ABSTRACT

This research is an instrumental case study, describing the experience of university faculty as they redesign face-to-face classroom instruction for a Web-based environment. Participants were faculty from one department at a major level-one research institution in the Southeast United States. Five faculty were selected to represent a range of experience with any type of distance education, a diversity of teaching styles, and a variety of attitudes toward distance education. Other sources included administrators and staff associated with the Web development effort. Data collection, using interviews, a document review, class observations, and a focus group, was carried out during a two-semester time frame. The findings document the effects of using Web-based technology on: faculty perception of their teaching roles; their own personal satisfaction from the teaching experience; their workplace context; and their actual teaching practice. The implications for instructional design support are presented. (Contains 64 references.) (AEF)
FROM THE CLASSROOM TO THE WEB:
A STUDY OF FACULTY CHANGE

BY

JOYCE M. KINCANNON

A summary of findings from my Dissertation submitted to the
Department of Educational Research
Florida State University
"We know we have met...a teacher when we come away amazed not at what the teacher was thinking but at what we are thinking.... Those around whom surprising thinking emerges are teachers" (Carse, 1995).

INTRODUCTION

Web-based technology is the impetus for the development of distance programs worldwide. The challenge to faculty is to meet the expectations of students and their administration to incorporate this technology into their teaching practice and still retain the essence of their personal definition of quality teaching. The challenge to instructional design professionals is to use an accurate concept of teaching practice in context to provide effective support for faculty developing and teaching web-based courses.

This research is an instrumental case study, describing the experience of university faculty as they redesign face-to-face classroom instruction for a web-based environment. The findings document the effects of using web-based technology on (a) faculty perception of their teaching roles, (b) their own personal satisfaction from the teaching experience, (c) their workplace context, and (d) their actual teaching practice. The implications for instructional design support are presented.

The participants were faculty from one department at a major level-one research institution in the Southeast United States. Five faculty were selected to represent a range of experience with any type of distance education, a diversity of teaching styles, and a variety of attitudes toward distance education. Other sources include administrators and staff associated with the web development effort. Data collection, using interviews, a
document review, class observations, and a focus group, was carried out during a two-semester time frame.

Faculty experience dramatic changes in their teaching practice when they transition from a face-to-face classroom to a web-based learning environment. To appreciate the extent of change, consider that teaching practice is unique, developed from individual educational and teaching experience. Faculty's definitions of excellent teaching did not change with the new delivery system. Their level of satisfaction, practice, and work context did. The levels of tutorial support, spontaneity of questions and discussion, personal interaction, feedback, flexibility, current information and examples have been lessened in web-based courses.

Of all the reasons given for less satisfaction, the factor of time is the most consistent complaint. Web-based teaching takes enormous amounts of preparation time, much more than face-to-face teaching. The changes in their working style and established habits require more time as well. The need for technical support has expanded -every part of the course except for the text must be digitized. But the faculty's time used to develop courses has not been adequately rewarded at the university administrative level, until recently. In fact, developing web-based courses is detrimental to research and therefore tenure because of the extensive development time necessary to revise and digitize their materials and strategies. Faculty feel they are learning to be more effective teachers online but it has been a difficult transition. Each is finding better ways to use the technology to teach using the kinds of strategies that they have personally developed and felt successful using. Their individual attitudes toward teaching roles do not seem to change. They instead adapt the strategy and technology to their own unique needs.
This paper presents the implications of this particular case, using the four study questions to discuss the issues involved. It gives insight into the experience of university faculty as they learned to use web-based learning environments to teach, having described their successes, problems, and concerns. The study findings, supported by other recent research, provide indicators for improvement of instructional design support for faculty using web-based delivery systems to teach.

Is there a fundamental change in the faculty's perception of their teaching roles, compared to face-to-face classes, and if so, what is the change?

Primarily, these faculty learned to teach by modeling their teachers. This is simply how all people learn all things. Teachers' instructional behaviors reflect a synthesis of their individual personality, background, school experience, educational discipline studied, teaching and discipline role models, and type and amount of teacher training. This is supported not only by educational research, but also by the participants' description of why they teach as they do. The delivery mechanism has little affect on a teacher's personal understanding of what constitutes effective teaching behaviors, or their opinion that motivated students deserve access to a quality education.

