fundamental assumptions about higher education into question for the first time since the evolution of modern universities in the 12th century.

If distance education has a basic responsibility and built-in asset off expanding instructional options, then accreditation is a looming issue. Should it be? Accreditation may not seem a pressing research issue for distance education, but formally accrediting an institution should raise some basic questions– should distance education programs be accredited according to the same process as traditional programs, and, perhaps even more fundamentally, what is the purpose of accreditation and does that purpose have some sort of a relationship with existing and future distance education programs? Is a blended accreditation approach that examines distance education within the broader institutional contexts needed? If Plato's Academy was to be resurrected and made available to the world vis-à-vis distance education, would it be appropriate to ask questions, such as where did Aristotle or Socrates attain their terminal degrees? Or could a Bill Gates type personality claim, simply by virtue of his accomplishments and overwhelming resources, to be the new harbinger of education to the huddled masses?

Topic 4: Who Are Our Students and Why Do They Come?

Pressure for change in universities is not solely linked to emerging competitors to traditional institutions. A national survey on what the adult public wants from higher education (Dillman et al., 1995) concluded that:

1. Higher demand for lifelong education and training means that colleges and universities have many more potential customers than in the past.
2. Distance education methods offer one means of meeting the demand for lifelong learning.
3. Colleges and universities must change how they do business to meet the needs of lifelong learners.

Most of the adult public is not going to attend traditional institutions with mostly residential students. Pressure for access to education is, in some respects, coming from the masses and some restructuring is needed. Policy-makers and administrators, both on campuses and in the political arena, often lack an understanding of what constitutes quality in distance education. How can distance education meet the needs of a diverse and dispersed population? And how do we inform and share knowledge of best practices with those who implement policies?

But once the doors are thrown open to all who want to attend college, who will these people be? A significant proportion of existing resources on a typical land grant college is dedicated to helping new students make the transition from high school, or the military, etc. to an essentially sequestered campus environment. Do distance education students require a transition to the virtual campus? To even answer such a question, we need to know what a typical distance education student looks like. Furthermore, to effectively understand the distance education learner and ways to design appropriate learning environments to facilitate their learning, we need more research and to obtain more insights from practice. While a "typical" distance education student has been described as a non-traditional, older student, that definition is rapidly evolving. Who will be the students who swell the numbers of the virtual hallways? How are we preparing for them? Does the traditional "Welcome Week" model fit?

Topic 5: What Is the Role of the Distance Learning Instructor?

Faculty at traditional institutions know how to teach in face-to-face settings and often value the human, real-time interaction as the most important variable in their teaching equation. Many of these faculty may use technology to enhance student learning, but they see it as a tool that augments classroom-based instruction. Why is real-time, face to face interaction viewed as fundamental to the act of teaching? What is it about seeing faces and watching body cues that make some teachers so sure they have to be in the same physical space as their students? Are we intrigued by the possibility of classroom spontaneity and interactions? If good teachers according to Palmer "join self and subject and students in the fabric life" (p. 11), do we think that such connectedness is restricted to real-time experiences? As Aristotle wrote,

"Teaching is the highest form of understanding" and so it behooves us to question what are the various paths that exist to help us reach that highest form.

Topic 6: What is the Role of the Technology?

We also have to question whether we are discussing teaching strategies or communication skills and while it may be hard to directly separate these two activities, we should be able to discern some fundamental differences. Some virtual campuses are already replicating the "teacher of the year" award for distinguished faculty. When artificial intelligence, coupled with the holodeck, makes it possible for distance education students worldwide to view a debate between Pericles and Winston Churchill over the dilemmas of democracy, will it make sense to present such distinctions as exceptional merit to faculty for arranging such a debate? While this question may seem too far fetched at this time, note that Hollywood is already wrestling with the question of who will be the first CGI character to receive an Oscar, and is a character such as Gollum of Lord of the Rings fame worthy of the traditional token of highest achievement in the film industry?

In short, where do you draw the line on replicating many of the unchallenged assumptions of traditional institutions? While this again may not strike the reader as a burning topic for research, it does not diminish the need for a studied examination of much of the protocol that is currently taken for granted in traditional settings and is being ported "en masse" to a distance education environment.

Research Issues

In the remainder of this brief treatise, we would like to address the nature of research in general, and raise a few questions of some possible shifts in focus and even methodology in order to examine some of the questions we raised. We want to raise issues so that distance learning researchers can overcome traditional faults of educational research. David Wiley claims that there are three reasons why educational research has made little impact: it is just plain bad, poorly done, or it doesn't matter (p.55).

When Francis Bacon laid the basis for modern scientific inquiry in his Novum Organum, he established the model that enabled a veritable explosion in both quality and quantity of Western knowledge of the external world. This model is very much with us today and is taught to every youngster in middle school (and now even earlier according to the new Texas Essential Knowledge and Skills guidelines) as the "scientific method." We ask quite simply, is that model appropriate for research into matters pertaining to distance education?

