Volume 20, No. 1 – Winter 2007

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MID-WESTERN EDUCATIONAL RESEARCHER

• Official Publication of the Mid-Western Educational Research Association •

DePaul University—Lincoln Park Campus; Home of the LINK-INitiative

On The Cover—DePaul University's School of Education LINK-INitiative

DePaul University is the largest Catholic university in the United States. More than 23,000 students who reflect a broad range of ethnic, religious, geographic and economic backgrounds attend DePaul. The university, which offers courses at six campuses throughout Chicago and its suburbs, is comprised of eight schools and colleges.

The School of Education was established in 1962 to offer students from diverse backgrounds high-quality teacher preparation skills at the graduate and undergraduate levels. Its programs are guided by a conceptual framework that prepares urban, professional, multicultural educators to bring knowledge and understanding to their roles as educators.

A signature of the School of Education's teacher preparation is its community collaborations. It currently partners with teachers and administrators in six public and private elementary and secondary professional development schools in Chicago. The partnership offers DePaul students the opportunity to engage in research-based clinical practice in classrooms while providing professional development support to practicing teachers and administrators.

Another key community partnership is the School of Education's LINK-INitiative Professional Development School Network. Launched in 2003, the program represents a unique model of teacher education that transcends traditional approaches to teacher preparation. It involves a more cohesive induction, preparation and inquiry approach to education that involves Chicago area elementary and high schools. The schools become an integral part of the teacher education program at DePaul and DePaul becomes an integral part of the school environment.

The initiative, which is supported by the Searle Funds at the Chicago Community Trust, also draws on DePaul faculty expertise to create professional learning communities focused on improved pupil learning. The program's unique structure links all stakeholders including education, liberal arts and sciences and music faculty from DePaul; teachers from the partnering schools, principals and parents. Its activities support and encourage research, best practice teacher professional development and school improvement.

Call for Manuscripts

The ***Mid-Western Educational Researcher*** is a scholarly journal that publishes research-based articles addressing a full range of educational issues. The journal also publishes literature reviews, theoretical and methodological discussions that make an original contribution to the research literature, and feature columns. There are four issues of the journal published annually.

The journal is accepting manuscripts for review and possible publication. Manuscripts are submitted to blind reviews by three researchers with knowledge of the literature in the appropriate area. The editors will review the manuscript and make the final decision. The review process requires approximately four months.

Manuscripts are accepted from faculty, students, and professionals working in educational or non-educational settings. Membership in the MWERA is not required in order to submit a manuscript for review. The editors encourage the submission of revised papers that have been presented at the annual meetings of the MWERA, AERA, and other professional organizations.

Manuscripts may be submitted for review electronically. Submit the manuscript to Deborah Bainer Jenkins, Co-Editor, at mer@westga.edu as an email attachment. Indicate in the subject line that this is a MWERJ manuscript. Manuscript should be formatted as a MS Word document using 12 point Times New Roman font. Manuscripts should conform to the style and format described in the *Publication Manual of the American Psychological Association, 5th edition*. All manuscripts should be typed, double-spaced, with 1 ½ inch margins on all sides, and contain page numbers. An abstract of less than 100 words should accompany the manuscript. The author's name, contact information, and affiliation should appear on the title page only. Submissions typically are less than 20 pages in length, including references, title page, and abstract.

All manuscripts will be acknowledged electronically upon receipt. Please note that authors are responsible to submit manuscripts that are free of grammatical and mechanical errors. Manuscripts will be initially screened for format and fit for the journal by the editors. Appropriate manuscripts will be submitted to blind review. The editors reserve the right to make minor modifications in order to produce a more concise and clear article. Contributors acknowledge by virtue of their submission to the journal that they will consent to have their work available internationally through the EBSCO portal, as part of an agreement with the MWERA.

Questions regarding the journal should be directed to the co-editors listed below.

Deborah Bainer Jenkins, Ph.D.
Professor & Interim Chair
University of West Georgia
109 Row Hall
Carrollton, GA 30118
678-839-6181
mer@westga.edu

Adrian Rodgers, Ph.D.
Assistant Professor
The Ohio State University at Newark
1179 University Drive
Newark, OH 43055
740-366-9261
rodgers.50@osu.edu

The *Mid-Western Educational Researcher* (ISSN 1056-3997) is published quarterly
by the MidWestern Educational Research Association through The Ohio State University.
The Summer issue serves as the annual meeting program. Non-profit postage paid at Columbus, Ohio,
with permission of the College of Education and Human Ecology, David Andrews, Dean.
POSTMASTER: Send address change to Jean W. Pierce, Dept. EPCSE, Northern Illinois University, DeKalb, IL 60115.

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Volume 20, Number 1 · Winter 2007 ISSN 1056-3997

MWER Publication Address

Deborah Bainer Jenkins
University of West Georgia
109 Row Hall
Carrollton, GA 30118
Phone: (678) 839-6181
e-mail: mer@westga.edu

MWER Subscription & MWERA Membership Information

Jean W. Pierce
LEPF Department
Northern Illinois University
DeKalb, IL 60115
Phone: (815) 753-8470
Fax: (815) 753-8750
e-mail: jpierce@niu.edu

Reflections on MWERA 2006: Teaching and Researching in an Electronic Era

Craig A. Mertler, MWERA Program Chair
Bowling Green State University

I am writing this reflection one week after our 2006 Annual Meeting. I must admit that, in my opinion, this year's theme—*Teaching and Researching in an Electronic Era*—seemed to work very effectively. In addition to our Thursday and Friday Keynote Addresses and the Presidential Address, 43 additional presentations dealt in some way with the topic of technology across education. This figure represented approximately one-fourth of all accepted proposals. While it is impossible for everyone's research agendas to "fit" a given conference theme, I would like to thank our membership for contributing so strongly to this year's theme.

Dr. Ron Owston of York University in Toronto kicked off our Annual Meeting with his Fireside Chat and Thursday Keynote Address, where he discussed the impact of the World Wide Web on instruction and learning. He shared with us the vision of Sir Tim Berners-Lee, developer of the Web and "author" of the first-ever website—that it serve as "an information space through which people can communicate…by sharing their knowledge in a pool" and that the Web should *not* be "a big browsing medium," nor "a glorified television channel." As we examine the multitude of uses for the Web, I believe that all of his visions—the good, the bad, and the ugly—have certainly come to fruition! As an aside, how interesting was it for us to learn that Berners-Lee's original presentation of his "research" was presented as a poster!

As educators, the Web has had an impact on all of us, in terms of what we do and how we do it. However, I believe that it is crucial to remember that Web browsers have only been with us since 1993—a mere 16 years! We simply do not have that much information about teaching and learning with the Web. Dr. Owston posed three questions, possible answers, and follow-up questions, to the audience:

1. What are the *inequalities of access to learning* and can they be overcome? We don't need more research on the access gap itself, but we need strategies and programs to overcome the gap which should then be evaluated.
2. What do we know about *costs of learning* with the Web? Cost-effectiveness studies have not yielded very convincing results. However, one thing we do know is that hardware costs have plummeted, especially with the advent of the $100 computer.
3. What about *improved learning*? What is needed is not more research comparing the Web with face-to-face learning, but to study ways of designing Web-based learning in order to maximize its relative benefits.

Of course, the issue of "digital natives" versus "digital immigrants" will certainly begin to play an important role in these issues, as Rodney Greer also discussed at length in his Presidential Address. Related to this notion, Dr. Owston concluded his presentation with a substantial challenge: How to make classroom learning as engaging as games. Of course, this is all too relative. My idea of video games includes Space Invaders and PacMan (I realize I'm now divulging my age!)…which would undoubtedly bore today's youth to tears!!

In his Friday Keynote Address, Dr. Fred Conrad, of the University of Michigan's Institute for Social Research followed up on Dr. Owston's notion of various uses for the Web. He focused on the interactive capabilities of the Web when used for the collection of data, specifically resulting from Web-based surveys. A multitude of interesting issues arose during his presentation, including various formats for progress indicators during survey completion as well as the accuracy and timing of those indicators, keep the inclusion of definitions for respondents (and the various formats that can be used to provide these definitions), and the use of computer-generated human interface technology (how many of us logged on to Ikea's Web site to pose a question to Anna in the week or two following our conference!? C'mon…be honest!).

Dr. Conrad's discussion of the impact of different forms of survey completion progress indicators, the effectiveness of various forms of respondent-initiated definitions (and the relative amount of "work" required of respondents to access those definitions), and the notion of a respondent's *in*activity that prompts an action by the survey itself shed an entirely new light on Web-based surveys. His address really brought to the forefront some cutting-edge technology and advances resulting from his research, in the area of Web-based surveys. It truly seems that Web surveys, due to their interactive nature, are somewhat akin to a "self-administered interview," in that they combine the best features of an interview and a self-administered survey.

Rodney Greer (along with his colleague Dr. Lance Ternasky) touched on many issues raised by our Keynote Speakers during his Presidential Address. He discussed the changing face of instructor–student and student–student communications—or was it the changing "faces" of students, nowadays often blocked from their instructors by their laptop screens! I truly found Rodney's discussion of "digital natives" and "digital immigrants" to be very intriguing. That discussion has already encouraged me to look at my undergraduate students a bit differently over the past week than I had in the past.

These individuals touched on so many issues critical to "teaching and researching in an electronic era." I know that, from a personal perspective, they provided me with so

much to contemplate—e.g., how to more effectively integrate technology into my instruction, how to "engage and not enrage" our students, and how to redesign and redirect the focus of my work in survey methodology. I came away with so many ideas! I only hope that the 2006 Annual Meeting of the Mid-Western Educational Research Association had a similar impact on those of you who attended.

Let me close by stating an obvious fact, followed by a perhaps not-so-obvious fact. Clearly, serving as Program Chair was a great deal of work to which any of my predecessors can attest. At the same time, however, I can honestly say that it has been one of *the* most gratifying experiences of my career thus far in academia! MWERA continues to be a fabulous organization filled with great people! Let's carry on this 30-year trend by continuing to support our organization and participating in our 2007 Annual Meeting in St. Louis! See you there!

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2006 MWERA Keynote Address

The World Wide Web Revisited

Ron Owston
York University

Nearly a decade ago I wrote in *Educational Researcher* one of the first widely cited academic articles about the educational role of the Web (Owston, 1997). I argued that before educators rush into adopting it we must be able to demonstrate that the Web (1) can increase access to learning, (2) must not result in higher costs for learning, and (3) can lead to improved learning. These criteria seemed to make sense in 1996 when I wrote the article and the Web was new to most of our educational institutions. Where are we today with respect to meeting these criteria? What progress have we made toward achieving them? Are they still relevant? What new research does the educational community need about the Web? These are the questions that I am going to address today. Before doing so, I think it would be helpful to look back briefly at the history of the Web as it relates to teaching and learning.

The Rise of the Web

While working at the European Particle Physics Laboratory at Geneva, Switzerland, Sir Tim Berners-Lee came up with the idea of the Web. He wrote the protocols for it in 1989, circulated them among colleagues for comment, and launched his first Web site in August, 1991, (a copy of which can still be viewed at http://www.w3.org/History/19921103-hypertext/hypertext/WWW/TheProject.html). Berners-Lee's goal was to develop a tool that would allow the laboratory "to much more efficiently use people who came and went, use student work, and use people working remotely." Interestingly, Berners-Lee felt that the Web should not be "a big browsing medium," nor "a glorified television channel." Instead, his vision was that it would be "an information space through which people can communicate…by sharing their knowledge in a pool" (Berners-Lee, 1999). Therefore, it is encouraging to look back and see that he first conceived of the Web as a learning tool.

The Web caught on very quickly in the academic world as a tool for sharing information; however, it was not until the development of the Web browser *Mosaic* in 1993, which permitted the display of graphics, that a significant number of educators began to see its possibilities for teaching and learning. A year later the soon-to-be popular Netscape browser emerged, and by the mid 1990s Web-based courses aimed at university, college, and high school students began to spring up around the world almost overnight. Early courses were largely text-based with a limited amount of graphical images because dial-up connections to the Internet were slow. As the dial up technology improved and high speed access became more prevalent around the turn of the century course developers began integrating more graphics, animation, sound, and video into their courses. Growth was aided by the development of course management systems—WebCT being one of the first—that simplify the process of putting course materials online. According to a recent survey by the Sloan Consortium (2005), nearly two thirds of undergraduate and over a quarter of graduate degree programs in institutions of higher education in the U.S. now offer Web-based courses. Numerous courses are available on the Web for public school students as well, offered by school districts, state educational authorities, and non-profit and for-profit organizations.

The impact the Web is having on young people today was totally unanticipated by Berners-Lee. The Web and digital technology more generally spawned a new generation of youth and young adults—those who do not know a world without this technology as they were born into it. Referred to as the Net Generation (Tapscott, 1998; Oblinger & Oblinger, 2005) or Digital Natives (Prensky, 2006), this generation is in our public schools today and they are now entering our colleges and universities. Prensky draws a distinction between this generation and those born before the digital revolution, a group he calls Digital Immigrants that includes the vast majority of teachers. He describes how Digital Natives do so many things differently: communicate, share, buy and sell, exchange, create, meet, coordinate, evaluate, play games, learn, evolve, search, analyze, report, program digital devices, socialize, and grow up. Digital Immigrants can—and do well—many of the same things as Digital Natives, but what distinguishes Digital Natives is that they do all of these things so intuitively and are constantly inventing new ways of using technology for almost every activity in their lives. Prensky goes as far as to suggest that Digital Natives actually *think differently* based on his observation of young people and on what recent research says about the brain continually reorganizing itself in response to various kinds of stimuli, a process called neuroplasticity. Others have reported the same phenomenon as well. For example, John Seely-Brown, Chief Scientist at Xerox and director of its Palo Alto Research Center, who hired young students to design future work and learning environments, observed how students think in ways alien to his own generation in designing projects (Seely-Brown, 2002). The implications of Prensky's hypothesis are immense if it is borne out by further research. Schools will have to fundamentally change the way learning is organized or risk alienating an entire generation of students.

The mainstream educational research community took some time to recognize the potential of the Web as a learning tool and its impact on learners. My article in *Educational Researcher* published in March 1997 was the first in a journal

sponsored by the American Educational Research Association to deal specifically with the Web. An earlier article by Burbules and Bruce (1995) discussed publishing on the Web and another by Blumenfeld, Marx, Soloway, and Krajcik (1996) mentioned the Web in passing as a tool to support collaborative communities. Because of its newness, the editor of my article asked me to give a definition of the Web as well as illustrate what a Web address is like! The topic did not appear at all in AERA's flagship journal, the *American Educational Research Journal,* until 2000. That is not to say that other researchers were not studying or discussing the potential of the Web: a full text search of ERIC up until the end of 1996 revealed that "World Wide Web" was mentioned 471 times in various contexts either as a central focus or in passing. To set this in context, the terms computers or microcomputers appeared nearly 30,000 times during the same period. I do not wish to belabor this, but merely want to emphasize that when discussing the Web we are talking about a rapidly evolving phenomenon that has been researched from the perspective of teaching and learning for only about ten years. Therefore, it is not surprising that we know so little about the Web's educational value.

Access to Learning

Now let us take a look at my first criterion about access to learning. My intention here was to ask whether the Web could provide people with opportunities to learn which they otherwise would not have. That is, does the Web allow people to access learning who could not attend face-to-face classes due to work, finances, distance, or other barriers? I think the case is very clear here: the Web has opened the door to learning in the last ten years for people to study any time and in any place. There are close to 3 million people in the U.S. taking Web courses in a wide range of subjects in higher education today, which accounts for about one-fifth of the total student population in higher education in the country. Moreover, online enrolment appears to be growing 20% annually whereas the total annual population growth in the higher education system is about 1.5% (Sloan, 2005).

Up-to-date surveys of high school enrolments are harder to come by. The most recent statistics showed that in 2002–03 there were an estimated 328,000 enrollments in distance education courses among students regularly enrolled in U.S. public schools (Setzer & Lewis, 2005). Undoubtedly, these enrolments are significantly higher today, possibly doubled, and they do not include adults taking high school equivalency courses nor private schools. I will give three examples to illustrate the scope of what is happening in K-12. First, perhaps the best known and most studied is the Virtual High School (http://www.govhs.org) which enrolls over 7500 students per year. Students can take accredited courses in most high school subject areas and the school offers Advanced Placement and Pre-Advanced Placement courses. A second example is the Florida Virtual School (http://www.flvs.net/) that offers over 80 courses for grades 6 to 12 and enrolled more than 31,000 students during the 2005-06 school year. Third is the Michigan Virtual High School (http://www.mivhs.org/), one of the largest online high schools in the U.S., which since its inception in 2000 has had over 23,000 course enrolments and served more than 125,000 students. This school does not grant credit directly but works in conjunction with school districts to award credit and diplomas.

At the time of writing my article the issue of technology *haves* and *have nots* or what is now called the *digital divide* did not receive much attention. In fact, the term digital divide appears only once in the ERIC database prior to 1997. This occurrence was in the report *Connecting Children to the Future: A Telecommunications Policy Guide for Child Advocates* (1996) which drew attention to the widening gap of access to technology by children based on parental income. Subsequent research has explored various other socio-economic dimension of the problem such as age, education level, gender, race, and area of residence. In addition, comparisons have been made between developed versus less developed countries, on quality of technology available to users, and on the speed of Internet access. Some of the gaps identified earlier on appear to have closed. For instance, access to the Internet in schools and universities is now nearly universal in North America. Across the population more generally, a 2006 survey from the Pew Internet and American Life Project (2006) shows that 73% of American adults (age 18+) go online to use the Internet or email, which suggests that the Web is on its way to becoming as ubiquitous as the telephone and television. (The figures for Canada are slightly lower: see http://www.statcan.ca/Daily/English/060815/d060815b.htm.) The study also found that 74% of white adults go online, compared to 61% of African American adults, and 76% of English-speaking Hispanics. These statistics suggest that the digital divide based on race does not seem to be as serious a problem as it once was, although there is some cause for concern for non-English speaking Hispanics who may not be accessing the Internet at the same rate as English-speaking ones are. The access gap based on income is much larger and still a cause for concern: only 53% of adults living in households with less than $30,000 in annual income go online compared to 91% of adults living in households earning more than $75,000. Therefore, my criterion of access needs to be defined not about the notion of simply access to learning, but it needs to ask the question "What are the inequalities of access to learning and how can each one be overcome?" This is a challenge that public policymakers need to address. One way to address this problem may be to set up programs that provide subsidized Internet access for low income citizens as is done now with telephone service in some jurisdictions.

Costs of the Web

Ten years ago few educational institutions included costs for faculty or student computers in their base budgets let alone budgeting for online learning technology infrastructure costs. They tended to rely on one time only budget allocations or donations. Hence, I raised the issue of whether we can introduce Web-based learning without substantially

increasing our budgets. Much has changed since then with budgets for technology routinely included and seen as essential expenditures in almost all educational organizations. Without a doubt, expenditures on technology for online learning have increased in the last decade, but equally as important is that more and more institutions see online learning as part of their mission. Sloan reports that in 2005, 56% of higher education institutions considered online learning to be a critical long-term strategy; this is up from 46% in 2003 (Sloan, 2005). Additionally, according to a survey done by EDUCAUSE of 890 higher education institutions over 90% of those institutions reported that they use a course management system (http://www.educause.edu/ir/library/pdf/pub8002e.pdf). Only 1.2% said that they do not use one and have no plans to do so while the remaining 8.8% are in the process of reviewing their options or adopting one. Therefore, the basic infrastructure for Web-based learning appears to be in place in higher education at least.