The delivery system does, however, affect their efforts to be considered an effective teacher, an expert facilitator. Successful faculty understand that teaching and learning are about more than transmitting information. Technology can support and enhance teaching but the technology itself cannot replace the unique role of teacher in any learning situation. It is the teacher and his or her expertise that brings credibility to the instruction, face-to-face or distance. That continued expertise requires applying
research theory from their own discipline as well as from education, and making it usable for themselves and their students. Their perception of what constitutes excellent teaching changes when research, combined with self, student, and peer evaluation of their own practice, present a need to improve.

Are there changes in their feelings of personal satisfaction when teaching in a web-based mode?

The things that are constant, even with teaching in a completely different mode, is their response to the students, their expertise in their field, effective teaching strategies developed from experience, and the desire to teach well. Learning continues to be supported by mediation of information and knowledge, enhanced by human interaction, feedback, confirmation of understanding, and practice. "Teaching is the interaction between two persons: the instructor and the learner, the master and the apprentice" (Ericksen, 1984, p. 5).

Many faculty are concerned about the quality of the instructional experience for themselves and their students, expressly noting the importance of interaction in their face-to-face classrooms that is often missing with distance education (Clark, 1993; Wolcott, 1998). When first using web-based teaching environments, faculty missed established patterns of personal interaction and engagement with their students. Those patterns -- professional expertise -- were based on physical, non-verbal communications reinforced with the enjoyment of spontaneous dialog about their favorite subjects. To be in a room with students, knowing they were teaching effectively, provided a great deal of
personal and professional satisfaction for faculty. The technology forced this experience to change and change always causes dissatisfaction.

Along with the missing face-to-face interaction with students, there were two other obvious factors creating faculty dissatisfaction, (1) web course development and web-based teaching takes much more time than face-to-face courses, and (2) technical constraints create a loss of immediate control over the environment, materials, and flexibility of their course. All three are points supported by a consensus of current literature on teacher satisfaction with web-based teaching (Almeda & Rose, 2000; Bates, 2000; Fredericksen, Pickett, Shea, Pelz, & Swan, 2000; Hartman, Dziuban, & Moskal, 2000; Hislop & Atwood, 2000; Wenger, 1999).

It became apparent to the participants that they could learn new patterns of communication, interaction, and engagement, even when they preferred the face-to-face environment. The web-based technologies were less than optimum but they could make them work sufficiently well so that students succeeded. Student performance and positive response to the web-based courses balanced the faculty’s personal frustration with that delivery system. Providing quality education for students is part of their system of intrinsic motivations. Therefore, in spite of the dissatisfaction with the new system, they continued to design, develop, implement, evaluate, and improve the courses they teach. They see improvement. They managed the change.
What parts of their original practice did they transfer to the web-based mode?

What parts did not transfer?

Each teacher is unique but professional teachers, as a community of practice, have common characteristics and behaviors as described in the study and much other educational literature. As you read the following list, please take note that only “Ability to read body language” and “Oral skills” have to be converted to a text-based environment. Also recognize how many are directly related to facilitating students’ learning directly and require a flexible response to unique student questions that cannot be constructed ahead of time.

(a) Communication/Interaction skills and characteristics

- Enthusiasm, enjoyment. Gets satisfaction from teaching well. Shows students what it is to enjoy, take delight in learning. [Good presenter]
- Spontaneity, creativity, flexibility,
- Ability to "read" peoples faces and body language; reactive to students and environment.
- Oral skills [e.g. dynamic speaking and debate, giving instructions]
- Written skills [Text-based communication, such as instructions and email]
- Visual skills [Use of models and diagrams, as well as body language when communicating]
- Facility for mediation of knowledge to create culture; sensemaker; model of expert behavior.
(b) Evident knowledge of

- Discipline content
- Instructional design [Require students to practice both analyzing and evaluating information for themselves and using others and their own expertise as feedback.]
- Learning and cognition theory
- Human development and educational psychology theory
- Evaluation criteria of information and research in their field
- Affective factors - motivation, interaction, success, and satisfaction for teacher and students

(c) Organizational and Management skills

(d) Active member of their discipline's community of practice.