Take a moment to actually meditate on the last five years and think about the rate of change in technology and distance education. It can take your virtual breath away. Will we ever be able to reach equilibrium by achieving a knowledge level? Change occurs so quickly and we are left to wonder, do we know enough. We in this field have no choice but to embrace this change and realize it is evolving at an increasing rate. Traditional research and reporting methods currently slow down our knowledge dissemination and assimilation. While this pregnant pause in the process of knowledge acquisition and dissemination may be appropriate in the field of cutting-edge pharmaceuticals for example, is it appropriate for our field? Here is a brief list of some of the aspects of the current status quo and the existing research model with which we see a distinct possibility for a conflict.

- Technology and techniques for distance education are, and will remain, in a constant state of change.
- The traditional research model, by its very design, has large lags between exploration and sharing of information to wider audience.
- Traditional research papers are written with the intention of having a "shelf-life," but even in more conventional areas of research, much of what is written for eventual publication expires before the paper is ever made public.
- Contexts for distance education are by very definition quite varied. This diversity causes two on-going problems when one resorts to the traditional forms of research:
    1. quantitative studies invariably will lack generalizability to different contexts, and

2. qualitative studies, while capable of producing significant amounts of valuable information, tend to be so focused that the results of such studies rarely match the situation in which "you" reside.

We suggest, then, an essentially a new goal for research in distance education– we should strive to influence practice, not to create seminal works. That is not to say that we shouldn't be engaging faculty in scholarly research on teaching via technology. But if we clarify our notion in another way, the questions we have raised may not have, and may never have, definitive answers, but will need to be addressed and assessed in an iterative manner. There will be an immediate benefit to this change in the basic goal of research in topics near and dear to the distance education community. If the research we do is to have any benefit at all to ourselves and to the learners of our community, we must place it in the hands of the practitioners in as short a time period as possible, and in a format that can be used rather than posited for further theoretical discussion. Such a research perspective essentially says that the traditional, prescriptive, "one-best-system" should be dropped in favor or providing multiple points of view based upon "best-practices" and "case-studies". In a word, we should stop trying to be like the hard sciences. They're hard enough as it is. And we are viable enough as we are to use our own appropriate methodologies. All of this does not suggest that faculty should not engage in scholarly research, but rather, that the research generated needs to advance the field and influence practice.

In this research paradigm we are proposing, peer review becomes much more important and should have broader reach to include the traditional, recognized experts (defining what they say is 'good') but also, and more importantly, include practitioners (defining what they say is plausible and actually 'works'). You see, we are faced with an enigma in our own field -- the technology and techniques of developing and delivering distance education have changed significantly, but the technology and techniques of reporting research on distance education have not changed significantly. By analogy, we are still looking to the newspapers for descriptions of events that FOX news broadcasted in real time.

Whatever research agenda our community develops and nurtures, we recommend the following three tenets be seriously mulled over for inclusion in any research endeavor:

1. The objectives of research methods should always include
    1. decreased "time-to-market" while maintaining quality – i.e. better, faster, cheaper
    2. embrace the fluid nature of the technology and the techniques
2. There should be a basic "shift in focus" that
    1. embraces the diversity of distance education techniques and technology
    2. emphasizes smaller studies (case studies) from broader audiences. These case studies should restrict the format and even the language that is used so as not to replicate the existing dichotomy between those who actually read and conduct research, and those who stand to benefit from it. There will undoubtedly be a loss in richness, but a concomitant increase in applicability.
    3. a clearing house, or catalog, of an ever increasing number of case studies with cross-referenced indexes to simplify search by practitioners.
    4. a philosophy of localized expertise, but globalized access. Knowledge domains should be non-authoritative (reports, quotes, applications) and authoritative (the researcher, developers). See the Domain Name Service (DNS) model for an example
3. A willingness to explore failure
    1. the ability to critically scrutinize distance education endeavors helps to illuminate successes and failures.
    2. sharing failures is essential to expanding our understanding because knowing what hasn't worked is just as important as knowing what has worked.

Closing Thoughts

In summary, we would like to see our field propose a widely accepted agenda of topics for distance education, acknowledging up front that these topics cannot and will not be "conquered" by research, but instead become better understood. We propose a significantly altered research paradigm for distance education research, one that emphasizes meaningful productivity by and for practitioners. And we propose

expanding the boundaries of both what constitute a researcher in distance education, and the criteria for what constitutes "good" research. If interaction is critical in the teaching process, it is equally important in the evolution of a profession. Your thoughts and comments are more than welcome to help create a new agenda.

We end as the Old Testament does, with a curse and yet a promise. Michael Hannafin warned 15 years ago that the entire field of instructional technology runs the risk of losing its own identity because it cannot find the clarity necessary to create and sustain a research agenda (Anglin, 1995). Robert Heinich echoed this call by saying that the proper role of research in educational technology should not about education, but about the proper application of the technology. We run the very real risk of relinquishing our field to either "technocrats" or being completely subsumed into another discipline. Let us hope for and work towards a future in which, 100 years hence, we know from whither we cometh, and where we are bound.

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