Studies on cost effectiveness of online learning compared to face-to-face classes have not yielded very convincing results because of the complexity in gathering costing data. The exception to this is the work of Carol Twigg who has advocated that the most cost effective approach in higher education is to put online the dozen or two large undergraduate courses that typically make up about one percent of an institution's enrolment (Twigg, 2003). Twigg's Program in Course Redesign (http://www.center.rpi.edu/PCR.htm) studied the outcomes of 30 colleges and universities that received funding to restructure their courses using technology in a variety of ways. The restructuring ranged from using technology to supplement lectures with some out-of-class technology activity through to making courses fully online. The research showed that per student cost savings averaged 41% when comparing the traditional format of the course to the redesigned format incorporating technology. Institutions realized cost savings by freeing up faculty to teach other courses, eliminating adjunct faculty, serving more students with the course, or decreasing faculty workload for the course. Important to note was that the project only compared costs before and after redesign and the study did not include development costs, nor infrastructure and equipment costs as they were already in place. While generalizations cannot be made from this research, it nonetheless illustrates that online learning can reduce costs compared to face-to-face delivery, depending upon what assumptions you are willing to make.

During the last ten years the cost of computers has dropped significantly and their capabilities have increased dramatically. The $1000 computer remained an elusive goal for many years, but now that barrier has been broken and it is now possible to purchase powerful computers for $500. The new hurdle is now the $100 computer. Nicholas Negroponte and colleagues at the MIT Media Lab are in the process of developing a laptop computer for this price to "revolutionize how we educate the world's children… [and] … to provide children around the world with new opportunities to explore, experiment, and express themselves." (http://wiki.laptop.org/go/Home). The project is aimed particularly at less developed countries (LDCs) and the expectation is that governments and foundations would purchase large quantities of the machines for students. Large corporate donations are funding development costs and the United Nations Development Program will work with LDCs to implement extensive field trials.

Learning with the Web

I first began to investigate how Web-based learning affects achievement the year after publication of my article. My university, which traditionally offered a large number of undergraduate correspondence courses, began offering most of the same courses in Web-based format. Enrolment in the Web courses increased rapidly in the mid to late 1990s and faculty started raising questions about their academic rigor. I received funding by the university administration to do a study of achievement in these courses. My senior researcher and I compared final grades of students enrolled in all courses that were offered in three formats: (1) face-to-face lectures; (2) traditional correspondence courses that used mail, telephone, and print materials; and (3) fully online courses. Our findings were quite surprising. Students in Web courses (N = 1099) and face-to-face courses (N = 2467) scored significantly higher than their counterparts in correspondence courses (N = 2318) ($p < .001$ and $p < .01$ respectively), although no significant difference was found between Internet and in-class students. We decided to re-analyze the data by comparing only students with passing grades because according to the registrar's office, students rarely failed a course, they just did not complete the final exam and got an F grade. When we did the analysis we found that Web students achieved significantly higher than their face-to-face counterparts ($p < .001$), who in turn scored significantly higher grades than correspondence students ($p < .001$). Drop out rates were slightly higher for Web courses (11%) compared to face-to-face and correspondence (both 8%). Students also reported that taking a Web course was generally a very satisfying experience, with 73 percent saying they would recommend the course to their friends and 68 percent feeling that the course stimulated their interest in taking further courses in the discipline. (See Wideman & Owston, 1999, for details.)

Our study had a very small effect size of +.08. The effect size specifies the number of standard deviation units separating the outcome scores of treatment and control groups in a study. Generally effect sizes should be +.25 or more for the treatment to be considered educationally meaningful. Therefore, the strongest statement that we could make was that there was no educational difference between achievement of Web students and their face-to-face counterparts. Nevertheless, our findings were convincing enough to demonstrate to faculty who opposed Web courses that students were not suffering academically when they took them and as a result, debate on campus quieted down.

The findings of our study are consistent with most other studies that compare technology-based learning to traditional methods, namely that technology offers none to modest improvement in student performance. For example, Kulick (2003) summarized the effect sizes of technology in various subject areas reported in studies since 1990 and in reviews of studies published before then. He concluded that integrated learning systems (ILS) to teach reading make little or no difference in reading outcomes, but they produce small effects on math skills (+.40); word processors produced small effects on writing (+.30). Similarly, Kimitta and Davis (2004) who synthesized many of the meta-analyses in the literature conclude:

> Computer technologies generally have a positive effect on academic achievement. Within this finding there is great variance. On average, the strength of the correlation between computer technologies and student achievement varies from low to moderate. Most of the effect sizes range from .10 to .40. Rarely in the literature are there overtly strong relationships. (p. 326)

Robert Bernard and colleagues at Concordia University carried out an exhaustive meta-analysis of 232 studies on distance education (DE) between 1985 and 2002 to compare the effectiveness of DE and classroom instruction on student achievement as well as other variables (Bernard et al., 2004). There was a wide range of technologies and media used in the DE studies they examined, although many of them included the Web, discussion groups, or email. The authors concluded that there is a very small yet statistically significant effect favoring DE conditions (effect size = .01) on overall achievement outcomes, however the variability across studies was wide and significant. When they compared synchronous and asynchronous DE achievement to in-class environments, achievement results favored asynchronous DE slightly more (effect size = .05).

All of the studies cited above examined course grades or other traditional outcome measures. Thus, there seems to be mounting evidence that when assessing Web-based learning in general with these kinds of measures we are unlikely to see any educationally significant advantage of the Web over traditional ways of teaching and learning. Undoubtedly, there will be specific implementations of Web-based learning that work exceptionally well and those that do not, so our goal should be to identify these and discontinue simple comparative studies.

Future Research Directions

So where does that leave us today with respect to my three criteria? First, I would surmise that the Web has met expectations in terms of providing more opportunities to access learning than before. However, we still need to address the issue of the digital divide, not so much by more general research, but by implementing and assessing specific programs designed to close the access gap particularly across income levels. I do not think that we need more studies on the cost effectiveness of the Web as a teaching and learning tool. The Web is here with us and is ubiquitous; the justification for using it will likely not be on cost, but on educational grounds (except perhaps in corporate training where travel costs to attend courses is a significant factor for physically diversified companies). As for improved learning, the third issue, we saw above that the Web cannot be strongly rationalized on that basis either, so continued research comparing Web-based courses to traditional face-to-face classes is no longer productive. I believe what is now needed is a research agenda that examines various ways of organizing instruction using the Web and how the many new technologies that the Web has given rise to can be used for teaching and learning with the net savvy generation in our schools. I will summarize some of my thoughts on these topics next.

Blended Learning. A trend that has become popular in the last several years is to integrate traditional face-to-face instruction with Web-based learning. Known as blended or sometimes hybrid learning, this method of organizing courses is gaining ground on many campuses due to disenchantment with the lack of personal interaction among faculty and students in fully online courses. Moreover, it appeals to faculty because blended learning courses require less expertise and resources to mount than fully online courses, and students like the approach because of the flexibility it provides in their study schedules. Blended learning is not seen by most scholars in the field as something added on to an existing course, but as a thoughtful restructuring of a course that moves tasks and activities to the Web that may be more effectively handled there, and retaining those activities for the classroom that require interaction and dialogue. (See Bonk & Graham, 2006, for a recent thorough discussion of blended learning and how it is being implemented around the world.)

Most outcomes research on blended learning has been carried out at the undergraduate level, where it tends to show that blended learning has some distinct advantages for students over traditional lectures and fully online courses. Twigg (2003) reported that student learning improved in 20 of the 30 courses she studied compared to the former versions of the courses, while the rest showed no significant difference. The University of Central Florida's extensive experience with blended learning suggests that on average, blended courses consistently have higher success rates and lower withdrawal rates than their comparable face-to-face courses and fully online courses (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006), a finding also supported by Twigg (2003). Additionally, the majority of faculty teaching in those courses at the University of Central Florida indicated that more and higher quality interaction occurred in their blended courses than in their comparable face-to-face sections. In a study I led of eight Canadian universities using blended learning, students reported that they liked blended learning because it provides scheduling flexibility and varied learning opportunities, while maintaining traditional classroom experiences such as in-class discussion (Owston, Garrison, & Cook, 2006). Both faculty and students in the study felt that the online component of blended

learning encouraged the development of critical thinking skills, and faculty found that they got to know their students better as individuals in blended courses than they would have in traditional lectures. Additionally, we found high levels of student and faculty satisfaction with their blended course experiences. What we need now is research that focuses on the pedagogy of blended learning and the technology employed. Pedagogical research needs to consider such issues as the nature of the activities best suited for online and face-to-face interaction, the appropriate balance between the two instructional modes for particular kinds of courses, creation and maintenance of a sense of community among students, and whether there are some course subject areas where blended learning is more appropriate than others. As for the technology itself, research is needed to look at how existing tools such as course management systems, with what many consider to have serious pedagogical limitations, can be adapted to blended learning, and studies need to be done on how new tools such as the ones I describe next can be integrated into the blended learning experience.

Participatory Web Tools. A new generation of Web-based tools has emerged over the past few years that allow people to create, share, modify, augment, and comment on content as well as socialize with others having the same interests. Some use the term Web 2.0 to set apart this generation of tools with those that preceded them; others call it the Read/Write Web or the social Web. I prefer the term Participatory Web as I believe it has more of an intuitive meaning. Simply put the previous generation of Websites was passive, but this generation allows users to actively participate with others and contribute to the Web. The tools that are part of the Participatory Web are already well known to students in our schools, but not so well know by the rest of us. They include *wikis* (a collaborative Webspace where users can create and edit content, *blogs* (easily updateable Websites used for personal diaries), and *audio/video casting* (downloading and uploading audio or video files). The Web sites that represent the Participatory Web include:

- *Flickr*: a site that allows sharing photos publicly, privately, or in special interest groups; commenting on your own or other's photos; and organizing photos.
- *MySpace*: one of the most popular Websites in the U.S. and one of the most visited in the world—a place for people to meet, make friends, share photos, chat, download music, and join discussion forms, to name only some of the activities at the site.
- *Del.icio.us*: a site where people share bookmarks to their favorite Websites and add commentary about the sites.
- *Wikipedia*: a wiki-based encyclopedia where anyone can make an entry on any topic or edit anyone else's entry.

There are far too many potential uses of these tools for teaching and learning for me to attempt a discussion here, so I refer you to the recent book *Blogs, wikis, podcasts, and other powerful tools for the classroom* (Richardson, 2006) that has a good description of these tools and their educational applications. Because of their newness, there is almost no research available on the pedagogical uses of these tools. Nevertheless, as Richardson points out, educators should understand and learn to use them because our students are using them outside of school and their underlying concepts define a significant new direction for the Web.

Serious Games. Although it might seem like an oxymoron, a new field of study is emerging that is usually referred to as serious game research. Two leaders in this field are Marc Prensky and James Paul Gee. Prensky, a game developer himself, presents a very compelling argument of why games are an engaging way for students to learn (Prensky, 2006). He makes the point that by the time students graduate from college they will have spent about 5000 hours reading but 10,000 hours playing games. Games can be an engaging and challenging tool that help young people learn successfully states Prensky, and it behooves us to bring gaming design principles into the classroom in the design of learning activities. Gee is an accomplished linguist who discovered the impact of games on learning later on in his career by observing his own child play commercial games and then playing them himself. In his book *What video games have to teach us about learning and literacy* (Gee, 2003), Gee documents 36 learning principles found in good games that are a far cry from the skill-drill-test routine prevalent in many classrooms today. Gee argues that educators need to give serious attention to these learning principles as they fit better with the needs of today's generation of students.

My colleagues and I are also involved in research on serious games. Several years ago we received funding from Canada's Social Sciences and Humanities Research Council to develop a research network to develop prototype games and simulations for learning and to study their impact on learners. Called Simulation and Advanced Gaming Environments (SAGE) for Learning, our network is making significant progress in developing this field of research. I am leading a team in SAGE that is developing the Virtual Usability Laboratory (http://VULab.ca), which we can use to record on our server screen interactions and audio of students playing games when they are in remote locations such as classrooms or laboratories. The tool also pops up pre- and post-game questions that the researcher sets up in advance. The videos and question answers obtained from the tool are then available for qualitative coding and analysis to discover design problems and usability issues. Another study I am leading is examining the effects on grade 4 students' literacy skill development when they do curriculum-related research and develop games to test their fellow students' skills (see http://www.gamestudy.ca). Students use a Web-based *game shell* that provides them with templates of popular board games such as Tic-Tac-Toe and Trivia into which they can enter questions based on their research on the curriculum topics. A SAGE researcher developed this shell which can be accessed at http://www.savie.qc.ca/carrefourjeux/an/accueil.htm/.

The field of serious game research is in its still in its infancy; so we need to do much work to understand better

how existing commercial games can be successfully used in the classroom and how the principles of game design can be incorporated into designing other kinds of Web-based learning activities.

Conclusion

The Web is one of the most extraordinary developments of modern society. Before our eyes, it is literally transforming the way we work, communicate, socialize, shop, do business, play, entertain ourselves, and learn. At the same time the Web is creating a myriad of research opportunities for both new researchers and those already established. I hope that my remarks will stimulate your interest in pursuing research on Web-based learning in some of the most promising areas that I outlined.

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2006 MWERA Keynote Address

Interactive Features of Web Surveys

Frederick G. Conrad
University of Michigan
University of Maryland

Educational researchers and policy makers have come to rely on data from sample surveys. Survey research on educational issues poses some special challenges. For example, the hierarchical sample designs in which teachers or students or principals may be sampled within schools which may themselves be sampled within counties which may themselves be sampled within states can be difficult and expensive to implement. However, in many respects the survey methodology issues in educational research are the same as those throughout the social and behavioral sciences. By in large these issues concern obtaining the best quality data for the lowest cost, whether quality pertains to representation, such as the degree to which the sample is a microcosm of the population, or measurement, such as the degree to which respondents' answers accurately reflect their circumstances or characteristics. A major factor in survey quality and cost is the mode of data collection, e.g., telephone interviews versus mailed paper questionnaires.

Telephone interviews are almost sure to be less expensive than face-to-face interviews but telephone interviews can only take place with people who have landline telephones. Those without any phones or "mobile-only" users are not included in the frames, or lists of phone numbers, available for selecting samples. In this paper, I discuss recent work on web surveys which is an important, emerging mode of data collection. My focus is on measurement issues in web surveys, in particular how the interactive character of the web can be exploited to promote better and more uniform understanding of survey questions, and can promote completion of questionnaires once respondents begin them.

Interactivity in web surveys

What do I mean by interactivity? Certainly a paper questionnaire is static and does not react to the respondent's actions, beyond revealing additional questions when the respondent turns the page. An interview, in contrast, is highly interactive because two animate people are conversing and each can react to how the other person behaves. For example, if the respondent does not provide an answer from the list of response choices, the interviewer can repeat the choices or repeat the question or, although it is a violation of most interviewing rules, the interviewer can choose the option that seems closest to what the respondent says. A questionnaire administered on the web is usually somewhere in between a self-administered paper form and an interview. For example, it can be a lot like a paper questionnaire if it is just a form into which respondents enter their choices. Alternatively, questionnaires on the web can be designed to react in many ways to what the respondent does. For example, once the respondent answers a question, the questionnaire can "grey out" the question; if a respondent's answers to a multi-part question must sum to a fixed amount (e.g., 24 hours or 100%), the questionnaire software can check that the answers do in fact add up to this total and alert the respondent if they do not; and the questionnaire can determine what question to display based on the respondent's answer to the previous question. This interactivity gives web questionnaires some of the character of an interview, even though they are self-administered, and allows us in principle to combine the best of interviewer- and self-administration. (More extensive discussions of the interactivity concept are provided by Kiousis, 2002, and McMillan & Hwang, 2002)

Of course interactivity comes about only if it is "designed into" the questionnaire. A web-based questionnaire is not interactive if, for example, it is designed as a single scrollable form in which the respondent answers all questions before submitting her answers. In other words, questionnaires are not interactive if there is no "back and forth" between respondent and system until the questionnaire is completed. One influential text (Dillman, 2000) has advocated designing web questionnaires so that they emulate their paper precursors: "Present each question in a conventional format similar to that normally used on paper self-administered questionnaires" (p. 379). Dillman's (2000) recommendation comes largely from his concern that web-specific features require more bandwidth and computational resources than are available to many users. While designers should certainly be sensitive to this, the kind of interactive features we are concerned with typically involve standard HTML code or small Java scripts that download and execute quickly. Moreover, by treating the web as if it were paper, one fails to capitalize on features that may potentially improve data quality.

We explore three types of interactivity here. In the first, the system displays progress information ("percent completed") on each page and updates this as each additional question is completed. Respondents seem to use this feedback in deciding for each question whether to press the "next page" button or instead to break-off or terminate participation in the survey. We vary the way progress is calculated and examine the effect on break-off rates and the respondents' experience. In the second, the respondent's can request a definition to clarify a concept in the question

We thank the National Science Foundation (Grants SES0106222 and IIS-0081550), and the National Institutes of Health (Grant R01 HD041386-01A1) for their support.

that he or she may not understand by clicking a hyperlinked word or phrase; in response, the system displays a definition of the word or phrase. If this proves useful, it could have an effect on the likelihood of requesting subsequent definitions in subsequent questions. We vary the usefulness of the definitions and examine their effect on future requests. In the third type of interactive sequence, it is actually the respondent's *inaction* (no typing or clicking) that triggers a system (questionnaire) action. The system interprets the lack of respondent actions as an indication that the respondent is confused or uncertain about the meaning of the question and provides a definition; this should in turn have an effect on the respondent's understanding of the question and the accuracy of her responses. We programmed the questionnaire to offer clarification after different periods of inactivity for different groups of respondents and examined the effect on response accuracy and satisfaction with the experience.

Our focus on measurement issues in web surveys is not meant to imply that all is well with respect to representation. In fact, web surveys have been criticized because the degree to which results can be generalized to a general population is uncertain (see for example Couper, 2000). Web survey frames—typically lists of voluntarily provided email addresses—include only those with internet access and who wish to be contacted about participating in surveys. This leads to sample characteristics that are quite different than the general population. Nonetheless, for methodological studies such as those presented here, the main point is that participants are randomly assigned to experimental conditions, whatever population they ultimately represent.

Effectiveness of Progress Indicators

Paper questionnaires inherently communicate information about respondents' progress: the thickness of the yet-to-be-completed part of the booklet provides immediate and tangible feedback to the respondent about how much work remains. This is also the case in long, one-page or non-interactive web questionnaires, where the size and location of the scroll bar convey progress information. In more interactive designs, for example in which one question is presented per page, there is no default progress information. However, the display of progress information can be designed into the questionnaire—typically as either graphical or textual progress indicators. If progress feedback does not reduce break-offs relative to no such feedback, the investment of resources to make it available is almost certainly not worthwhile. And if respondents are discouraged by the rate of their progress, then communicating progress information might actually increase break-offs relative to no progress information. This is surely not worth the expenditure of resources! But if fewer respondents break off when they know how much more of the questionnaire remains, progress indicators may be a valuable addition to the design of web questionnaires.