- Enjoys refining it with new generations of scholars and workers.
- Shares practice and research with others; a reflective professional.
- Mirrors current best practice in research work.

(e) Effective teachers are still learners.

- Each of us has been amazed at what someone else finds as fascinating, hobbyists of any kind will tell you the minutia of what they love.

There are specific strategies that work well in a web-based environment. These include such examples as the use of more explicit instructions, innovative ways to present content other than hour-long audio-taped lectures, structured learning activities, provision of guides, examples, and case studies, moderated purposeful discussions and debates, computer based simulations, self-checking reviews, and web-based resources. The more successful teaching strategies are those that also provide expert facilitation of student
learning in just-in-time fashion and those that create a collaborative community of learners, including the teacher. But these strategies are effective teaching strategies in all classrooms.

At present the web-based environment makes preparation time much more time consuming. Restrictions on the availability of some resources and the necessary lag time between finding a meaningful resource and making it digital and available on the course website make some excellent strategies impossible. Easy interaction is inhibited since it uses fewer senses and different symbols. Virtual teaching requires more structure and planning. But good teaching practice is always improved with more preparation and strategies that engage students in activities where information is socially mediated. It is reasonable then that those faculty who were already using educationally sound practice are most successful in the web-environment.

What changes in their workplace context did they need to transfer, and then maintain, their teaching practice in a web-based environment?


Faculty development seemed to work best when the institution had a culture pervaded by the use of technology and supported by a wide range of strategies,

- A strong strategic plan in which the use of technology for teaching played a prominent role
- Extensive investment in technology infrastructure
- Support from senior leadership for the use of technology for teaching
- Support, in a wide variety of ways, for faculty members who wished to use technology for teaching
- Support for students through computer access, Internet accounts, and financial support....
An important goal for faculty development is to prepare instructors for teamwork and to locate faculty development in a project team context.... Another finding was less surprising: faculty members learn best from their peers.

The School incorporated these practices in staff development when they began the process of developing their distance courses. They developed a plan for using web support for the Instructional Television (ITV) classes and then for web-based courses when ITV was no longer used. The web-support models were developed and used by faculty. They hired more technology support staff to develop the course interface and provide software communication tools such as chat rooms and threaded discussion boards. The schools' administrators were involved with a faculty team in developing the program foundations course and also supported the faculty by sharing decisions concerning the program. Computer labs for on-campus students were upgraded and students' at a distance were given online and telephone technology support. Extensive help resources were developed for the courses.

Even with such strong support, the faculty felt dissatisfaction because they had not accounted for the amount of time the change in their established work habits and the change in communication and interaction with students would take. Faculty now receive release time to develop web-based courses but during the initial development year, that time was not possible. The large amount of extra time required for development and then teaching was unexpected. Even Fay and Sally, faculty participants who are most positive about teaching distance courses with web technology, continue to be surprised by the time needed for up front planning. Fay is especially frustrated by not being able to do course development on her own schedule rather than the deadlines imposed by the
technology staff. Bates (2000) reflects many of the issues raised by the study participants [bullets mine].

- Many faculty members rightly believe that they now do not have adequate time to do teaching, research, or administration properly because they are being asked to do more and more....
- Usually, however, what faculty members want is to be bought out from regular face-to-face teaching to have time to develop good quality materials.
- They also want good technical and educational support, which can cut down on their workload....
- Quality of teaching, no matter the format, needs to be a major criterion for appointment, tenure, and promotion. Successful innovation in teaching resulting in more cost-effective teaching and learning in particular needs to be rewarded....
- Faculty autonomy and independence are unique features of Western higher education systems. Indeed, they are core elements of what makes universities and colleges what they are....
- One means of ultimately protecting faculty autonomy is to widen the criteria for appointment, tenure, and promotion to give greater emphasis to teaching ability....
- The cultural change process must be recognized. The support of faculty members is critical for the adoption of new practices; hence, the cultural environment in which they work must be understood and sufficient support found to make teaching with technology both rewarding and interesting to them (p.118-121).