Background. The evidence about the effectiveness of progress indicators in web surveys is limited and mixed. In one study (Couper, Traugott & Lamias, 2001), there was no difference in response rates when progress indicators were used and when they were not used. Couper et al. (2001) proposed that because their progress indicator was a graphical image (similar to a pie chart indicating percent completed), the questionnaire on which it was displayed took longer, page-by-page, to transfer to respondents' computers than did a questionnaire with no progress indicator. This extra download time, they propose, was a deterrent to completing the questionnaire, thus mitigating any advantage from the feedback. Crawford, Couper and Lamias (2001), controlled transfer time and actually found a lower response rate when progress indicators were used than when they were not. They observed that much of the abandonment occurred on questions requiring open-ended responses, presumably a more difficult response task than selecting from fixed choices. They report results from a follow-up study in which the problematic questions had been excised from an otherwise identical questionnaire. The respondents who were given information about their progress completed the questionnaire at a four percent higher rate than those who were not given progress information.

Part of the explanation for these mixed results may have to do with what information is actually conveyed by the progress indicator. Crawford, et al. (2001) suggest that the progress indicator may have understated actual progress thus discouraging respondents who (correctly) believed they were further along than indicated. In particular, respondents completed almost 40 percent of the questionnaire in the first 20% of the elapsed time spent on the questionnaire response task. In general, discouraging information, for example that the task will take a long time or more time than expected, may well deter respondents from completing the questionnaire. And the timing of the information may matter as well. Encouraging information, for example that the end is in sight, will not motivate respondents who have already abandoned the task due to discouraging preliminary information.

Current Study. Conrad, Couper, Tourangeau and Peytchev (2005) explored whether the character of progress feedback affects the impact of progress indicators. In particular, we asked whether encouraging progress feedback might reduce break-offs while discouraging feedback might increase them. Half the respondents were presented with textual progress information (e.g., "17% completed") at the top of each page and half were given no feedback. For those who were given feedback, progress was calculated in one of three ways (see Figure 1).

For one group of respondents (Constant speed), progress increased as a linear function of screens and, therefore, at a constant rate across the questionnaire. For another group (Fast-to-Slow) the rate of progress decreased across the questionnaire, accumulating quickly at first but more slowly toward the end. We produced this pattern of feedback by dividing the log of the current screen by the log of the final screen. For example, after only 9 screens respondents would pass the 50% mark but would need to complete another 36 screens to reach the 90% mark. By 'complete', I mean ad-

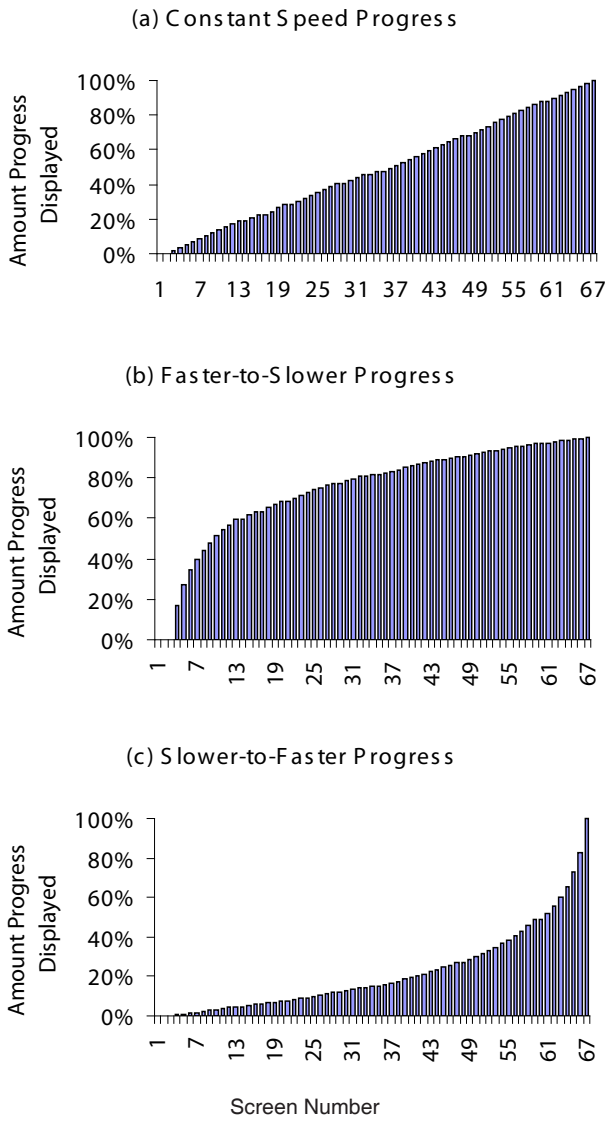

Figure 1. Rates of progress displayed in three progress indicator.

vancing to the next screen, which respondents accomplished by clicking a navigation button. They did not have to enter a response for a given question in order to advance. Thus, the feedback is more encouraging—progress accumulates faster—in the beginning than the end. Finally, for a third group (Slow-to-Fast), the rate of progress increased across the questionnaire, accumulating slowly at first and more quickly toward the end of the questionnaire. We produced this pattern of feedback by dividing the inverse log of the current screen by that of the final screen. For example, to reach the 50% mark, these respondents would need to complete 60 screens but only another 7 screens to surpass the 90% mark. Thus this feedback is discouraging early on—moves slowly—and gets more encouraging toward the end of the questionnaire. We hypothesized that the speed of progress early in the questionnaire would affect overall break-off rates so that when it is slow, break-off rates would be higher than when it is fast.

The questionnaire was comprised of 67 screens, 57 of which presented at least one question. On ten screens no question was presented and these were not considered in the calculation of progress. Respondents moved between all screens, both backward and forward, by clicking a navigation button. The progress indicator was designed so that download and execution time was the same whether or not any feedback was presented.

Respondents from two commercial panels were invited by email to answer a questionnaire administered on the web concerning a variety of "lifestyle" topics. As an incentive to complete the questionnaire, panel members qualified for entry into a sweepstakes in which they could win up to $10,000 by reaching the final screen. A total of 3,179 panel members (8% of all those invited) connected to the survey page into the survey and 2,722 (7% of all those invited) completed it. Thus a total of 457 persons started the survey but did not complete it, representing an overall break-off rate of 14.4%. It is the distribution of these break-offs across the different progress indicator conditions that we are interested in.

As it turned out, respondents were more likely to break-off when the initial feedback was discouraging (Slow-to-Fast) than when it was encouraging (Fast-to-Slow), neutral (Constant Speed), or there was no feedback at all. Apparently, respondents receiving discouraging news at the outset reasonably assumed progress would continue to accrue slowly and inferred that the questionnaire would take more time than it actually did or more time than many were willing to invest. This could suggest that constant speed feedback for a longer questionnaire—which would resemble the initial Slow-to-Fast information for the current questionnaire—is a disincentive to continue. Even for the current, relatively short questionnaire, constant speed feedback did not motivate respondents to complete the questionnaire relative to no progress information. In fact, the proportion of respondents who abandoned the questionnaire with constant speed feedback was higher (though not significantly) than for those receiving no feedback.

Respondents' self-reports measured in a set of debriefing questions at the end of the questionnaire were generally consistent with the break-off data. In particular those who received good news early (and completed the questionnaire) judged the questionnaire to be more interesting than did those in the other progress indicator groups. Apparently people evaluate the content of the questionnaire more favorably when things initially appear to be going well than when they do not. In addition, the same respondents who judged the questionnaire to be more interesting, that is those who received good news first, estimated that it took fewer minutes to complete than respondents in the other progress indicator groups. In fact it took them longer to complete the questionnaire than those in the other groups. Apparently perceived time seems to move more quickly when progress accumulated quickly at the outset than when it accumulated slowly at the outset.

Overall, the debriefing results are striking given that, by the time respondents completed these questions, the rate of progress had largely reversed for the variable speed indica-

tors yet did not seem to reverse respondents' perceptions. It appears, from these data, that respondents form opinions about the task early on and these first impressions are not substantially modified by later evidence.

One implication of the current work is that, if the questionnaire is very long, a garden-variety progress indicator (like our Constant speed progress indicator) might not be very effective in reducing break-offs. As respondents come to realize just how slowly they are making progress they may be at increased risk for breaking off. One could therefore make the case for presenting no progress information. But what about variable speed progress indicators? While we do not necessarily advocate their use because they could be viewed as misleading, in this study, the Fast-to-Slow indicator reduced break-offs and left respondents feeling better about the experience. However, it could be that the subjective experience of progress is not a linear percentage of completed screens but one in which the completion of early screens is weighted more heavily than the completion of later ones. If this is so, then larger increments per screen at the outset may not distort progress at all. Moreover, it may be that respondents seek encouragement most actively at the start of the task when they are least certain about their ability to complete it. This would argue for further exploration of this type of technique.

Use and Non-Use of Definitions

It has long been recognized that many survey concepts are not understood as intended (e.g., Belson, 1981) and it has been demonstrated that when interviewers can define concepts for respondents—despite inevitably different wording for respondents who are given definitions and those who are not—they answer more accurately (Conrad & Schober, 2000; Schober & Conrad, 1997). Rather than giving definitions to those respondents who do not need them, interviewers can provide them when respondents request them or when they believe respondents might otherwise misunderstand (see Schober, Conrad and Fricker, in press). It is a simple matter to make definitions available on the web by linking them to the corresponding words in questions. Respondents need only click on a link to obtain a definition. But making definitions available in this way does not guarantee respondents will use them.

There are at least three obstacles to respondents' use of hyperlinked definitions. First, clicking for a definition may require more effort than respondents are willing to expend. Second, respondents may not realize that definitions might be useful because they might not understand as intended without obtaining a definition. Third, respondents may request a definition and discover that in fact it is not useful, thus inhibiting subsequent requests.

Turning first to effort, one reason respondents might find even a click to involve more effort than they're willing to expend is because it is not necessary to obtain a definition in order to answer the question. For example, getting a definition is not on the "critical path" (Gray, John, & Atwood, 1993). Given that respondents consider their goal to be answering the question—a goal for which they do not consider definitions to be essential—then any action that defers the goal, including a click, is effortful. Of course, getting a definition may be on the critical path if the respondents view their task as answering a question that they have understood as its author intended but it seems unlikely most respondents take this perspective.

In addition, by many analyses of human-computer interaction, a click entails more than just a click. In particular, each overt user action of which clicks are an example, is immediately preceded and followed by mental actions that take time thought. These mental actions include deciding that a definition might actually help achieve the goal or evaluating the results of getting a definition such as the thought "Did that click move me closer to the goal?" The reality of such invisible decision making along side overt user actions has been demonstrated numerous times with the GOMS family techniques developed by Card, Moran and Newell (1983). Examples are offered by Gray, John and Atwood (1993). Alternatives to clicking designed to involve less effort, such as "mouseovers" or "hovering text," in which text appears if the cursor falls within a designated area on the screen, may also be perceived as effortful if their use is not on the critical path because they involve moving the cursor and, in many cases, waiting until the text appears, both of which defer the goal.

The second deterrent to requesting definitions may be that respondents simply do not realize their understanding differs from the surveyors. This is particularly likely when ordinary words are used with non-standard or technical meaning. For example, in the Current Population Survey question, "How many hours per week do you usually work at your job?" the word "usually" is defined as "50% of the time or more, or the most frequent schedule during the past 4 or 5 months" (U.S. Department of Commerce, 1994). "Usually" is such a common term that there is little reason for respondents to expect it has a technical meaning and thus request a definition. A respondent might reasonably assume that the question authors have chosen this word because they believe the respondent will understand it as intended (Clark and Schober, 1992, refer to this as the "presumption of interpretability"). For more technical terms, they might make a similar assumption: the author must believe I am familiar with the word so the meaning that comes to mind must what is intended. (Of course this presumes that something comes to mind.) And in a question of the form "Have you ever …?" they might reason that because the word is very unfamiliar, the answer must be "no": I would know what a "myocardial infarction" is if I had had one.Finally, after obtaining a definition, respondents may realize they would have answered the same way with or without a definition either because they had already understood the term as intended or because the definition contains material irrelevant to their circumstances.

For example the Census definition of "residence" goes into detail about borders and children in the armed forces, when it is possible these will not apply to a particular respondent. Having concluded that the available definitions aren't helpful, it is unlikely that respondents will request more of them. Landauer (1995) used the phrase "creeping featurism" to describe the phenomenon of including features in software because designers believe they will make the product more competitive but not because they are helpful to users. He describes a survey of one software company's user base which found that fewer than one third of the available features were ever used; presumably many of those used were used only once as we would expect to be the case for uninformative definitions.

Current experiment. Conrad, Couper, Tourangeau and Peytchev (2006) asked whether respondents' requests for definitions is affected by the ease of obtaining definitions, respondents' likely awareness that definitions might be helpful, and the apparent usefulness of definitions. Respondents answered four questions arrayed in a grid with concepts as the rows and response options as the columns (see Figure 2a): "The following questions concern the amount of food and nutrients that you typically consume. If you are uncertain about the meaning of a particular food or nutrient, please click on the word to obtain a definition. How much of the following items do you typically consume?"

A given respondent was able to obtain definitions with one of three user interfaces, designed to vary the required number of clicks and therefore effort. The particular interface presented to a respondent was determined at random. In the "one-click" interface, respondents clicked on a highlighted word and a definition appeared (Figure 2b). This should not be confused with double clicking. In the "two-click" interface, clicking on the definition produced a list of all terms for which definitions were available and respondents needed to then click on the relevant term (Figure 2c). With this interface, each click produced a distinct system action beginning with a list of terms and then a definition for one term. Finally, in the "click-and-scroll" interface, clicking displayed the complete list of definitions (essentially a

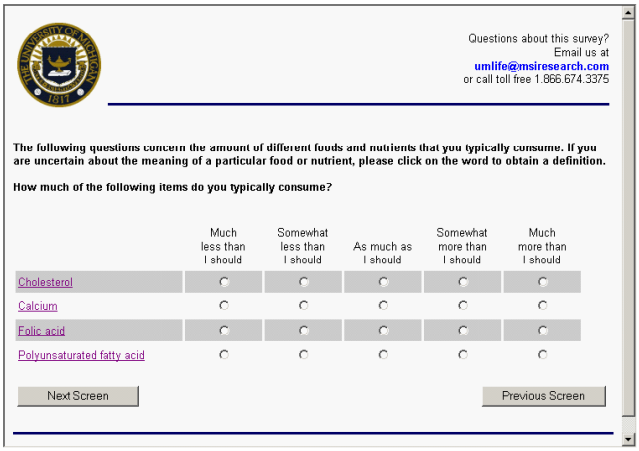

Figure 2a. Item for definitions available.

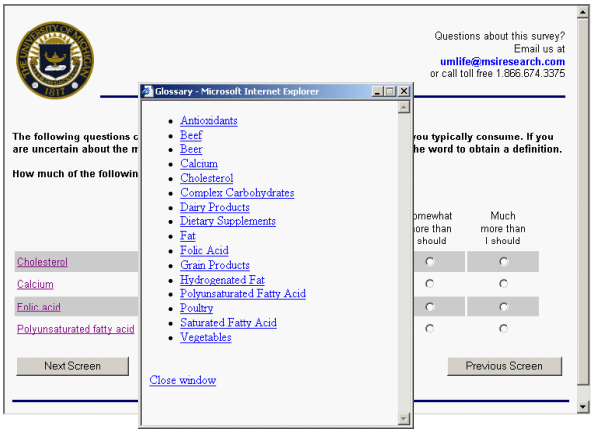

Figure 2c. List of terms for which definitions available made available by clicking on term in grid (Figure 2a) for two-click interface.

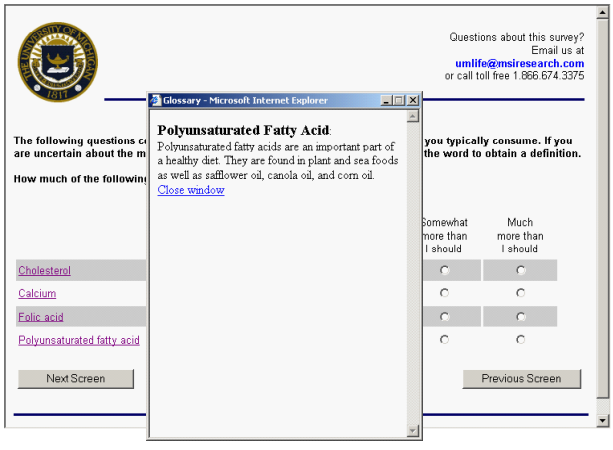

Figure 2b. Definition made available by clicking on term in grid (Figure 2a) for one-click interface or on term in list (Figure 2c) for two-click interface.

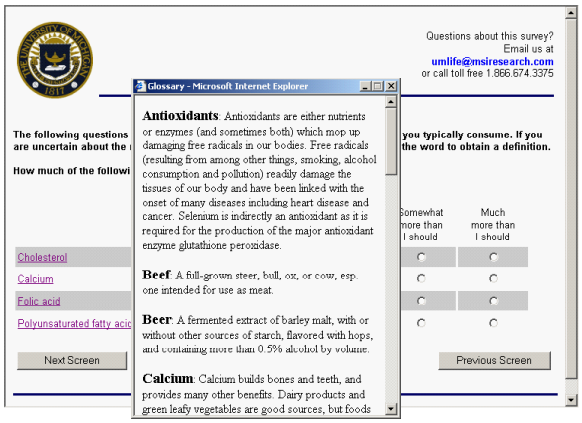

Figure 2d. Glossary (all definitions for all terms) made available by clicking on term in grid (Figure 2a) in click-and-scroll interface. If definition is not visible, respondent must scroll to it by using scroll bar at right.

glossary) in a text window so that if the definition of interest was not visible, the respondent needed navigate to it by clicking in the scroll bar (Figure 2d). Note that the number of clicks required under the three interfaces was something of a surrogate for the total amount of effort: when more than one click was required, more reading and decision making was required as well—much as is assumed from the GOMS perspective mentioned earlier.

The group of four questions presented to any one respondent concerned either technical (e.g., "saturated fatty acid") or ordinary (e.g., "vegetables") terms and the definitions were either useful or not useful. Definitions that were not useful lacked any information that would be likely to affect respondents' answers (e.g., "In saturated fatty acid, the carbon atoms are bonded with single bonds; they share one set of electrons. Saturated fatty acids are mostly found in animal products.") whereas definitions that were useful contained counterintuitive or surprising information (e.g., "In general, vegetables include the edible stems, leaves, and roots of a plant. Potatoes, including French fries, mashed potatoes, and potato chips are vegetables"). We expected respondents to recognize the need for definitions of technical terms and request them more often than for ordinary terms and we expected an initial request for a useful definition to lead to more subsequent requests than if the initial definition was not useful. For a given respondent all definitions were either helpful or not helpful. Thus the design crossed three levels of difficulty (one-click, two-clicks, click-and-scroll) with two types of concepts (technical or ordinary) and two types of definitions (useful or not useful).

Respondents from two commercial panels were invited by email to answer a questionnaire administered on the web concerning a variety of "lifestyle" topics. The panels and the general topic of the current survey were the same as the progress indicator. 2871 respondents completed the questionnaire for a response rate of 18%. Again, our goal was random assignment rather than representativeness.

Requests for definitions were rare overall: only 17.4% of respondents who finished the questionnaires (13.8% of those who answered the questions with definitions) ever clicked. This suggests that many misconceptions may go uncorrected despite the availability of clarification features. It could be that something as simple as a stronger instruction to use definitions could increase the number of requests, but it may also be the case that many respondents are unwilling to stray from the critical path or do more than the minimum necessary to complete the task.

When examining data from those respondents who requested at least one definition, it is apparent that the number of requests is quite sensitive to the amount of effort (number of clicks) involved. When only one click was required, respondents obtained more than 2.5 out of 4 definitions but when two or more clicks were required, they obtained closer to 1.5 out of 4 definitions, which is a reliable difference. Those respondents who had to click twice to get a definition abandoned the request after the first click 36% of the time (383 first but only 246 second clicks) providing additional evidence that effort (2 clicks versus 1) matters.

Respondents seemed to recognize the potential value of a definition more often for technical than ordinary terms: 89% of definitions requested concerned technical terms. But it is really for ordinary terms that may be used in non-standard ways that clarification is especially important. As it turns out, people request more definitions of ordinary terms when the definitions are useful, presumably because they come to realize that despite being familiar these words may mean something other than the respondent initially assumes. However, the impact of useful definitions is only observed when respondents can obtain a definition with a single click. If more than one click is required, respondents request definitions infrequently and equally often whether definitions are useful or not. What this tells us is that for an "off-path" activity like requesting definitions, effort must be extremely low. If more than one click is required, there is little that will convince respondents to request a definition.

These results almost certainly extend beyond on-line definitions and even beyond web surveys to web use in general. People seem to be impatient when they use the web, perhaps because of the vast amount of information that is available through very minor actions such as pressing a mouse button. This introduces yet another reason why the web in general and web surveys in particular, should not be treated as if they are paper.

Diagnosing Respondent Uncertainty

Respondents in the previous study requested definitions relatively rarely. While they requested some definitions more frequently when easy to obtain, the overall rates were still low. Infrequent requests for definitions could reflect respondents' lack of awareness that they misunderstand a term or their reluctance to request definitions because it involves additional clicks and reading. If so, an alternative approach to the design of web questionnaires could involve programming the questionnaire so that it can volunteer definitions when respondents seem uncertain or confused.

Current experiment. We (Conrad, Schober and Coiner, in press) have explored this approach in a laboratory study in which the survey system could sometimes offer respondents definitions if they were inactive for more than a certain amount of time. Inactivity was treated as an indication that respondents were confused or uncertain or at some kind of impasse. The basic idea was to see if (1) providing definitions when respondents seemed to need them but did not ask for them improved their understanding and response accuracy above the levels observed when they were required to request definitions by clicking, and (2) whether the benefits of this approach are greater if inactivity is modeled differently for different groups of respondents. Kay (1995) argues for the benefits of group-based or stereotypic user models.

Our groups were based on the respondents' age—one group was young and one older. Respondents' age has been shown to affect the size of question and response order effects, largely because working memory declines with age (e.g., Knäuper, 1999). More germane to our application, the cognitive aging literature documents a more general slowing of behavior with age (e.g., Salthouse, 1976). Therefore one might expect older web survey respondents' response times to be longer than younger respondents' times. If that's the case, the same period of inactivity by old and young users may mean different things; a short lag may indicate confusion for a young user but simply ordinary thinking for an older user.

We contrasted five user interfaces in the laboratory. In the first there was no clarification available to users. In the second, the clarification was available if the user requested it by clicking—we refer to this as "respondent-initiated" clarification. In the third and fourth, clarification was "mixed-initiative," it could be either respondent- or system-initiated by which we mean the system could volunteer a definition when the respondent was inactive for more than a certain amount of time. That "certain amount of time" was modeled differently in the third and fourth user interfaces. In the third interface, the system-initiated clarification was based on the same inactivity threshold for all respondents or a generic respondent model; in the fourth interface the threshold was set differently for old and young respondents, or a group-based respondent model. In the fifth interface, the definition always appeared with the survey question.

All respondents answered the same 10 questions about housing and purchases from two ongoing government surveys (used by Conrad & Schober, 2000) based on fictional scenarios for which we knew the correct answer, enabling us to measure response accuracy. Half of the scenarios were designed such that, without the use of definitions, respondents would be likely to interpret them as the survey designers intended. We refer to these as straightforward scenarios. The other half were designed to be hard to answer correctly without access to the official definition. We call these complicated scenarios.

Here is an example of a complicated scenario for the question "How many people live in this house?"

> *The Gutierrez family owns the 4-bedroom house at 4694 Marwood Drive. The family has four members: Maria and Pablo Gutierrez, and their two children Linda and Marta. There is one bedroom for Maria and Pablo, one for Marta, one for Linda, and one for Sandy, who is employed by the family as a nanny.*

It is complicated because Sandy's status is ambiguous without knowing the definition of living in a house.

In the conditions where they were able to request clarification, respondents clicked on a hyperlinked term or phrase and the system displayed the corresponding definition. When the system initiated the clarification, the definition simply appeared after the appropriate threshold accompanied by a brief, computer-generated tone to attract the respondent's attention.

Through a newspaper advertisement and fliers at senior centers, we recruited 114 paid participants. There were 56 females and 58 males. Half of the participants were young (defined here as less than 35 years old) with a mean age of 26.8, and half were old (defined as over 65 years old) with a mean age of 72.4

The results support the idea of programming web-based questionnaires to volunteer clarification when respondents seem to need it, and to interpret evidence of needing clarification differently depending on respondents' age. All respondents were quite accurate when answering on the basis of straightforward scenarios (95% of questions answered correctly); for complicated scenarios, accuracy increased linearly across the five clarification groups: no clarification (24%), respondent-initiated clarification (35%), mixed initiative clarification, generic model (48%), mixed initiative clarification, group-based model (58%), definitions always (70%).

Respondents' preferences were not directly related to their response accuracy: respondents in both age groups were relatively satisfied with respondent-initiated clarification (3.36 out of 4 points), more so than with clarification that was also initiated by the system, always present, or not available. Recall that respondents were least accurate when the system never initiated clarification so rather than most preferring the interfaces that promoted accuracy, the respondents seemed to prefer the interfaces that allowed them to think about their answers without interruption by an unsolicited definition. The distaste for system-initiated clarification was most pronounced among older respondents. The respondents also did like having definitions always present, even though these led to the highest levels of accuracy.

This suggests that some aspects of designing system-initiated clarification still need to be worked out. It may be a matter of fine-tuning the inactivity thresholds so that, for example, system-initiated clarification does not interrupt respondents but still offers clarification before they respond. But it may also be that there is no single threshold that is appropriate for an entire group. In this case, individualized thresholds, possibly based on response times to a small battery of calibration questions, would lead to accuracy on the level of providing clarification all the time but with higher satisfaction. In any case, the accuracy results suggest that enabling web-based questionnaires to offer clarification can improve respondent understanding of questions beyond the levels of ordinary self-administration.

Conclusions

We have considered three interactive features of web surveys that can be implemented with available technology requiring relatively simple programming. One can imagine other features to help improve the interaction that are based on more experimental technology. For example, the questionnaire could make use of natural language dialogue allowing

the respondent to type open-ended questions into the interface and responding by generating informative text. For example, instead of presenting multi-paragraph definitions, the system could tailor its output—probably text—to the respondent's query about a specific situation. Another technology that could be useful is speech recognition. The respondent could speak to the system, for example requesting progress information, while thinking about the answer to the current question. Speaking is a highly practiced skill and one that people can use while performing other tasks. This could make it easier for a respondent to invoke features that might otherwise require too much effort. And speech contains many more cues about the speakers' mental and emotional state than does textual or mouse input, thus allowing the system to better diagnose respondents' uncertainty and take appropriate actions.

A technology that very much blurs the distinction between self- and interviewer-administration is animated agents or avatars. Introducing a virtual interviewer into the web questionnaire may help establish a social connection for example, in providing encouraging messages to respondents in order to keep them engaged or reminding respondents that the system has the human-like ability to provide clarification thus promoting requests. But one can imagine than a virtual interviewer may hurt when respondents are asked sensitive questions because the agent might trigger self-presentation concerns in the way human interviewers do, undermining the clearest benefit of self-administration. While not all of these or future technologies will necessarily be useful in surveys on the web, they will be available to designers who will need to weigh and consider their use.

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Writing Reviews as a Way of Mentoring Fellow Authors

Alice H. Merz
Stella C. Batagiannis
Indiana University – Purdue University Fort Wayne

Abstract

The Fall 2006 conference provided an opportunity to explore service to MWERA. In this article Merz and Batagiannis reflect on and extend how reviewers can serve the Mid-Western Educational Research Journal.

As junior faculty members in a Department of Education, we are both interested in the publishing process. As authors, however, what occurs to our papers after we submit them to a journal has always been something of a mystery to us. It was with great interest that we attended a workshop on "How To Write a Review" presented by Deborah Jenkins and Adrian Rodgers at the Mid-Western Educational Research Association Conference.

Our initial hope was that we would learn more about the review process, but we also found that Jenkins and Rodgers argued that the review process is a form of mentoring through which our members of the professoriate can support one another. It was this argument that caused us to undertake additional inquiry so that we could better situate our own understandings of the review process.

In this article we:

- highlight the review process used by the current editors of the *Researcher*;
- contextualize Jenkins and Rodgers' argument that the review process is a mentoring tool;
- and extend their argument by considering the viewpoints of other authors.

Our purpose in writing this article is to share what we have learned about the writing and publishing process with fellow authors so that they can consider their own roles, both as author and reviewer.

One of the premises of the workshop led by Jenkins and Rodgers (2006) was their philosophical stance that as editors they believe in mentoring faculty and students in the publishing process. While they typically mentor authors with revising their manuscripts, Jenkins and Rodgers also think editors need to mentor reviewers. One of the techniques Jenkins and Rodgers have used is to provide reviewers with the full set of blind reviews related to one manuscript. By providing each reviewer with a complete set of reviews, individuals can reflect on the comments of their peers with the goal of learning from each other. The claim of Jenkins' and Rodgers' that reviews should mentor, as much as they critique, shapes our own understanding of how we should write our reviews. We concluded that a journal editors' philosophical stance regarding the review process should have an effect on what we as reviewers attend to and how we write our review.

Jenkins and Rodgers (2006) also suggested that reviewers need to develop a shared understanding about the importance and purpose of the review process. More precisely, we were able to see that when approaching the review process with a mentorship lens, the process is no longer about a "*strategic site of contention and negotiation* among author, editor, and referees" (Berkenkotter, 1995, p. 247) where reviewers "feel compelled to find something wrong" (VanTassell, McLemore, & Roberts, 1992, p. 249). Instead, as Fettig (1983) noted, "Careful reviews are at the heart of the manuscript evaluation process" (p. 2). Thoughtful, detailed reviews provide feedback to authors that allow them to improve their manuscript and that allow editors to continue guiding them (Jenkins and Rodgers, 2006). As one author put it, "this [revision] process, as anxiety-producing as it is, leads to what is inevitably a better and tighter manuscript" (Berkenkotter, 1995, p. 247). And, with a mentoring approach, the anxiety no longer has to be an integral component.

Selecting Reviewers

In selecting the reviewers for a particular manuscript, we learned that Jenkins and Rodgers send out the manuscript electronically to three reviewers for a blind review after the editors' own preliminary review of it. One reviewer is chosen from the journal advisory board because of his or her experience in reviewing manuscripts. A second reviewer is chosen from faculty with expertise in the area, and a third reviewer is chosen from doctoral students who have applied for graduate reviewer status and who write as reviewers-in-training (Jenkins & Rodgers, 2006; Klingner, Scanlon, & Pressley, 2005).

Determining a "Good Fit"

When thinking about the appropriateness of a manuscript for publication in a journal, the editor and reviewers pay attention to the relevance of the manuscript or how the manuscript has been framed in relation to the journal's focus and target audience (Klingner, Scanlon, & Pressley, 2005; VanTassell, McLemore, & Roberts, 1992). In the *Mid-Western Educational Researcher* (*MWER*), manuscripts should be framed for an audience of educational faculty, students and professionals concerned about educational issues (Jenkins & Rodgers, 2006).

In addition to the reviewers' consideration of the manuscript in relation to the focus and audience of the journal, the reviewers and editors check for the type of manuscript that has been submitted to the journal. In the *Mid-Western Educational Researcher*, the acceptable types of manuscripts are research-based articles, reviews of literature, theoretical ideas, and methodological issues. Jenkins and Rodgers (2006) pointed out that both overtly political pieces and craft pieces or 'how-to' pieces would not be good matches.

Next, Jenkins and Rodgers (2006) led us in a discussion about the importance of the reviewers' focusing their attention on the quality of the manuscript. Of course even within the mentoring approach, the review process is also intended to support the reporting of quality research. An author's research design and theoretical base is paramount for a quality article (Jenkins & Rodgers, 2006). More specifically, in a quantitative design, the reviewers will be looking for enough detail so that they can address instrumental issues, validity, and reliability. In a qualitative design, the reviewers will be looking for enough detail in the descriptions of the methods and participants to ensure the author meets the requirements of a quality case, narrative, or action-research description (Klingner, Scanlon, & Pressley, 2005). In a theoretical piece, the reviewers will be looking for a logical soundness. Because the design is the basis for the study, if there is a design flaw, then it may become a fatal flaw for the acceptance of the manuscript (Jenkins & Rodgers, 2006).

In a study by VanTassell, McLemore, and Roberts (1992), reviewers were asked to rank on a 10-point scale the importance of criteria that they used in evaluating manuscripts. Similar to Jenkins and Rodgers' (2006) insight on the importance of the research design, they found that logical and theoretical soundness of the research ranked as the most important. Data validity, clarity and overall contribution to the field came in next. Organization, grammar, innovative approaches, and relevance for peers came in the middle of the rankings. And, syntax, length and methodological sophistication came in last.

Quality of writing: Formulating depth and accuracy.

Another aspect of the manuscript's quality is its depth in the formulation of the review of literature, connection to a theoretical framework and problem statement (Klingner, Scanlon, & Pressley, 2005). Specifically with the literature review, if an author claims that there are no publications on this topic, the reviewer may suspect that the author did not do an in-depth or broad enough investigation of the literature to see connections to the authors' topic (Klingner, Scanlon, & Pressley, 2005). Reviewers look for recent citations and, for well-known and more developed topics, the reviewers will be looking for both seminal and recent accounts in the field (Klingner, Scanlon, & Pressley, 2005). If new connections are being made, reviewers will be looking for a clear articulation of these connections, along with an explanation about how and why they are being connected in new ways.

With regard to the data and discussion, the reviewers will determine if there is sufficient data to support the author's claims or if the claims have been over-extended (Jenkins & Rodgers, 2006; and Klingner, Scanlon, & Pressley, 2005). Similarly, the reviewer is looking to see that the discussion is succinct and thorough enough to connect the results with the literature review and to further understanding.

Finally, even though the actual citing of references can be perceived as technical, reviewers look to see if the references have been represented accurately. For some reviewers, the accuracy (or lack of it) may indicate if the author has thoroughly read and understood the sources that he or she is citing. (Klingner, Scanlon, & Pressley, 2005)

Quality of writing: Overall quality and technical issues of writing.

Finally, the reviewers consider the overall quality of writing in the manuscript. In this case, overall quality is represented through such things as clarity, coherence, clear integration of ideas, syntax, effective use of vocabulary, varied and interesting sentence structure, and a manuscript that communicates ideas distinctly and creatively.

When reviewers consider the technical issues, they may include the following: the appropriate APA formatting, incomplete or inaccurate references throughout the manuscript and reference section, spelling and grammar errors, missing sections of the manuscript (such as a missing "discussion section"), and adherence to length and general formatting issues (such as margins, type font and size, headers, and footnotes).

If there are questions about the overall quality of writing or technical issues, then the reviewers may make recommendations for changes. As a way to minimize this kind of editing, reviewers recommend that authors have their colleagues proofread their manuscript before submission. Similarly, the author needs to proofread the manuscript more than once. For instance, in one reading, the author may be looking for quality of writing issues while in a second reading, the author may focus on technical issues, such as formatting. A third and highly recommended option is that the author hire a professional proof reader familiar with APA style to proof the manuscript prior to submission. So, while it is expected that the author will initially submit a quality manuscript, some weakness in the writing may be excused and the manuscript accepted conditionally, pending revision (Jenkins & Rodgers, 2006). Even so, the weaknesses may affect the reviewers' confidence in an author's work and dissuade some reviewers from recommending the manuscript for acceptance (VanTassell, McLemore, & Roberts, 1992).

Being Reviewed: Writing a Helpful, Quality Review

One of the significant aspects of Jenkins and Rodgers' presentation was the focus on the reviewer's role of writing thoughtful, detailed reviews. During this part of the workshop, Jenkins and Rodgers engaged us in an investigation that critiqued a number of blind reviews as a way to facilitate a dialogue about the importance of reviews and how to write feedback that is helpful. As a part of our conversation, Jenkins and Rodgers helped us construct a list of characteristics that are a part of a well-written review. While the criteria could not be a comprehensive list, they were meant to highlight some important issues for both beginning and seasoned reviewers.

Consider Demeanor of the Reviewer and Genre of the Review

Reviewers should consider using language in the review that reflects a mentoring demeanor. In other words, the reviewers should avoid using language that is deliberately dismissive, rude, demoralizing, or attacking (Nicholls, 1999). Instead, the review should be respectful and constructive.

As a way to encourage the author, a creative and supportive genre is used by some reviewers. For example, reviewers that

mentor approach the review as if they were writing a letter directly to the author (Jenkins & Rodgers, 2006). By doing so it makes it possible for the reviewers to implement a more personalized type of mentoring approach. Reviewers also conceptualize the review as if they were giving feedback to one of their colleagues or one of their students with sufficient specificity for the author to make the necessary improvements (Jenkins & Rodgers, 2006).

Provide Specific, Substantial, and Substantiated Comments

A reviewer's specific, constructive comments about the content are an important vehicle for encouraging authors to grow in the development and submission of their work, whether a manuscript is recommended for acceptance or not. As a result, reviewers should focus on the content of the manuscript and avoid supplanting the author's views with their own as part of the critique.

While a reviewer also can provide editing comments to the author, these comments are not the substantive components that the editor uses to base decisions on regarding the acceptability of the manuscript. As a result, reviewers should focus on using specific, substantiated statements as a way to provide accountability in their feedback (Jenkins & Rodgers, 2006). "The same kind of rigor must be used in review as the writer used in manuscript or grant preparation…" (Nicholls, 1999, p. 1853).

Again, while it is easy to assume that good papers do not need many comments, the substantive comments are vital for the editor, especially since it is more common than not for reviewers to disagree (Bakanic, McPhail, & Simon,1987; VanTassell, McLemore, & Roberts, 1992). Many times, the most difficult decision for the editor revolves around making a decision about the merits of the manuscript and deciding whether or not to accept or reject the manuscript based on the conflicting information. In other words, the editor and authors need detailed feedback in order to make sense of the disparity. Some of the disparity may be a result of differences in reviewers' expertise in both content and methods. There may also be differences in reviewers' theoretical frameworks. A reviewer's specificity, accompanied with examples and justifications, will provide the editor and author with more information upon which to base their decisions and possible revisions. In addition, almost three-quarters of reviewers, in one study, expected the author to provide a detailed account about how they responded to the comments in their revisions (VanTassell, McLemore, & Roberts, 1992). So, the more detailed the reviewers' feedback, the more helpful it will be for the author and editor to work together to incorporate and address that feedback.