University faculty are busy doing research on what they are interested in pursuing. Teaching, even when they are genuinely interested in doing it very well, is not their first priority. They are always looking for ways to be more efficient and effective when teaching so that they can write and read about their own pursuits. They also have grants and articles to write, consulting projects to work, research to plan and carry out, and new books to read. And an academic by definition requires time to think.

Teaching is not the topic of other colleges’ research. Other professions use the act of teaching to develop their own guild, community of practice. They recognize the importance of good pedagogy. But their research tends to use their classes of students to
determine success of their teaching related to their students learning the knowledge and skills of their own community of practice. Teaching information studies, for example, not teaching per se, is the real focus of faculty work. They want information about (a) effective strategies teaching adults (b) in the environment they are required to teach (c) that are usable for teaching their specific course content effectively.

The participants were less than satisfied with web-based teaching because their ability to teach in a manner that they each defined to be exemplar was affected. They were frustrated not in the goal set by their department but in their need to say, “This isn't good enough. Help me make it better.”

I have used current research to support the fact that these participants have had a similar experience to many other teachers at this and other institutions who are also beginning to use web-based technology to teach, and that other researchers are finding the same results and conclusions.

**Implications for Instructional Design and Practice**

The participants demonstrated and reported how they teach. How does that information, this study's findings, help me as I work as an instructional designer?

Instructional systems design must include the teacher as an artist, not a presenter, and a communicator rather than lecturer. Teaching requires the uniqueness of the instructor to offer his own twist, enthusiasm for his topic, and skills in social interaction to really engage students (Csikszentmihalyi, 1997). Artwork is socially constructed. It is made for others. So is teaching.
As I read through research about learning objects presented by NETg I recognized that this – inclusion of teacher as artist - is the difference between teaching people to use software effectively and teaching people to think critically and solve ill defined problems at the expert level of knowledge in any specific discipline. This instruction requires the expert facilitator, i.e. teacher as artist, much the same as an on-site technician at a help desk is still needed at NETg. Some problems cannot be written about in a manual or deconstructed into learning objects in either environment (Myers, 1999).

Consider

- The consensus of research on the design of web-based instruction is that the teacher, in the role of facilitator and guide, is an essential component of and the catalyst to the learning process for students (Almeda & Rose, 2000; Collis, 1996; Khan, 1997).

- The first step in providing instructional design support is an assessment of current distance learning teaching practice, including the context and culture in which the teacher works (Banathy, 1991; Kaufman, Herman, & Watters, 1996). With this study, I have provided an illustration of that context and culture and a more accurate definition of teacher for designers to use in their work with faculty when designing distance learning courses.

- Quality education is labor-intensive. It depends upon a low teacher-student ratio and significant interaction between the two parties -- the one utterly unambiguous result of a century of educational research. Any effort to offer quality in education must therefore presuppose a substantial and sustained investment in educational labor, whatever the medium of instruction. (Noble, 1999)
What support does faculty require?

First, ask them!

They told me they want information based on research and experience about

- Best teaching practice, especially using web-based delivery or enhancement.
- All possible communication tools.
- Several possible instructional strategies for activities and assessments.
- Logistics solutions for class management, passing of assignments and feedback to and from the students.
- Choices.

And they want control over their own course, which means

- Transparent technology support.
- Flexible environment including web-course interface for content presentation, student collaboration, and communication.
- Better digital resources to match the ones used in face-to-face classes that include a feedback and interaction time mechanism.
- Include flexibility for teachers in instructional design models.

Time is the recurring issue in the study. The freedom to spend time as one chooses is essential. These faculty have competing obligations in their lives -- to their students, to their department programs, to their research, to their career, to their personal lives of family and friends, and to themselves. Web-based teaching has taken more than its allotted or expected share. It is imperative that they and we find ways to make them effective and efficient teachers once again.
In our roles of teachers and supporters of teachers, we should

- Remind them what they do as teacher is NOT something easily done. It is an art and craft and science and surrounds the uniqueness of each of us as we do our work.