Be Timely in Submitting the Review

Reviewers should allow themselves sufficient time, within their allotted 4-6 weeks, to complete the review (Jenkins & Rodgers, 2006). One study reported that reviewers spend an average of 5-8 hours examining and writing up their review of a manuscript, depending on the journal (VanTassell, McLemore, & Roberts, 1992). If reviewers short-change themselves with the time spent in the review process, that shortage of time may become evident in the quality of the review feedback. If reviewers do not have time, they should not feel obligated to accept a manuscript. Similarly, if the reviewer finds that the manuscript is not one that he or she is comfortable with reviewing for any reason, it is not a problem to return it. However, the reviewer should do so promptly, so that the review process is not delayed for the editors or the author.

In a more general sense, if reviews are not returned on a timely basis, the editor has to either cajole the reviewer with email prompts to improve the timeliness (Caruso & Kennedy, 2004) or find a new reviewer who has the necessary expertise and time to return another review in a more timely manner. An incomplete or insufficient review provides an extra burden on the editor, delays the process, evokes frustration from the editor and authors, and reflects on the priority of the reviewer (VanTassell, McLemore, & Roberts, 1992).

Conclusion

In conclusion, those who commit to reviewing a manuscript have accepted a significant responsibility. Although sometimes an individual commits to this responsibility to augment personal service obligations for promotion or tenure, the reviewer should focus on the responsibility of providing invaluable professional feedback to colleagues. In carrying out this responsibility, the reviewer is encouraged to be honest and to maintain a kind, helpful demeanor.

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Mid-Western Educational Research Association

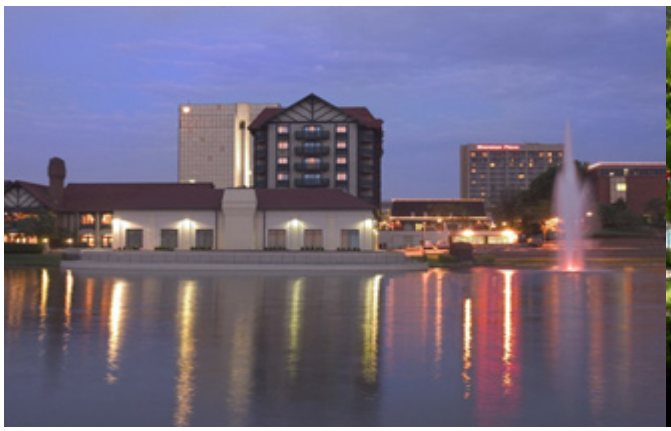
2007 Annual Meeting
October 24-27, 2007
Call for Proposals
Proposal Deadline: May 1, 2007

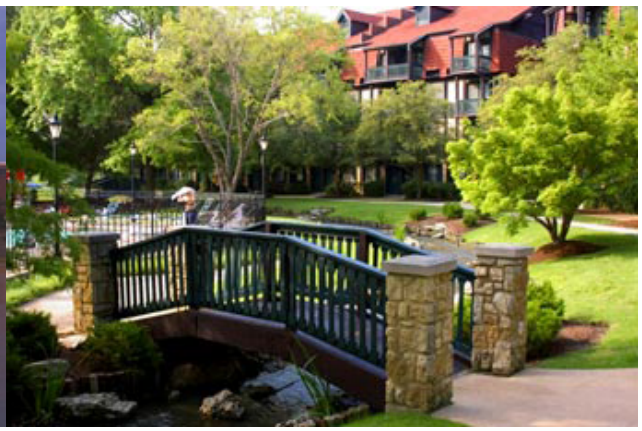
Dimiter M. Dimitrov, Program Chair
mwera@gmu.edu

The 2007 Annual Meeting of the Mid-Western Educational Research Association (MWERA) will be held in St. Louis, Missouri, with an exciting program of invited speakers, focused workshops, and peer-reviewed papers presented in a variety of session formats. The 2007 program will center around this year's theme—***Standards in Conducting and Publishing Research in Education***—and will feature dynamic speakers of interest to both researchers and practitioners.

We will be meeting at the Sheraton Westport Chalet Hotel St. Louis. Nestled in St. Louis's impressive West Port Plaza area, the newly renovated Sheraton Westport Chalet Hotel offers charming guest rooms, excellent meeting facilities, and access to more than 20 restaurants, exclusive shops, and entertainments. Also, the hotel facility has wireless computer access. St. Louis is the home to theaters, concert halls, wonderful restaurants, shopping, and fun nightlife!

If you are looking for a place to sit down and chat with colleagues from schools and universities about your ideas and perspectives, the Mid-Western Educational Research Association provides that opportunity with its supportive, collaborative environment. Educational researchers across North America return to MWERA to renew acquaintances, make new contacts, and engage in exciting conversation in a collegial atmosphere.





Come and be a part of MWERA in 2007!

General Information

The 2007 MWERA Annual Meeting will be held **Wednesday, October 24 through Saturday, October 27,** at the Sheraton Westport Chalet Hotel in St. Louis, Missouri. This year's theme is ***Standards in Conducting and Publishing Research in Education.*** The program will consist primarily of presentations, selected through a peer review process, by divisional program chairpersons. In addition, there will be invited speakers and symposia, panel discussions, special sessions for graduate students, new faculty, and new members, as well as a luncheon and other social events open to all attendees.

Proposals **MUST** be submitted electronically over the Internet using the form available on the meeting website. **Proposals mailed or e-mailed to the Program Chair or Division Chairs will NOT be processed**. Specific instructions for electronic submission can be found at the meeting website:

http://www.mwera.org

Questions about a proposal, the electronic submission process, or the meeting should be directed to the Program Chair:

Dimiter M. Dimitrov
MWERA–2007 Program Chair
Graduate School of Education
George Mason University
4400 University Drive, MS 4B3
Fairfax, VA 22030-4444
Office: 703-993-3842
Fax: 703-993-2013
E-mail: mwera@gmu.edu

Any educational professional may submit a proposal for MWERA-2007, whether or not that person is currently a member of MWERA. *All Annual Meeting presenters must be members in good standing with MWERA (non-members must join MWERA upon notification of proposal acceptance)*. To promote broader participation in the program, no one person should appear as a presenter on more than three proposals.

All proposals must be posted on the MWERA website no later than midnight EST on May 1, 2007. Submissions will then be forwarded to Division Chairs. Each Division Chair will coordinate a number of volunteers in a system of blind (without author identification) review. Appropriate criteria, depending on the format and type of scholarly work being presented, have been developed and are used for the review process. These criteria include: (a) topic (originality, choice of problem, importance of issues); (b) relevance of topic to the Division and MWERA membership; (c) contribution to research and education; (d) framework (theoretical/conceptual/practical, rationale, literature review, grounding); (e) analyses and interpretations (significance, implications, relationship of conclusions to findings, generalizability or usefulness); and (f) overall written proposal quality (clarity of writing, logic, and organization).

Papers presented at MWERA are expected to present original scholarship, conducted by the author(s), which has not been previously presented at any other meeting or published in any journal. Further, it is a violation of MWERA policy to promote commercially available products or services (except as Exhibits) that go beyond the limits of appropriate scholarly/scientific communication. Individuals who wish to display educationally-related products or services are encouraged to contact **Dimiter Dimitrov**, **Program Chair**, mwera@gmu.edu.

All persons presenting at the 2007 Annual Meeting are expected to register for the full meeting, *including graduate students*. All sessions listed in the program will be open to any registered meeting participant; however, enrollment may be limited, and a small additional fee required, for some workshop sessions. Tickets for the Friday luncheon and speaker are available to all pre-registrants. *Ticket availability is not guaranteed for late and on-site registrants*. Registration materials for the 2007 Annual Meeting will be published in the *Mid-Western Educational Researcher*, on the MWERA website, and can be obtained by contacting the Program Chair.

Presenters whose papers have been accepted to a session with a Session Chair and/or Session Discussant are responsible for submitting a completed version of their conference paper to the Session Chair and Discussant no later than September 15, 2007. *Papers not available to the Session Chair and Session Discussant may be dropped from the program*. **Presenters must also provide complete copies of their papers (or detailed handouts) to attendees at their sessions.** Overhead transparency projectors and screens will be provided by MWERA in most presentation rooms. *Presenters needing additional A/V equipment are responsible for arranging such with the hotel at the presenter's own additional expense*.

MWERA reserves the right to reproduce and distribute summaries and abstracts of all accepted proposals, including making such works available in a printed Program Abstract, through the MWERA website, and in press releases promoting the Annual Meeting and the organization. *As a condition of acceptance, all authors of papers accepted to the 2007 Annual Meeting explicitly grant MWERA the right to reproduce their work's summary and/or abstract in these ways*. Such limited distribution does not preclude any subsequent publication of the work by the author(s).

Authors of accepted proposals assume the ethical and professional responsibility to appear at the Annual Meeting and to participate in their presentation or assigned session. When circumstances preclude the author(s) from doing so, it is the responsibility of the author to arrange a suitable substitute and to notify the Program Chair in advance.

Important Dates

Proposal Submission Deadline	**May 1, 2007**
Notification of Acceptance	July 14, 2007
Papers to Session Chairs/ Discussants	September 15, 2007
Registration and Hotel Reservations	September 23, 2007
MWERA 2007 Annual Meeting	October 24-27, 2007

Guidelines for Submitting a Proposal
Session Format Descriptions

Paper Presentation

Paper sessions are intended to allow presenters the opportunity to make short, relatively formal presentations in which they overview their papers to an audience. Three to five individual papers dealing with related topics are grouped into a single session running from 1.5 to 2 hours. The presenter(s) of each paper is (are) allowed approximately 15 minutes to present the highlights of the paper. A single Session Discussant is allowed approximately 15 minutes, following all papers, for comments and critical review. A Session Chair moderates the entire session. Presenters are expected to provide complete copies of their papers to all interested audience members.

Roundtable Discussion/Poster

Roundtable Discussion/Poster sessions are intended to provide opportunities for interested individuals to participate in a dialogue with other interested individuals and the presenter(s) of the paper. Presenters are provided a small table around which interested individuals can meet to discuss the paper. Presenters may elect to provide small, table-top poster-type displays, ancillary handouts, or other table-top A/V materials to augment their discussions. Interested individuals are free to move into and out of these discussions/posters as they wish. Presenters are expected to make available complete copies of the paper on which the roundtable discussion/poster was focused.

Symposium

A symposium is intended to provide an opportunity for examination of specific problems or topics from a variety of perspectives. Symposium organizers are expected to identify the topic or issue, identify and ensure the participation of individual speakers who will participate in the session, prepare any necessary materials for the symposium, and Chair the session. It is suggested, though not required, that the speakers or symposium organizer will provide interested individuals with one (or more) papers relevant to, reflective of, or drawn from the symposium.

Workshop

Workshops are intended to provide an extended period of time during which the workshop leader helps participants develop or improve their ability to perform some process (e.g. how to provide clinical supervision, using the latest features of the Internet, or conduct an advanced statistical analysis). Organizers may request from 1.5 to 3 hours, and are responsible for providing all necessary materials for participants. Many workshops are scheduled for Wednesday afternoon, although others may be scheduled throughout the conference. Organizers may, if they wish, receive an honorarium based upon the number of paid participants in their workshop and the fee schedule.

Alternative Session

The form, topics, and format of alternative sessions are limited only by the imagination and creativity of the organizer. These options are intended to afford the most effective method or approach to disseminating scholarly work of a variety of types. Proposals for alternative sessions will be evaluated on their appropriateness to the topic and audience, their suitability to meet the limitations of time, space, and expense for MWERA, and the basic quality or value of the topic. The organizer of alternative sessions is responsible for all major participants or speakers, developing and providing any necessary materials, and conducting or mediating the session. Because a variety of approaches may be proposed within this category, alternative session proposals should include a brief rationale for the alternative being proposed.

Best Practices Forum

The "Best Practices" sessions are intended to provide opportunities for individuals or groups to present "best" or "promising" practices impacting both K-12 and higher education. These sessions highlight unique and innovative programs that have demonstrated promise for improving and enhancing educational practice. Presenters will be grouped by similar topics to facilitate discussion between and among the groups and audience. Presenters are expected to make available complete copies of the paper on which the "Best Practices" session focused.

Submitted Content

Summary

Summaries for **Paper** and **Roundtable Discussion/ Poster** proposals should explicitly address as many of the following as appropriate, preferably in this order: (1) Objectives, goals, or purposes; (2) Perspective(s) and/or theoretical framework; (3) Methods and/or techniques (data source, instruments, procedures); (4) Results and conclusions; and (5) Educational and/or scientific importance of the work.

Summaries for **Symposium, Workshop, and Alternative Session and Best Practices Forum** proposals should explicitly address as many of the following as appropriate, preferably in this order: [1] Descriptive title of the session; [2] Objective, goals, and purposes of the session; [3] Importance of the topic, issue, or problem; [4] Explanation of the basic format or structure of the session; [5] Listing of the presenter(s), by number not name for blind review (e.g.,

Presenter 1), with an explanation of each person's relevant background and role in the session; [6] Anticipated audience and kind of audience involvement.

Abstract

The abstract should be 100-150 words. The abstracts of accepted papers will be published in the *MWERA 2007 Annual Meeting Abstracts* book, and will be available on the MWERA website. Use clear, precise language, which can be understood by readers outside your discipline.

Divisions & Chair Contact Information

A - Administration and Leadership

This division is concerned with research, theory, development, and the improvement of practice in the organization and administration of education.

Chair: **Ted Zigler**, University of Cincinnati, 405 Teachers College, Cincinnati, OH 45221, *ted.zigler@uc.edu*

B - Curriculum Studies

This division is concerned with curriculum and instructional practice, theory, and research.

Chair: **Tasha Almond-Reiser**, University of South Dakota, Delzell Education Building, Educational Psychology, 414 East Clark Street, Vermillion, SD 57069, *Taha_Almond@hotmail.com*

C - Learning and Instruction

This division is concerned with theory and research on human abilities, learning styles, individual differences, problem solving, and other cognitive factors.

Chair: **Selma Vonderwell**, Cleveland State University, 1180 Chambers Rd, 103-B, Columbus, OH 43212, *selma_89@yahoo.com*

D - Measurement and Research Methodology

This division is concerned with measurement, statistical methods, as well as both quantitative and qualitative research methods, as applied to educational research.

Chair: **Gibbs Kanyongo**, Duquesne University, 410A Canevin Hall, Pittsburg, PA 15237, *kanyongog@duq.edu*

E - Counseling and Development

This division is concerned with the understanding of human development, special education, and the application and improvement of counseling theories, techniques, and training strategies.

Chairs: **Jennifer Weber**, University of Kentucky, 131 Taylor Education Building, Lexington, KY 40506, *jweber@email.uky.edu*

F - History and Philosophy

This division is concerned with the findings and methodologies of historical research in education.

Chair: **Nathan Myers**, Ashland University, 401 College Ave., Ashland, OH 44805, *nmyers@ashland.edu*

G - Social Context of Education

This division is concerned with theory, practice, and research on social, moral, affective, and motivational characteristics and development, especially multicultural perspectives.

Chair: **Tom Parish**, Upper Iowa University, 29 Professional Bldg, Fayette, IA 52142, *parisht@uiu.edu*

H - School Evaluation and Program Development

This division is concerned with research and evaluation to improve school practice, including program planning and implementation.

Chair: **Angeline Stuckey**, Northern Illinois University, Department of Leadership, Ed. Psych and Foundation, DeKalb, IL 60115, *astuckey@niu.edu*

I - Education in the Professions

This division is concerned with educational practice, research, and evaluation in the professions (e.g., medicine, nursing, public health, business, law, and engineering).

Chair: **Frank DiSilvestro**, Indiana University, Owen Hall 201, Bloomington, IN 47405, *disil@indiana.edu*

J - Postsecondary Education

This division is concerned with a broad range of issues related to two-year, four-year, and graduate education.

Chair: **Marc Cutright**, Ohio University, 374 McCracken Hall, Athens, OH 45701, *cutrighm@ohio.edu*

K - Teaching and Teacher Education

This division is concerned with theory, practice, and research related to teaching at all levels and in-service and pre-service teacher education, including field experience supervision and mentoring.

Chair: **Tracey Stuckey-Mickell**, Northern Illinois University, 208 Gabel Hall, DeKalb, IL 60115, *tstuckey@niu.ed*

L – Educational Policy and Politics

This division is concerned with educational policy as well as political, legal, and fiscal matters related to education.

Chair: **James Murray**, University of Missouri-St. Louis, 700 Mansfield Dr., St. Louis, MO 63132, *murrayja@umsl.edu*

Session descriptors are available at www.mwera.org

Using Distance Education to Prepare School Administrators: Pitfalls and Effective Practice

Theodore J. Kowalski
University of Dayton

Abstract

The employment of practitioners and the expansion of distance education courses have become controversial issues in the preparation of school administrators. In large measure, both actions have been condemned by many senior professors, primarily because they believe that college administrators have pursued them for economic reasons rather than for educational improvement. First, the merits of this perception are examined. Second, the pitfalls and promises of each issue are identified and then recommendations are made for improving practice. The potentialities of involving practitioners in professional preparation and making pre-service and in-service education more accessible via distance education will not be realized unless regular faculty are committed to these ideas and deeply involved in making decisions about their deployment.

Noted scholar Donald Schön (1990) used a topographical analogy to describe the nature of problems common in professions. Dividing context into high ground and lowland, he characterized the former as dry and serene—territory where practitioners routinely attend to problems that lend themselves to research-based theory and techniques. He characterized the latter as swampy and unsettling—territory where practitioners encounter messy and confusing problems that defy textbook solutions. Schön observed that most professionals prefer to remain high and dry even though they realize their most significant and difficult quandaries are in the swamp. Arguably, the proliferation of distance education (DE) in the preparation of school administrators has become an insidious lowland dilemma. Though many professors acknowledge DE's dark side and though some have openly and vigorously criticized this instructional medium, few have been unwilling to descend into the swamp in order to explore this issue rationally (Kowalski, 2004).

This paper explores the pitfalls and promises of deploying DE as an instructional medium. Discussion of this topic begins with an overview of institutional motives; the intent is to demonstrate that competition and economics rather than professional and pedagogical purposes are responsible for DE's remarkable proliferation. Next, common deployment pitfalls and their negative consequences are identified. Third, the potential of DE to improve the preparation of school administration is examined. Last, policy recommendations are made in relation to DE's promises.

Motives and Resistance

Since the mid-1980s, university administrators have discovered that DE is potentially a "cash cow"; that is, the medium can be delivered "to a large number of paying customers without the expense of providing things such as temperature controlled classrooms and parking spaces" (Brown & Green, 2003, p. 149). Either willingly or under pressure from policy elites (e.g., state officials or trustees), university administrators have implemented DE, especially in schools of education and especially at the graduate school level. In just four years, from 1995 to 1998, the percentage of post-secondary institutions using asynchronous Internet technologies for their DE offerings nearly tripled (Lewis, Snow, Farris, Levin, & Greene 1999). More recently, an Illinois study reported that online enrollment in higher education in that state increased 54% in the one year between 2001-02 and 2002-03 (Jorgensen, 2004). Very recent estimates indicate that approximately 90% of all colleges and universities now offer some form of DE (Levinson, 2005).

The development of DE degrees and courses, however, often has been mired in myths and skepticism. Consequently, important institutional decisions may have been based on unfounded hypotheses—such as believing that "shifting from bricks to clicks will transform learning" (Sherry, 2005, p. 374). In addition, online courses unquestionably have and continue to make many professors uncomfortable. The reasons why regular faculty feel uneasy are many and varied but the following are among the most notable causes:

- Philosophically, many faculty members are convinced that DE is an ineffective or possibly even unethical alternative to providing a college education—especially for traditional-aged students (O'Quinn & Corry, 2002).
- Many faculty members believe that this instructional strategy is vulnerable to externally set agendas (e.g., legislative efforts to reduce funding to higher education) (Calvert, 2005).
- Many faculty members resist DE simply because they have an aversion to change; that is, they want to continue teaching as they have in the past (Berge, 1998; Parisot, 1997).
- Some faculty members resist DE because they are not comfortable using technology (Parisot, 1997).
- Some faculty members resist DE because they are concerned about the possible effects on their job security (e.g., they fear that DE is being implemented to reduce personnel costs) (Maguire, 2005; McLean, 2005).

Referring specifically to educational administration, Fusarelli (2004) also argues that the development of school administrators is fundamentally and irrevocably an interpersonal, relational process that cannot take place via a disembodied and depersonalized delivery system.

Despite a myriad of concerns, DE continues to spread. Today's student has multiple options when it comes to selecting providers and programs (Romiszowski, 2005). Facing mounting competition from for-profit enterprises, most established universities now offer DE courses and programs available worldwide including even advanced research (Ph.D.) and professional degrees (e.g., Ed.D. or J.D.). Overwhelmingly, professors at traditional institutions share a belief that college administrators have adopted DE more for "economic reasons than educational purposes" (Navarro, 2000, p. 283). Romiszowski (2005) contends that the greater availability of on-line courses and decreasing costs of technological infrastructures have literally pushed traditional colleges and universities into on-line markets. DE removes most time and place boundaries of the traditional campus and as a result, competition for students intensifies and higher education institutions are incrementally transformed into capitalistic enterprises (Margolis, 2000).

In summary, anti-DE professors believe the concept has been deployed for purely fiscal purposes, most notably, to contend with growing competition and dwindling resources. Consequently, they have come to view on-line courses as being popular only because they generate low-cost student credit hours. They add that DE is only inexpensive when it is done ineffectively (Carr, 2001; Navarro, 2000). Although there are countless opinions on the long-term costs of this instructional approach, most analysts (e.g., Barbera, 2004; Rumble, 1997) concur that it is potentially more expensive than face-to-face instruction. In the context of these convictions, anti-DE professors assert that the process is playing a major role in transforming the modern university into a capitalistic enterprise where students become and get treated as customers.

Value and Effectiveness

Beyond the policymakers and university administrators who have focused on economics, DE is supported by some professors who view the process as beneficial to students and society. For them, on-line courses have the potential of making higher education accessible to many more citizens without necessarily diminishing the quality of instruction. Moreover, they believe that DE actually has philosophical and pedagogical advantages in relation to face-to-face courses (Altbach, 1992). Consider the following examples of positive comments found in the literature:

- Barley (1999) described DE as an effective delivery system capable of responding to rapidly emerging work-related needs in a global economy.
- Lamb and Smith (1999) contended that DE offers learning opportunities for individuals who otherwise would not attend college, either because they do not have easy access to a campus or because they lack the resources to reside on a campus.
- Sikora (2002) claimed that DE already has played an instrumental role in eradicating normative age standards, and as a result more adults are taking college courses and pursuing degrees.
- Leonard (2001) maintained that DE is especially well suited to meet the needs of many graduate and continuing education students; he pointed to successful partnerships between universities and organizations employing large numbers of professionals (e.g., school districts, hospitals, and accounting firms) to support his contention.
- Lamb (2005) asserted that DE can eliminate a common problem found in many face-to-face courses—a few students dominating classroom discussions while the remaining students remain passive. She maintained that properly designed on-line courses require all students to exchange information with each other and with the instructor.

Favorable comments also have been made in relation to school administration specifically. Professor James Morrison (2005) wrote the following about his personal experience teaching a DE course at the University of North Carolina:

> I changed my role as teacher from actor to director and demanded a corresponding transition in student behavior that countered prevailing norms. Several of my colleagues were upset because I deviated from a paradigm that regarded educational administration/leadership as a field of defined knowledge that is taught to students, usually sequentially. My constructivist approach focused on process, not defined knowledge…Therefore, student papers—not my lectures—constituted the "content" of the course. (p. 254)

Skeptics, however, understandably prefer empirical evidence over testimonials. Fortunately, a considerable volume of DE research has been conducted since 1980 (Reeves, 2005), much of it comparing on-line with face-to-face courses. Overall, individuals who have examined these studies have accepted the premise that there are no significant differences between outcomes produced by the two approaches (Tucker, 2001). This judgment, though, is based almost entirely on meta-analyses of studies that focused entirely or primarily on student test scores (Zhao, Lei, Chun Lai, & Tan, 2005). Other studies (e.g., Gunawardena & McIsaac, 2004; McIsaac & Gunawardena, 1996) examining qualitative dimensions of DE have produced less favorable outcomes. For example, such studies have found that quality, rigor, and timing vary more in DE than in face-to-face classes (Zhao et al., 2005). The following are examples of more specific problems:

- Failing to provide adequate institutional preparation. Pressures to move to DE usually have been great and therefore, some institutions began offering courses with only minimal preparation (McArthur, Parker, & Giersch, 2003). As an example, courses often were developed and

delivered in the absence of a vision and strategic plan (McLean, 2005). Moreover, some instructors averse to change were required to teach on-line and the fact that they refused to adjust their teaching was basically ignored by university officials (Anderson & Middleton, 2002). As a consequence, students affected were unfairly subjected to trial and error experiments masquerading as legitimate courses (Schrum, 2000).

- Failing to establish an appropriate organizational/administrative structure. The effective deployment of DE often has been hampered by issues such as ineffective or insufficient policy and regulations, authority ambiguity, and a lack of effective leadership and management. Jurisdictional disputes between DE administrators and department chairs, for example, have been relatively common. Such problems have contributed to perceptions among regular faculty that teaching on-line is a precarious assignment (Muilenburg & Berge, 2005).
- Failing to recognize and reward DE instructors. Symbolically, recognition and monetary rewards are manifestations of institutional culture (Kowalski, 2006b). Consequently, faculty members typically separate behaviors and choices that are valued from those that are not. Professors teaching on-line often have not received special credit toward promotion and tenure (Lee, 2002), monetary supplements to compensate for the additional planning time required (Schifter, 2000), and fiscal incentives to compensate for the risk and uncertainty inherent in this assignment (Maguire, 2005).
- Excluding regular faculty from being involved in planning and management decisions. Administrators at some colleges and universities have used a "top-down" approach to implement DE courses (Yang & Cornelious, 2005). Such a political-coercive strategy has produced resentment and overt faculty opposition (Kowalski, 2006b).
- Creating curricular restrictions. Faculty often must make content concessions when teaching on-line courses, either because of infrastructure limitations or because of efficiency measures. As a result, they feel that their academic freedom is being limited (Dahl, 2004; Navarro, 2000).
- Assigning classes primarily to part-time faculty. A significant portion of DE courses have not been taught by tenured faculty or even full-time faculty (Goode, 2004). In part, reliance on part-time instructors is explained by three issues. First, preparing to teach DE courses takes much more time than preparing for a face-to-face course (Lorenzetti, 2004), a factor prompting many regular faculty to avoid these assignments. Second, DE courses are often scheduled and controlled by continuing education divisions (Husmann & Miller, 1999), units accustomed to employing part-time instructors (Yang & Cornelious, 2005). Third, the low cost of part-time instructors accommodates the objective of improving fiscal efficiency (Kowalski, 2006a).
- Failing to provide sufficient technical support. Both instructors and students inevitably encounter technical problems in on-line courses. This fact has been ignored at some institutions and as a result, too little or ineffective support has been provided (Rittschof & Griffin, 2003). Insufficient technical support has dissuaded some professors from accepting DE assignments (Olcott & Wright, 1995).
- Failing to assess student progress**.** Unfortunately, student grades in many DE courses were determined largely on the basis of procedural participation (Hamilton, Dahlgren, Hult, Roos, & Soderstrom, 2004). In part, this decision reflects a conviction that cheating in on-line courses is easy (Kennedy, Nowak, Raghuraman, Thomas, & Davis, 2000). Therefore, tests and term papers, the two most common tools for grading student learning (Menges & Austin, 2001) have been used less frequently on-line than in face-to-face courses. Overall, negative stereotypes about the academic integrity of DE courses abound (Baron & Crooks, 2005).
- Failing to provide legal clarity. A variety of legal issues, such as copyright, intellectual property, and responsibility for course content, emerge in relation to DE (Throne, 2000). Left unresolved, these issues either encourage instructors to avoid on-line teaching or they diminish curricular quality (Alger, 2002).

Fulfilling the Promise

At least for the foreseeable future, the challenge for educational administration faculty is ensuring that DE courses are deployed effectively. To meet this objective, every faculty member, including part-time instructors, should engage in discourse about the philosophical, curricular, and instructional issues generated by on-line courses. This dialogue should be framed not only by known problems but also by best practices. In this vein, the following initiatives provide a foundation for pursuing DE appropriately.

Creating a Culture of Introspection, Flexibility, and Excellence

Much of the resistance to deploying DE courses has been nested in the assumption that traditional programs have and continue to prepare practitioners effectively. This conviction has provided DE opponents a convenient but inaccurate rationale for resisting change (Kowalski, 2004). In truth, the quality of professional preparation varies markedly across the more than 500 institutions providing graduate courses in school administration, a fact that has been addressed by many educational administration scholars since the mid-1980s (Murphy, 2002).

In more than a few departments of educational administration, faculty members have viewed reforms as an unpleasant distraction that uncontrollably waxes and wanes (Kowalski, 2004). Guided by this assumption, they have

treated DE as another in a long line of ill-conceived ideas that will eventually be discontinued. A healthy foundation for developing on-line instruction is more likely to occur in a climate that sees change as essential—that is, an intellectual environment where faculty objectively evaluate the status quo and then discuss and evaluate their shared commitment to excellence and organizational development (Berquist, 1992).

Creating or Modifying a Shared DE Vision

In the absence of a shared vision, economic motives are likely to be the sole or primary determinant of staffing and delivery decisions. A clear and attainable portrait of the future broadens criteria for curricular and instructional decisions (Drabier, 2003; Ruben, 2004). Vision is especially crucial for on-line teaching because regular faculty question the extent to which this instructional paradigm is based entirely on political and economic motives (Hache, 2000; Moore, 1994). Ideally, a departmental vision should be an extension of a school or college vision which is an extension of a university vision. The statement should articulate not only a desired state at some point in the future but also philosophical and pedagogical ideals linking on-line teaching to excellence.

Creating or Modifying a Strategic Plan

Problems that developed in relation to DE often lingered because they were not identified and analyzed in relation to society's needs, student needs, and departmental goals. Strategic planning is a procedure that can correct this error and provide a structured strategy for achieving the department's mission and vision. The quantity and quality of on-line teaching needs to be examined periodically if not continuously because internal or external developments occur after the vision statement is written and they may require revisions to the vision (Kohrman & Trinkle, 2003). For example, an institution may broaden its technological capabilities making it possible for an educational administration department to offer a broader variety of on-line courses.

In addition, strategic planning and policy development should be intertwined (Gellman-Danley & Fetzner, 1998) because both functions are integral to shaping specific programming goals (Sachs, 2004). Ideally, faculty should have the benefit of being guided by University and College of Education policy on DE (Schauer, Rockwell, Fritz, & Marx, 2005) but apparently, this advantage has not existed across school administration programs.

Ensuring Institutional Commitment

Three approaches have been used to offer online courses. The first is to allow individual professors to experiment by providing them access to whatever instructional technology assistance that may already exist in the university. The second is to allow selected departments to pursue this initiative by adding an instructional developer to assist faculty. The third is to pursue DE as an institutional initiative by creating an infrastructure and separate unit for developing and managing online courses. The last option is undeniably the most expensive and conflict-laden. It requires considerable investments in human and material resources and it depends on university-wide acceptance. As previously described, philosophical and political resistance almost always emerges when professors oppose DE or when they want the institution's scarce resources to be used for different purposes (Duin, Poley, Baer, Langer, & Pickett, 2002).

Pursuing DE as an institutional initiative is difficult but it has proven to be the most effective option. In large measure this is because the other two options rarely muster sufficient political and economic support essential for developing and delivering highly effective on-line course (Sachs, 2004).

Involving Regular Faculty in Critical Decisions

Far too often, DE has been a top-down initiative—a strategy that has at least encouraged faculty resistance. Studies of successful on-line learning reveal that faculty involvement in key decisions is crucial (Maguire, 2005; Sachs, 2004). And this is true both at the initial and subsequent deployment stages. As institutional initiatives mature, the need for conceptualization, application, and evaluation become more important than technological applications (Beaudoin, 2003); therefore, professors need to play a central role in guiding course content and pedagogy. In addition, faculty participation serves a political purpose by creating a sense of ownership for decision participants (Hanson, 2003).

Ensuring Process Flexibility

Rigidity can cause many problems in on-line teaching including faculty dissatisfaction. Describing this problem, Schrum (2000) noted that research with online MBA programs revealed that professors "had significant concerns about the pedagogical rigor left in their courses after modifications for online delivery had been mandated" (p. 44). In large measure, rigidity results from the goal of making all on-line courses uniform. This objective is driven by efficiency (i.e., the time and cost of course design is diminished by forcing all professors to adhere to a predetermined format) and by the treatment of students as customers (i.e., there is an assumed comfort level for students when all DE classes adhere to a single instructional format). If DE limits academic freedom, faculty resistance usually intensifies and instructional effectiveness is diminished.

Preparing Faculty to Teach On-line

Often instructors, and especially adjunct faculty, have been assigned to teach on-line courses with minimal knowledge of this instructional approach. As a result, they typically transpose face-to-face courses into a digital format—a design decision that has proven to be ineffective (Weigel, 2000). To avert this problem, policy should address both curricular and technological preparation. The former deals with adaptations of course content to on-line teaching; the latter deals with managing the instructional delivery systems. At a minimum, instructors should be required to engage in planning with curriculum and technology consultants before teaching DE courses (Goode, 2004).

Providing Adequate Technical and Financial Support

Technical problems with on-line courses are inevitable. Although many universities have computer "help desks," these operations may not provide timely assistance to either instructors or students. Moreover, support systems can become outdated quickly if they are not improved continuously (Rittschof & Griffin, 2003). The lack of technical support is most likely to occur at universities where DE is treated as an individual or department initiative. As an example, a university shut down its computer networks one weekend every month to conduct updates and improvements. Officials responsible for this decision totally ignored the fact that four of the university's departments offered on-line courses and that these courses had scheduled weekend activities (e.g., deadlines for submitting modular assignments).

Equally important, DE instructors require financial support. Resources are especially important in two areas: financial incentives for regular faculty to participate in DE (e.g., course development stipends) and financial support for acquiring essential materials and copyright permissions (Keaster, 2005).

Ensuring Student Assessment and Academic Honesty

The credibility of on-line courses has been damaged by the absence of provisions requiring rigor in student assessment and the prevention of academic dishonesty. Deficiencies in these areas are grounded in two myopic beliefs about DE: direct assessment is impractical and cheating is inevitable (Lorenzetti, 2004). As a result, some instructors have graded students primarily on the basis of how often they participate (e.g., how many times they access the course homepage or how many times they post and read messages). This practice has contributed to the popular perception that on-line courses are less rigorous than face-to-face courses. Both policy and support mechanisms for dealing with direct assessment and cheating are absolutely necessary. The expectation that higher cognitive processes (e.g., application and analysis of knowledge) are assessed should be no less in DE than in any other form of instruction (Oosterhof, 1994).

Promulgating Policy on Intellectual Property and Copyright

Intellectual property and copyright can be gnarly problems for university administrators. As an example, a professor may develop videos, PowerPoint presentations, and other original material for his or her course. Is the university at liberty to allow another professor to teach the same course using the same material? Some university officials have attempted to evade this difficult question by adopting a "cookie cutter" approach to on-line teaching. That is, experts are retained to design courses and in exchange for compensation, the intellectual rights are legally transferred to the university. Then less expensive part-time instructors are employed to deliver the courses, functioning basically as tutors (Schrum, 2000). In addition to providing a questionable form of instruction, this approach discourages regular faculty from teaching on-line courses because they are not rewarded for the ideas and materials they develop.

Equally noteworthy, possible advantages of on-line teaching may be ignored simply because instructors are fearful of copyright violations. As an example, DE offers greater opportunities than face-to-face classes to integrate video and audio presentations. Instructors, including highly-experienced professors, require assistance with copyright issues—and this entails more than warning professors not to violate the law. Intellectual property and copyright policies should encourage not discourage professors to teach DE courses and they should be written to protect the institution, instructors, and maintain academic freedom. (Gasaway, 2002).

Rewarding Professors for Developing and Teaching DE Courses

In the political context of academe, the value of any activity is weighed in relation to promotion and tenure. Thus, efforts to engage regular faculty in DE are enhanced when online teaching is recognized and rewarded in relation to these two employment variables (Rittschof & Griffin, 2003; Schrum, 2000). Moreover, establishing a reward for online teaching—one comparable to traditional scholarship, teaching, and service awards—is symbolically important.

Final Thoughts

Regrettably, the decision to use DE to deliver pre-service and in-service school administration courses at most institutions has been nested in pragmatic political and economic challenges. For many would-be reformers, on-line education is an inferior approach, not because it lacks potential but rather because it has been exploited. There are already more than 500 institutions offering school administration courses and arguably over half of them lack adequate faculty and material resources to deliver quality programs. Each year, the number of new programs grows largely for the following reasons:

- There are no national curricula for preparing principals and superintendents (Kowalski, 2006a) and thus, institutions have considerable freedom to design their own programs.
- State licensing does not protect school administration profession to the extent that it protects more established professions. Standards vary markedly across states and a growing number of states have eliminated or weakened licensing requirements (Feistritzer, 2003). As a result, entrepreneurial and low-quality programs have been allowed to operate—a development that deepens concerns about the professional stature of school administration.
- The myopic belief that there is a critical shortage of practitioners has prompted policymakers in many states to encourage new programs (Kowalski & Sweetland, 2005), especially innovative ventures that promise to deliver instruction at below average costs.

Clearly, DE is a two-edged sword for educational administration. On the one hand, it can help to ensure that preparation programs and continuing education are adequate and available to all who need them. On the other hand, it can accelerate negative trends that already threaten the future of school administration as a profession. The ultimate effect of DE depends on professors, including those who do not teach on-line. If they elect to remain on the high ground where they can complain and criticize without getting their feet wet, then the continuing downward spiral described previously seems inevitable. If instead they bravely wade into the murky water and engage university administrators and colleagues in meaningful discourse, they demonstrate that rigor and relevance are no less important and no less possible for this medium than they are for face-to-face classes.

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Using Internet Technology to Apply and Extend Research from the Past: Reviving Work on Instructor Notes and Review Questions

Mark Grabe
University of North Dakota

Abstract

The theme of the 2006 MWERA conference, Teaching and Learning in an Electronic Era, offered an opportunity to reflect on opportunities and challenges created by new technologies. This paper focuses on applied educational research and identifies a set of interrelated research opportunities enabled because of the Internet. While these opportunities are explored using two specific examples (Instructor Notes and Review Questions), it seems reasonable that similar opportunities exist with other topics.