- Remind the people who make distance learning budgets, teacher load decisions, and promotion policies what it is that we do. Make a case for our expertise.

- Recognize the things that are being accomplished in the live classroom – the facilitating, reading, engagement, interaction, and consider how few can be constructed ahead of time.

Faculty by virtue of the choice of an academic life are intrigued, addicted to learning something very well. Use that to discover their psychology of teaching and perhaps understand what they do well and what they may not do well when teaching. Find out from them their most effective strategies and tools they use to teach their discipline. Verify their good practice that already exists. Listen first to them and evaluate their teaching skills. And then bolster those parts that are less effective with suggestions for improvement. They may not be formally versed in instructional design and research in educational practice, but don't assume they don't have expertise. Support your proposed strategies with sound research and they will be more likely to listen.

A recent article described instructional design practice when turning traditional courses to distance as "translat[ing] professors' teaching styles into electronic content" (Carnevale, 2000). The major point of the article tells us that the designer "gets to know the professor and the course" first, "establishing a good relationship with the professor,"
and considers it their "job to let instructors do the same things in his online classes" as face-to-face. "It may just have to be done differently." I'm much more interested in how they normally teach it," says Ann Luck, (quoted in Carneval, 2000). This article's observations about current instructional design practice support the emphasis I recommend from this study's findings.

Instructional design is the process of developing plans for instruction through practical application of theory. "Because of the diversity in both learners and information, a single approach to all instruction will not work." (Newby, Stepich, Lehman & Russell, 2000, p. 6). I'd like to expand this definition to include the diversity of the teacher as well. The profession for good reason values autonomy of the university classroom. Incorporate the need for flexibility in your instructional design.

This definition still applies. "Teaching is more than an art or an occupation. It is a passion (p. 69)....The excitement of teaching comes from the fact that one is teaching a subject one loves to individuals who are worth more than all the money in the world" (Phelps, 1931, p. 80).
Further Research for Instructional Design and Practice

The following is testimony given before the Web-Based Education Commission by Mr. Andrew M. Rosenfield, Chairman and CEO of UNext.com, titled The Role of Web-Based Education.

In my judgment, Internet learning has the power fundamentally to transform educational opportunity and to democratize access to education in the United States and throughout the world. At the same time, however, we must be mindful of the enormous and immutable advantages of facilities-based learning and we must "make assurance double sure" that we do not diminish support for, and nurture of, the great colleges and universities that today provide the core of our basic research and also excellently educate the young.

Learning only happens when students do—that is when they think, read, reflect, challenge, argue, debate, and question—not when they listen passively to a lecture. And that, of course, is why the great colleges and universities correctly pride themselves on seminars, breakout sessions, small classes, and the recruitment of inquisitive and intelligent students who challenge faculty and one another, read texts critically and think and speak for themselves.

Is there more to teaching web-based distance courses than a simple modification of what is done in the “live” classroom? We must continue to ask. And find ways to improve best practice in both arenas.
REFERENCES


QSR Nud*ist user guide (2nd ed.). (1997). Australia: Qualitative Solutions and Research Pty Ltd.


REPRODUCTION RELEASE

I. DOCUMENT IDENTIFICATION:

Title: From The Classroom to the Web: A Study of Faculty Change

Author(s): Joyce M. Kincaun

Corporate Source: Publication Date:

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 1

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2A

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only.

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2B

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only.

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Printed Name/Position/Title: Dr. Joyce M. Kincaun, Faculty

Date: 5-6-2002

Signed
III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

<table>
<thead>
<tr>
<th>Publisher/Distributor:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Price:</td>
<td></td>
</tr>
</tbody>
</table>

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC CLEARINGHOUSE ON ASSESSMENT AND EVALUATION
UNIVERSITY OF MARYLAND
1129 SHRIVER LAB
COLLEGE PARK, MD 20742-5701
ATTN: ACQUISITIONS

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@lnet.ed.gov
WWW: http://ericfac.plccard.csc.com

EFF-088 (Rev. 2/2000)