While some may be interested in taking advantage of the power of the Internet and other digital technologies to drastically reform educational practice and may interpret what I am proposing as more of the same old thing, I see value both in exploring new opportunities and in carefully evaluating how the Internet may allow old ideas to be applied in powerful new ways. Part of the argument I will advance here contends that, in fact, many old ideas studied so carefully in research labs were never actually implemented and new technologies may now allow such ideas to be attempted and evaluated in settings where they may benefit students.

The potential opportunities I see for researchers can be described as an implementation model consisting of interrelated stages that unfold sequentially but generates multiple feedback loops prompting renewed activity at previous stages. The stages can be described as follows:

Stage 0 – Stage of Inactivity. Some research topics generate a great deal of activity and then seem to go dormant. Before the period of dormancy begins, a body of literature resulting mainly from laboratory studies periodically integrated into reviews is accumulated. A dormant topic might be differentiated from a dead topic by the inability of those involved to generate useful applications based on what seem to be insightful principles.

Stage 1 – Stage of Revival. A research topic can be revived when some new insight or technology allows the advancement of theory or productive application. The Internet and related technologies offer opportunities for applying and field testing ideas largely derived from laboratory research.

Stage 2 – Field Based Validation. In education, laboratory research is often limited by some predictable validity problems. Laboratory studies tend to be short in duration, use artificial content, and lack the consequences to participants that influence the motivation of students in applied settings. Even the careful control over circumstances that is so valued in theory building can cloud predictions made regarding application. Learners in applied settings have considerable freedom and frequently do not use opportunities or resources as intended. Because the Internet and related technologies allow anytime and anywhere access, learning opportunities offered through the Internet can be embedded as part of the natural learning environment within which students function. The data collection and communication capabilities of these same technologies provide a window allowing the collection of data and the study of learning behaviors in a natural context.

Stage 3 – Stage of Unintented Consequences. Technologies that become part of daily life have a way of generating unintended consequences. Students will appropriate powerful tools to their own needs. As some of these adaptations are identified, understanding the new behaviors will become the focus of new research activity.

The comments that follow are intended to outline two research areas in which this model applies. I acknowledge many limitations; the areas were selected based on my personal involvement, the historical overviews are not intended to be complete, the recent Internet-enabled research is mostly my own, and many of the questions I raise I do not claim my research or the research of others can presently answer. My intent is to use these examples to encourage consideration of a general perspective that others may find helpful in thinking about ways in which the Internet and related technologies may advance both classroom applications of existing research and research within the context of applied settings.

Example One—Supplemental Lecture Resources

Research on student note-taking was quite prevalent before 1990. Kiewra (1989) estimated that more than 100 studies had investigated issues associated with student note-taking. A descriptive model proposed by DiVesta and Gray (1972) organized the early research and continues to be referenced by present investigators. This model has encouraged an examination of the benefits, difficulties, and potential interventions associated with the cognitive processes involved in *encoding* (taking notes) and then making use of the *external storage* generated in the note taking process (study of notes). Taking notes potentially offers an active way of processing

new information and provides a tangible record for later study. Students who struggle in the process of taking notes, perhaps because of poor content area knowledge or processing capacity overload (Kiewra and Benton, 1988) may learn less from the immediate experience and then encounter a secondary obstacle because they must attempt to study from an incomplete record of the original presentation. In one study, Kiewra (1985) found that student notes contain less then 50% of the idea units presented. Providing students access to what are often described as "instructor notes" has been evaluated as a solution to both the problems of encoding and external storage (for a recent review see Armbruster, 2000). Instructor notes can eliminate the cognitive demands of note taking or can provide a structure within which personal notes can be embedded. Instructor notes also assure that essential information is available for review.

Revival. The Internet and commonly available course management software offer instructors the practical opportunity to offer notes and other lecture supplements to students. In a study involving 700 University of Wisconsin System faculty members who used a course management system (CMS), Morgan (2003) determined that 70% of instructors made lecture supplements available to students. While the meaning of lecture supplements is somewhat ambiguous, lecture outlines (e.g., PowerPoint presentations) and lecture summaries would certainly fit and are likely to be the type of resource many instructors make available. When the original research on providing lecture notes to students was conducted, providing students instructor notes would have been a significant logistical challenge. Instructors would have to work far enough ahead to prepare materials in a format appropriate for distribution, have a large number of copies printed and then distribute these resources before class. Now, the same resource used to support a lecture during class can be conveniently shared with students using a CMS.

Field Based Validation. An Internet based delivery system (a CMS or other server-based system requiring students to identify themselves to gain access) offers researchers the opportunity to collect data on student use of lecture resources. These data can then be related to student characteristics, examination performance, and student descriptions of study strategies. There are some very basic, but important questions that should be answered. For example, how frequently do students use online lecture resources and are lecture resources used in ways that are consistent with what laboratory research suggests would be advantageous. More specifically, are lecture outlines downloaded before class so the outline can be used to increase the efficiency of processing lecture content?

A second research topic might involve field based investigations of if and how students are willing to use various "representations" of lecture content. The primary focus of existing laboratory research has been on outlines and complete notes, although other methods for representing lecture content have been investigated such as matrix notes (Kiewra, Dubois, Christian & McShane, 1988). Recent interest in "podcasting" lecture content represents a largely unevaluated addition to this list of alternatives (Campbell, 2005).

Unintended consequences. While a substantial body of literature evaluating online lecture resources has yet to accumulate, educators and a few researchers have started speculating about at least one unintended consequence. If complete representations of lecture content such as lecture summaries or audio recordings are available online, perhaps students will be inadvertently encouraged to skip class (Potts, 1993). I have commonly encountered this concern among colleagues, but I have found little published data on this topic. The issue might be addressed through two questions: First, do students skip class more frequently when provided access to online resources? Second, does the performance of students suffer when they use online resources as an alternative to attendance?

Sample from the new literature. Several recent studies have examined relationships among the student use of online lecture resources, examination performance, and student attendance (Christopherson & Grabe, 2006; Grabe, 2005; Grabe & Christopheron, 2005; Grabe, Christopherson & Douglas, 2004-2005; Herson, Sosabowski, & Loyd, 1999; Vandehey, Marsh & Diekhoff, 2005).

Because of the time, effort, and expense in generating and posting online resources, a fundamental question is whether students will use the resources. Grabe and Christopherson (2005) report that across a semester students viewed 61% of outline notes and 56% of complete notes. Vandehey, et al, (2005) reported that approximately 70% of students viewed notes. Christopherson and Grabe (2006) report findings from a study comparing student use of multiple lecture resources that may contradict popular sentiment. They determined that students accessed 61% of outline notes, 19% of complete notes, and less than 3% of audio "notes." These authors argue that despite the interest in audio representations of lectures, students may prefer a text summary of the lecture. Complete notes may be faster to review, easier to scan to locate topics that were misunderstood, and potentially of greater value because the notes had been "preprocessed" by a more experienced student such as a graduate student note taker.

The question many instructors probably want answered is whether the use of "instructor" notes benefits students. This may not be the best question to ask of this collection of studies. Vandehey, et al. (2005) offers the one example of an attempt to control access to notes, such as outline notes, complete notes, or no notes, across groups of students. This study found no differences in achievement or attendance across groups. However, the study also offers an insight into the interpretive complexity researchers encounter when using manipulative procedures to investigate voluntary behaviors. A survey of students in the outline note group found that less than 70% of students downloaded the notes and "most" did not look at notes before the corresponding lectures were given. Interpreting the results of group comparisons when members of the groups may avoid the treatment experience that defines the group or alter the intended use of the treatment

is problematic. In contrast, the Grabe studies demonstrate consistent positive relationships between voluntary note use and achievement and between note use and attendance. These results suffer from a different interpretive problem. Note use is likely confounded with motivation.

Grabe (2005) attempted to contrast the examination performance of outline note users differentiated on the basis of when the notes were first accessed. It was hypothesized based on the assumed advantage of outline notes in supporting the encoding process that students who downloaded the outline notes before lectures would perform better than the students who first accessed the notes within two days of the examination. No performance differences were evident.

All of the studies cited here included some consideration of the relationship between online note use and absenteeism. It seems possible that popular interest in this issue and the attempt to offer some information influenced the decision to publish these studies. Grabe and Christopherson (2005) contrasted the online note use of students grouped as seldom absent and frequently absent. Students who were seldom absent made significantly greater use of online notes. There was a group by viewing time interaction. Those who were seldom absent made greater use of notes during the period when the content covered in the notes was being discussed in class. The groups first accessed notes at a similar rate at a later time when notes might have been used uniquely to review for an upcoming examination. Grabe, Christopherson and Douglas (2004-2005) noted that students miss class for a variety of reasons and instructors may feel differently about the use of notes as a substitute for attendance depending on the reason. Students were asked to estimate the number of lectures they had missed and to estimate the proportion of these absences that fell into five categories; illness or personal emergency, nonacademic University conflict such as athletic events, competing academic commitments, work, or voluntary skipping. Voluntary absences made up 44% of all absences and probably represent the category that most concerns instructors. Students were then asked to indicate how important access to notes was in the decision to miss class for each reason. Access to notes was indicated to play the most important role for voluntary absences, but the rated importance was similar for competing academic demands and surprisingly for illness or personal emergency. Christopherson and Grabe (2006) examined the relationship among attendance, performance, and note access. Performance data were based on five examination questions associated with two lectures for which class attendance was known. This study indicated that using online notes was more beneficial to those students who were not in class than to those who were.

Example Two—Adjunct Questions

Like note taking, research considering the consequences of providing learners study questions, sometimes describes as interspersed questions or adjunct questions, was quite common before 1990 (e.g., Anderson & Biddle, 1975; Hamaker, 1986). Originally, the focus assumed benefits from focusing student attention or engaging students in the active processing of question-related information. A wide variety of subtopics were considered such as:

- did a factual or applied question influence learning?
- should questions precede or follow exposure to the content to be learned?, and
- does the number of questions associated with a learning goal influence performance.

More recently, engaging learners with questions has also proven to be a method for improving metacognition (Pressley, Snyder, Levin, Murray & Ghatala, 1987). Questions represent a "test like event" offering feedback that provides insight into what is understood and what is not. The benefit in this case is not derived directly from the experience of answering the question, but from taking action when feedback indicates more study is required. For example, Alessi, Anderson and Goetz (1979) provide an early example of using feedback from individual questions to guide targeted review. While questions commonly appear at the end of college textbook chapters and sometimes at the beginning of chapters to establish learning goals, the cost of inserting questions and the related concern that many students ignore inserted material has limited extensive use of questions in hard copy learning materials.

Revival. Online quizzes represent an early effort to move student learning experiences in online or hybrid courses beyond the review of pages of static course information. Quizzes provide students valuable feedback regarding their level of preparation for future examinations. While early quiz systems were developed by technologically savvy faculty members, dedicated commercial quizzing systems soon became available (Maki & Maki, 2001). The course management systems now available on most campuses include tools for preparing questions, presenting the questions to students, and storing student performance data for the purpose of identifying topics that should receive more attention or evaluating the understanding of students as part of the process of awarding a grade.

Field Based Validation. Some involved in using quizzes or study questions in hybrid courses collected data to determine whether access to questions improved performance on more significant course examinations (e.g., Brothen & Wambach, 20010; Maki & Maki, 2001) and whether access to questions improved metacognition (Maki, 1998; Pressley, Snyder, Levin, Murray & Ghatala, 1987). The opportunity to collect data on how students used online questions also indicated deficiencies in how students used such systems. Maki and Maki (2000) concluded that when students were allowed to control when they used online quizzes they frequently delayed taking the quizzes until the last couple of days before major examinations. Maki and Maki concluded that such procrastination reduced the effectiveness of quizzes in guiding study behavior. Grimstad and Grabe (2004) reached a similar conclusion regarding student use of the feedback from online

study questions in guiding review behavior. They provided students voluntary access to a system that presented study questions and presented feedback. Following each incorrect response students received feedback that included the book page number associated with the question. The intent was for students to reread passages from the textbook when learning they had answered specific questions incorrectly. The online system allowed the determination of the delays between the presentation of this feedback page and the request from the student for the next question. Grimstad and Grabe determined that the average delay was too brief to allow a lookup of book related material. Most students appeared to use the system to move quickly through the number of questions they chose to review.

Unintended consequences. Online quizzes in the studies cited here were not intended to play a major role in determining student grades, but rather to provide students feedback that will be helpful in preparation for major examinations. The points associated with quizzes appear necessary to establish a contingency assuring widespread participation (Maki and Maki, 2001). Unfortunately, it appears that associating quiz performance with required points may encourage students to look up answers for the questions provided in an online setting. Such behavior appears to reduce the value of quiz performance in estimating later examination performance (Brothen & Wambach, 2001). Brothen and Wambach (2004) evaluated an online quiz system that imposed a 15-minute time limit on 10 item multiple-choice quizzes and found that the predictive power of quiz performance was improved.

A new direction. Research on the role question feedback plays in computer-based instruction has enjoyed continuous attention (e.g., Mory, 2004). Interpreting the impact of feedback in influencing metacognition offers a somewhat different perspective. Using the accuracy of examination score predictions as a measure of metacognitive awareness, it appears that students who have made voluntary use of online study questions may not necessarily improve the accuracy of their predictions when contrasted with students not using study questions. This occurs despite the value of the data collected by the computer in predicting future examination performance (Grabe, Bordages & Petros, 1990). Some have begun to question whether poor predictions are a function of flawed metacognition (e.g., Bol, O'Shea, Hacker & Allen, 2003, Dembo & Jakubowski, 2003; Hacker, Bol, Horgan & Rakow, 2000). Participants may be unwilling to indicate they expect poor performance as a defensive measure or may make predictions on the basis of such factors as the score they would like to achieve.

Chrisopherson (2004) attempted to determine if students exposed to practice questions had information that would allow them to make improved predictions of examination performance. Before examinations, she asked those who had answered online study questions to estimate the proportion of the questions they had answered correctly and to estimate the score they would earn on the examination. On some of the examinations in a semester long course, regression procedures predicting earned examination score demonstrated that the recalled performance on practice questions accounted for significantly more variability than the predicted score. This outcome both indicates that use of the discrepancy between predicted and actual performance in applied settings may not represent a valid variable for assessing metacognitive skill and demonstrates the potential value of the data available when students respond to online questions. Developing and evaluating procedures for more effectively feeding this information back to students or even using this information to direct students toward poorly understood material during study sessions may represent productive opportunities for new research.

Summary

The Internet and related technologies can serve to revitalize research topics that have languished and provide insights into how students utilize applied opportunities based on this research. This paper identifies two examples, online lecture resources and adjunct questions, in support of this proposal. Applied research focused on these topics is clearly more primitive than the original body of research on which these studies are based. However, the field based research may not need to demonstrate causal relationships to be useful. An issue may be whether students respond in applied settings in ways that are consistent with the proposed advantages identified in more controlled and contrived settings. Documenting how students respond to online learning opportunities set in learner-regulated environments is a unique and important contribution and the data collection capabilities of server-based experiences provide a way to monitor what happens in such authentic settings. Contrasting the characteristics and performance of those students who use online learning opportunities in ways that seem appropriate and inappropriate may be a way to begin.

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Using Guidelines To Support Quality Moderation of Focus Group Interviews

Thomas M. Archer
The Ohio State University

Abstract

A Focus Group Interview (FGI) involves 6-9 people guided through a pre-thought line of questioning for 1-2 hours by a trained Moderator. The Moderator gives participants the opportunity to express ideas, thoughts, and views. This is a robust qualitative data collection method IF there is a skilled FGI Moderator. The Moderator sets the tone, delivers a high quality introduction, makes the discussants feel trusting, while at the same time managing a set of unstructured questions discussed by a mix of personalities within a relatively short time. The Moderators' Code is a set of ten guidelines for moderating successful FGIs.

The literature on Focus Group Interviews (FGI) emphasizes the importance of a trained and well qualified Moderator. The Moderator is supposed to "set the tone," deliver a "high quality introduction," make the discussants "feel relaxed and trusting," while at the same time managing a set of unstructured questions to be discussed by a mix of personalities within a relatively short time.This article focuses on the skills of the Moderator.

Moderators Must Be Physically Alert

Because Moderators must be physically alert it is essential that individuals be well-rested and free from other major obligations on the day of the FGI. It is not a good idea to do more than one FGI in a day, and if would be preferable to moderate no more than one FGI per week

Practice the standard introduction and asking the questions several times before the actual interview. This can be in front of a mirror or in a car as you are traveling to the FGI site. You do not need to have everything memorized. A bulleted outline or note cards can serve as aids, but it should not appear that you are reading. The discussion must be conversational, and your introduction and question asking must not distract from that.

Using Pre-interview Strategies

Not all participants arrive at the same time. One person generally arrives twenty minutes prior, while most participants arrive less than five minutes before the appointed start time. Always, there will be one person who shows up late, and another who fails to show up at all, even though she was confirmed the day before. The Moderator must have topics to discuss during this pre-interview time that DOES NOT relate to the purpose of the FGI. The first time that you want to hear about the subject of interest is during the actual FGI because the richness of the description is better the first time, and it will be better captured.

People seated next to the Moderator will have less opportunity for eye contact with the Moderator and not be able to gain acknowledgement to speak as easily, while those seated across from the Moderator are more likely to make eye contact will more easily engage in the discussion. In the best possible scenario, small talk prior to the focus group will help the Moderator identify the dominant talkers and the shy people. If this happens, one can appropriately seat the dominant talkers next to the Moderator, and the shy people across the table. This placement can be accomplished with ease if the Moderator creates name tents from folded 5"x 8" index cards. Once the dominant and shy people are identified right before the discussion begins, the Moderator only needs to place the name cards in the appropriate place for dominant and shy. One additional tip is to always put first names only on both sides of these name tents. Names on both sides are much easier for everyone to see, and if the name is put only on one side, about thirty percent of the time, the respondent will place the name card with the name facing them—as if it was a place card at a banquet.

In many cases the Moderator will NOT be able to identify dominant and shy individuals based on the prebriefing. There are other techniques for controlling dominant people, and encouraging the shy, and one of these is to attend to indicators in the recruitment process.

It is essential that the Moderator relate to respondents without talking up to them or down to them. Do not purposefully request the community status, financial resources, or even the job title of respondents. They should always feel on an equal plane with other respondents and the Moderator. The Moderator should not give his own title or position. It is best to say something, like, "Good afternoon, and welcome to our session. My name is Tom Archer, and assisting me is Boris Layman, and we are interested in {then state the determined purpose of the focus group project)."

Maintain rapport with verbal and non-verbal methods. Eye contact throughout is important, especially to determine who has something to say, and that you are interested in everyone's thoughts. Wearing clothing that is similar to the respondents is a good idea. Make attempts to illustrate how relaxed the atmosphere is by loosening one's tie, taking off a jacket, leaning away from the table, uncrossing the arms, and using welcoming hand gestures.

The first question is designed to engage all participants, and provide usable data. The goal is to get everyone to say something early in the discussion. It is well known that after a person speaks for the first time in a group setting, subsequent participation is more likely. Some FGI literature encourages

an easy to answer question that is extraneous or demographic in nature, rather than a question concerning the topic of the group discussion. However, if a question does not relate to the topic, then valuable time is wasted and demographic responses may change the group dynamics by causing one person to think another has more knowledge. When this occurs the first person does not participate as much because she is yielding to one who is perceived as having more knowledge. For example, in a parenting discussion, if the first question is asked, "Tell me about how many children you have, and their ages:" A respondent with six children, ages 4 through 15, may be perceived to be more knowledgeable in parenting by the person who has only one five year old.

With the advent of stricter human subjects requirements necessitating voluntary participation, the Moderator can no longer state "For the first question, I am going to ask a question, pause for a few moments, and then start somewhere around the table. Everyone will answer the first question. After the first question, anyone may participate at anytime in any of the discussion." Now the Moderator needs to modify the opening direction to: "For the first question, I am going to ask a question, pause for a few moments, and then start somewhere around the table. Everyone will have the opportunity to respond to the first question. After the first question, anyone may participate at anytime in any of the discussion."

Moderators Need Special Skills during the Interview

Moderators should employ a number of strategies during the interview.

Give clear ground rules at outset. The most important part of a focus group interview is the standard introduction. Respondents must know that they have valuable information about the topic at hand. They must feel free to express opinions even though the opinions may differ from the opinions of others. They must know that the discussion is being audio recorded and the purposes and use of that audio recording. Respondents need to know about the creature comforts: restroom location; refreshments; and approximate ending time. Discussants should be aware that there will be no break, but that they are welcomed to leave the table if need be. It should be noted that only one person should leave the table at a time. A total group break should not be part of the discussion—it takes away valuable time, the discussion may be diverted to a topic of lesser or no interest, conversations become just between two people at a time, and it just takes longer to warm up to a group discussion atmosphere again after a break. If people are not told to take breaks one at a time, then the possibility exists of two or more people, or even the whole group, self initiating a break.

Take only minimal notes. Notes by the Moderator are generally only to help transition to a later question, or to identify an issue for further investigation. The biggest problem with the Moderator taking notes is that if she takes notes while respondent A is speaking, but not while respondent B is speaking, then respondent B is given the non-verbal signal that what he said was not as important, and then respondent B will not be as willing to speak later in the discussion. Also, there is no way possible for the Moderator to capture all of what is said, and no one can write quotes and listen very well at the same time. The Moderator has too many other responsibilities than to take notes.

Take care to transition between questions. Generally, there are 8-12 questions in a focus group interview questioning route. These will easily fit on one side of a sheet of paper in double spaced format. These questions have been constructed in advance and written for the purpose of conducting the focus group interview project. They need to be stated to the group as near to the way that they are written, and presented to every group in similar fashion.

Sometimes it may be more appropriate to ask a later question earlier in the discussion, if discussion goes in that direction. In some cases a question or questions may not even need to be asked, because the discussion proceeds on its own to the topics of the subsequent questions. At other times, the stakeholders want more specific information about an issue that in reality would take 3-4 additional questions. Instead of adding questions that would make the total list 11-16 questions, incorporate these more specific questions as sub-questions—only to be asked if the discussion does not go there. For example, if a questioning route contained the question, "How do you receive information about employment possibilities?", the stakeholder may be specifically interested in print or web classifieds. The discussion may go to these two sub-questions without asking. If it does not, this indicates that print or web classifieds are not a noted theme, and the Moderator can decide if the sub-questions need to be asked.

It is important that all questions in the questioning route be asked in all groups. Many times, the Moderator will be on question #4 only 15 minutes into the discussion, and he will think the group will end early. Subsequently the group begins to warm up and discuss things more in depth, maybe even re-visiting the second and third questions. Then, the Moderator may find that there are only 15 minutes left, and there are still three questions to ask. At this point, the Moderator might explain that to the group something like "There are only fifteen minutes left and I still have three questions. So I am going to ask a question, and limit the discussion to just five minutes for each question. Please try to shorten your responses, but please try not to limit the number or breadth of ideas that you may have for each question."

Practice active listening (or at least appear to do so). It is difficult to do all of the time, but the Moderator must be an observer and not a participant. Even if statements are made by participants that the Moderator knows to be wrong, the Moderator cannot correct the participant. He must have a listening rather than an informing attitude. Sometimes respondents in focus groups ask questions directly to the Moderator. One category of the respondent questions is for clarification about a question asked by the Moderator. The Moderator should not interpret the question, but rather just re-read or re-state the question, or tell the respondent, "We want to know what that means to you."

Often respondents ask questions to the Moderator requiring factual answers to which the Moderator may or may not have the answer. Rather than becoming the expert on that topic during the focus group, and thus becoming a participant,

the appropriate response of the Moderator is to say, "I have my questions to ask. After I ask all my questions, then we will attempt to answer your questions. I will make a note of your question and at the end we will address your question as best we can. Please remind me to do this if I forget."

Use the five second pause often. One of the most effective Moderator techniques is the five second pause. Either after asking a question, or after one of the participants makes a comment, wait at least five seconds before saying anything. Try it. Count to five seconds in silence. It seems like an eternity, especially in a group discussion setting. Most people do not like that silence, and if they have something they have been thinking about they will more likely say it before that five second pause ends. During that pause, the Moderator should scan the table, trying to make eye contact with the participants. If a participant makes eye contact, and if the Moderator makes a slight head nod towards the participant it is guaranteed that if there is something that respondent has to say it will be spoken.

An additional consideration is the use of head nodding. The example in the previous paragraph is the only time that a Moderator should nod her head. Constant head nodding is like saying, "More, More, More!" to the respondent. It is giving approval or agreement with the comments being made, and therefore making the Moderator a participant in the discussion. Also, if not used all the time, it has the same affect as a Moderator taking notes. For some people, constant head nodding is difficult to control in a Moderator role. Other people have a hard time not saying "Uh, huh, Uh, huh" to comments made, which has the same effect as head nodding.

Strategically use a probe. The probe is a request for additional information. Examples of probes are: "Would you explain further?"; "Would you give me an example of what you mean?"; "Would you say more?"; "Is there anything else?"; "Please describe what you mean."; or "I don't understand." Probes are not detailed, subject specific questions, but rather a means to acquire more detail. Generally, a probe is necessary only once or twice during the interview. It should be used early in the interview, and in doing so will send the message to all participants that more information, more detail or more descriptors are desired.

Give everyone the opportunity to participate. The most important discussion management goal that a Moderator needs to accomplish is to give everyone the opportunity to participate. It is not necessary for everyone to participate equally nor is it necessary for everyone to even participate at all, but everyone must be given the opportunity to participate.

The Moderator must control the "Dominant" and encourage the "Shy" participants

There are several non-verbal or body language cues that the Moderator can employ to help control the flow and the amount of discussion. In preceding paragraphs, eye contact, coupled with a five second pause, and maybe even a slight head nod, will generate comment from most participants. A Moderator is more likely to be able to take back control or direction of the discussion if he leans up on the table, rather than leaning back in a chair. If a Moderator does not look at the person while that person is rambling, there is likelihood that the person will stop talking. An even more drastic method to accomplish the same end is to physically turn away from the speaker.

The Moderator can make a stop signal with a raised hand to break the monologue of a dominant speaker. Sometimes the Moderator may have to verbally limit the conversation of a dominant talker. The Moderator can interrupt and say, "Thanks for sharing. Would someone else describe their different viewpoint on the topic?" Likewise, a verbal, specific invitation for a shy person may be required. For example, "Sally, what is your reaction to this topic?" It is wise to specifically call on a shy participant only once, and usually not before the middle of the interview. It is best to have the shy person feel comfortable enough to participate in the discussion without being singled out.

Two Methods of Recording the FGI

Any focus group, to be a focus group, must be recorded. It is very common that when listening to an FGI recording, or reading an FGI transcript, there will be something that the Moderator did not hear during the discussion even though that Moderator was in that room the entire time. Often the part of the discussion heard the first time on the recording or in the transcript is significant. The Moderator has many things to manage: questions, time, shy respondents, dominant talkers, possible new issues to investigate, and the relationship between the FGI and future work. Even though the Moderator may appear to be intently listening to all the discussion all the time, it just does not happen that way. Therefore, audio recordings are a must.

Traditional cassette tapes are still probably the most common, economical, and easiest to use. Ninety minute tapes are best. Sixty minute tapes require changing the tape more often, and 120 minute tapes are much thinner and tend to break or jam more often. When using a new audio tape, fast forward it all the way through before use, and then rewind. New tapes are far less likely to break or jam if they have been cycled in this way. Most common audio cassette recorders do not have a high quality microphone, so it is a good idea to acquire a boundary microphone to use to capture a higher quality of sound in a group discussion setting. Also, if there is a voice activation feature on the recorder, make sure it is disabled because after pauses, the first word or two are always lost because of this voice activation feature.

A better way to record focus group sessions is to use digital recorders. Such recorders are smaller, they can record several hours without being re-set, and copies of recordings can be easily made, stored, and transmitted. The quality of sound is much better than cassette tapes. Also, there are digital recorders that produce a high quality recording without the use of a boundary microphone. With either audio tapes or digital recordings, a transcriber machine or transcribing computer program will greatly facilitate the creation of the transcript.

The Assistant Moderator:

- Maintains the audio recorder;
- Takes detailed notes of quotes, body language, and obvious themes that develop;

- Handles unexpected interruptions such as late arrivals;
- Asks questions where important and relevant—but usually only one or two during the entire interview; and
- Leads the analysis process.

The Assistant Moderator sits outside the discussion group, and tries not to draw attention to the fact that she is present.

In those situations where there is no Assistant Moderator, then there should be two recording systems. This means two recorders, two sources of power, two sets of blank tapes, and two separate microphones. There is nothing more distressing than conducting a focus group, and then discovering that the recording is blank, and there are not written notes of the discussion. The time has been virtually wasted.

Conclusion

In conclusion, it will be helpful to consider Moderator factors that will support quality FGI work. One of these factors is confidentiality. Focus group interviews are confidential only to the limit that a group discussion can allow. However, if the Moderator assures the group during the interview introduction that no names will be ever associated with direct quotes in the analysis or the reporting, then the Moderator must adhere to that statement. Sometimes administrators, while reading focus group reports on topics within their organization, want to know who said what. Even if the Moderator's superior requests that kind of identification information, it cannot be shared.

It is best not even to include names of respondents as transcripts are created from the recordings. There is not that great of need to know who says what during the interview, but rather to grasp the breadth and depth of the ideas shared.

If focus groups are used as the data collection method for a research project, then all of the requirements of the Institutional Review Board and use of Human Subjects must be followed. Actually, it is relatively easy to gain and document informed consent for focus group participants, because appropriate forms can be completed during the registration and pre-interview phases of the FGI.

Another factor is Moderator involvement. Although it is not always possible, Moderators are more productive if they are involved in the entire project. If a moderator helps develop the written purpose and resultant questioning route, he is more comfortable with asking the questions in a manner that appears more conversational than memorized. If the Moderator has a grasp of the subject matter and is familiar with the jargon and terminology of the assembled group, then it is obvious that more will be understood, and there is potential for more exploration of new issues raised during the discussion. The Moderator needs sufficient knowledge about the topic area to use accurate language and pursue appropriate sub-topics.

If scheduling of times and facilities are made with the help of the Moderator, or at least involving the Moderator, then there will be less chance of scheduling conflicts and more knowledge of limitations of focus group sites such as outdated electrical outlets and potentials for interruptions. If a Moderator is familiar with the recruiting process, and has even helped recruit participants, then he will be more familiar with each participant before they arrive, and the comfort level of the participants will be increased with the Moderator. The Moderator may even have a better idea of dominant and shy participants before the focus group. Analysis and reporting will be richer if the Moderator and the Assistant Moderator are involved. After all, they were in the room, had face to face contact, and witnessed non-verbal messages throughout the interview.

A final factor are the personal dispositions of the Moderator. Focus group interviewing is a qualitative data collection method. Things are never black and white, but the data is so much richer than numbers ever can be. The method itself allows spontaneity among participants, as they stimulate the thought processes in one another. The "Findings" also emerge in a form that virtually anyone can understand—words! There are instances of surprises, both in response and in execution of group interviews, but this method is so robust and flexible that it can address almost any unforeseen circumstance. However, the Moderator must be able to live without closure or concluding priorities. There will be no results that can be generalized to a population. If the Moderator is not comfortable with the spontaneity of the process, surprises, and the ambiguity of the results, this method will not work well.

The focus group Moderator is an individual well-grounded in real world issues. At the same time, the Moderator must be both evaluation and research savvy. Evaluators determine the value or worth of a program, while researchers seek to discover new knowledge. The Moderator should also be enough of a "people person" to deal and cooperate with stakeholders. Realizing what the stakeholder needs, helping the stakeholder define the purpose and identify appropriate questions, and reporting to the stakeholder in the best way possible, will help insure the use of the results of the focus group process.

Finally, the Moderator must be comfortable with qualitative analysis. With this method of data collection, analysis really begins when the first word hits the tape. From then on, it is up to the Moderator to navigate the discussion through the identified issues to describe the breadth and depth of the related dimensions.

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An Argument for Re-positioning the Social Foundations

Joseph Watras
University of Dayton

Abstract

With the rise of teacher testing, foundations scholars need to work together to ensure their courses remain a part of initial teacher credentialing.

Many foundations people distrust teacher qualifying exams and accrediting organizations. Some scholars complain that the teacher tests discriminate against members of minority groups. Other professors claim that accrediting agencies ask faculty members to adopt an administrative mind-set that frustrates an evaluative stance toward education. While these views may be correct, problems arise when foundations scholars decide that they do not want to have anything to do with teacher tests or accreditation.

In this paper based on my address to the Mid-Western Educational Research Association, I want to argue that the future of foundations depends on the ways teacher tests and accrediting organizations require Schools and Colleges of Education to attend to the foundations of education. At the present, foundations scholars have no connections with Praxis, NCATE, or TEAC. Worse, none of these organizations requires that prospective teachers study foundations of education with scholars trained in foundations. The result is that programs of teacher preparation can present the history of education, philosophy, or social foundations in inadequate ways. For example, these subjects could appear in modules in courses carrying names such as introduction to teaching taught by professors whose special interests may be in social studies, curriculum, or secondary education.

Teacher Tests

The growth of teacher testing was rapid and vast. In 1977, sixteen states required candidates to take some form of teacher testing. By 2002, the number had grown to forty-four. According to a group of test makers, this growth of teacher tests came from the move toward accountability. As legislatures enforced quality controls on schools, teachers unions sought protection from oversight. In response, the legislatures expanded demands on prospective teachers to ensure they could perform independently (Rubinstein, McDonough, & Allen, 1986).

In the 1970s companies such as the Educational Testing Service (ETS) had extensive legal problems because tests such as the National Teacher Exam (NTE) seemed to discriminate against the graduates of traditionally Black colleges. The decisions in these cases opened routes by which ETS could strengthen its role in hiring processes. As a result, in 1988, a company official announced that ETS was creating three new tests to replace the NTE. The first test covered enabling skills such as the ability to read and write. The second test covered knowledge of subject matter and professional teaching skills. The third was to be a measure of performance. ETS called this new formulation PRAXIS (Dwyer, 1989).

The important part of this story for foundations is the process ETS followed in making the tests. The company used a system of job analysis that the courts accepted. In addition, organizations such as the American Psychological Association approved of using job analysis in determining how to select applications for positions. The U.S. Air Force had used job analysis to create job descriptions, methods of selecting recruits, and ways to evaluate performance. The steps of job analysis were simple. Researchers surveyed published literature and interviewed teachers to determine the duties and skills the teachers needed. The researchers constructed questionnaires that they sent to many other respondents to determine what beginning teachers should know and how they could learn it. In these processes, ETS collected information from thousands of teachers, administrators, and university professors. When the researchers analyzed the results, they found two areas, philosophy of education and history of education, were unrelated to any job that beginning teachers would do. As a result, they recommended that these areas not appear on the PRAXIS tests (Rosenfeld, n.d.).

While other researchers for ETS repeated the suggestion that foundations classes did not impart essential teaching skills, ETS did not remove foundations questions entirely from their tests. Focus groups with university scholars contended that the critical, evaluative, and normative insights from foundations courses could help beginning teachers understand their roles.

Program Accreditation

Although ETS may employ teacher-training professionals, the company protects its independence and the items on the tests. For example, external evaluators have never validated the questions that appear on the various tests. Although university scholars may have advanced the place of foundations on PRAXIS tests, there may be no way for foundations scholars to influence the teacher tests in the future. On the other hand, the accrediting agency, NCATE, invites professional educators to join its ranks. As one advocate said, we are NCATE.

In 1974, a group of foundations scholars formed the Council of Learned Societies in Education (CLSE) to set

up standards for instruction in the foundations. In 1980, the CLSE became the organizing agency for a wide range of foundations groups such as the American Educational Studies Association, the History of Education Society, and the Comparative and International Education Society. CLSE joined NCATE in 1980 when NCATE officials requested assistance in revising standards for accreditation. Following the suggestions from the CLSE representatives, NCATE adopted many of the ideas found in the CLSE standards. Most important, they required that professors in teacher training institutions hold doctorates in the areas they taught (Dottin, 2005).

At first, the CLSE paid a few hundred dollars each year in membership fees to belong to NCATE. These funds came from dues paid by the various groups that made up CLSE. In return, the NCATE standards referred Schools and Colleges of Education to the standards of the CLSE to explain what the candidates had to know about the social, historical, and philosophical foundations of education. Although the NCATE standards retained this directive after the CLSE changed its name to the Council for the Social Foundations in Education (CSFE), the membership fees increased dramatically. By 2004, the NCATE dues for CSFE reached $15,000. At that time, the president of CSFE told NCATE that it appeared likely the member organizations of CSFE would resist paying the increased fees. Consequently, in the fall of 2004, NCATE dropped the CSFE from its list of affiliated organizations (Dottin, 2005).

Nonetheless, by 2006 NCATE retained concern for foundations of education. For example, in Standard One, Candidate Knowledge, Skills, and Dispositions, NCATE suggested that foundations of education an essential aspect of the broad professional knowledge that beginning teachers should have. Unfortunately, they balanced this call for understanding foundations by not demanding that professors hold degrees in the subjects they teach. Standard Five, Faculty Qualifications, requires that faculty members hold terminal degrees or significant expertise in the area they teach. This means that a person with a doctorate in social studies education or curriculum would qualify for teaching a foundations course.

Social Foundations and Standards

The CSFE continues to exist. It has a web site that offers to help Schools and Colleges of Education pass NCATE and TEAC accreditation visits with a series of papers explaining how to arrange programs. The web site claims the papers accommodate the insights of foundations and meets those accreditation standards. Unfortunately, no matter how well written those papers are, they remain as suggestions. There is no requirement for anyone to study the foundations of education in preparation for teaching.

In a recent paper, Alan Jones offered a solution to the problem. He suggested that CSFE become an independent organization. He wanted CSFE to recruit about three thousand members, to hold conferences, and to raise funds. At conferences, scholars could explore ways to enable foundations improve teacher training. With the independent source of funds, the CSFE could rejoin NCATE (Dottin, 2005).

While there are other possibilities, foundations scholars should cooperate to make their courses required aspects of teacher preparation. There is little doubt that Schools and Colleges of Education have to employ scholars in fields that PRAXIS and NCATE require candidates to study.

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The Ohio State University
2500 Kenny Road
Columbus, Ohio 43210