Developing Pedagogical Competence in Online Environments: A Narrative Inquiry of Faculty Development in Higher Education

By

Maria Cardelle-Elawar, Ph. D., Professor
mce@asu.edu
&
Ann Nevin, Ph. D., Professor
Ann.Nevin@asu.edu

College of Education
Arizona State University West
Phoenix, AZ 85069-7100

Paper Presentation
Society for Integration of Technology and Education
Albuquerque, New Mexico
2003

Abstract

The authors examined a narrative approach that may lead to improvements as faculty develop their skills to use the internet for delivery of instruction. The design of this study relied on an interview process that empowered both researchers to create their own narratives as they constructed their concerns and motivations about online pedagogy. The narratives were analyzed for generative themes. Two themes related to changes in the faculty as a result of completing the online module development processes seemed to emerge: empowerment and competence. Both themes were related to two current educational psychology theories. One theory emphasizes developing a self-regulated learner able to be in control of his own learning. The other stresses the importance of the teacher as a mediator of instruction. The authors identify and discuss three important factors that influence faculty development of online pedagogical competence: a) having a shared goal for developing online instructional modules, b) emphasizing each partner's unique areas of expertise, and c) providing encouragement and support to go beyond current comfort levels.

Introduction

"*We all have stories to tell. In times past, people seemed to understand that stories are the way we make sense of our lives, pass along knowledge and traditions that are helpful, and transform knowledge and traditions that no longer serve us*."

--Jean Fredrickson (1997, p. 12)

As can be seen, Fredrickson (1997) realizes the power of narrative to transform perspectives. Similarly Freire (1970, p. 69), writes, "Dialogue is the encounter between [people], mediated by the word, to name the world" (p. 69). Similarly, the authors wanted to transform their teaching of educational psychology with the internet as a partner in designing and delivering instruction. The purpose of this study is to describe their journey.

Although several researchers and commentators have written about the potential of electronic learning for faculty development (Richardson, 2001; Wentzell, 2002), the narrative tradition is relatively new to the field of faculty development of pedagogical competence to teach in online environments (Milligan, 1999; Nevin & Bercu, 1997; Nevin, Hood & McNeil, 2002; Salmon, 2000). Wentzell-Corey described how interactive online learning enhances traditional learning experiences and brings education to a more engaging level for learners. Well-designed online learning programs can provide opportunities for the learner to see and experiment with both the content and context of the subject. Interactive education fosters the intrinsic motivation to develop meta-cognitive and self-regulatory processes needed for individuals who want to learn.

Recently, Nevin, Hood, & McNeil (2002) described building a community through online opportunities to interact in graduate courses in leadership and special

education. The narrative inquiry process traced changes in the professors as well as the graduate students as they mutually explored the challenges and benefits of online communication. Analogs of the roles typically found in face-to-face cooperative group learning were detected in themes derived from the participants' written narratives in asynchronous learning forums dedicated to a variety of topics. Salmon (2002) provided compelling narrative accounts and rich descriptive text to show how instructors of online classes can facilitate acquisition of collaboration skills by requiring students to participate in interactive assignments, email, synchronous chats and asynchronous discussion boards. The role of the mediator for such discussions was modeled and explicitly taught.

Milligan (1999) described the socio-technical structure of the Inquiry Learning Forum (ILF), a web-based professional development tool designed to support a community of inservice and preservice math and science teachers. The focus was on narrative descriptions of how inquiry-based pedagogical practices can be created, shared, and improved. The narratives showed how participants changed their foci from usability to sociability issues. Nevin and Bercu (1997) articulated their writing processes in translating a successful face-to-face class into an online self-paced graduate course designed to guide participants through a collaborative action research plan to improve the learning outcomes of students with disabilities. The division of labor between the instructor (Nevin) and the instructional designer (Bercu) was clearly established in the first stages of the process and by the third iteration of the course, the instructor had become independent of the designer and designing further web-based courses with other people.

In the current investigation, the authors posed a research question to guide were guided in their study of the development of online pedagogical competence:

> In what ways might a narrative approach to studying online faculty development processes lead to improvements in their competence to use the internet as an instructional delivery model?

Method

Within a naturalistic inquiry framework, the researchers established a dialectic, or a reciprocal dialogue. In this study, a mutual interview process was initiated to establish a dialogue that was reciprocal in nature. The authors followed an interview methodology recommended by Bogdan and Biklen (1992) to gather data that is descriptive in nature and that yields the participant's own spoken form. Lincoln and Guba (1995) also encourage interviews to obtain current constructions of how people feel about issues, what their concerns are, and what motivates them. Thus, the design of this study relied on an interview process that would empower participants to create their own narratives.

Subjects

In the present investigation, both subjects were full professors with doctorates in educational psychology and with more than 25 years of experience in higher education. Thumbnail sketches of the researchers provided a context for the narratives.

Maria Cardelle-Elawar described herself as being "proud to be an educator which I believe is the most noble of all professions. I am bilingual and I have had successful experiences in teaching, studying, and working in three different cultures (in Spain, in Venezuela, and now, in the United States). Life gave me enough experience to enjoy my work and develop a passion to help students who need mediation to be more successful in

their achievement." Dr. Cardelle-Elawar research in self-regulation, cognitive and metacognitive psychology has led to important distinctions about how students learn to think about problem solve using computers (e.g., Cardelle-Elawar & Wetzel, 1995). Her IDEA model of problem solving (Cardelle-Elawar, 1995) has received international acclaim for its robust effects on increasing student achievement.

Ann Nevin has participated in the development of innovative special education teacher education programs since the 1970s, describes herself as a "participant-learner in this project. I am a female from a 2nd generation family of American Irish (a matriarchal lineage) and Dutch (a patriarchal lineage) descent. The strengths I bring to this experience include 30 years of working with many people to help students with disabilities succeed." Nevin's research interests are in documenting the effectiveness of pedagogical practices in higher education as well as teacher-student interactions, including cooperative group learning and collaborative co-teaching. Over the past seven years, Nevin has participated in a series of investigations documenting the impact of online pedagogy in graduate and undergraduate teacher education programs.

Data Collection and Analysis

The resulting narratives were analyzed for generative themes across both participants to address the research questions. The concept of generative themes comes from Freire (1970), elaborated by Heaney (1995). The complex experiences of a person's life are 'charged with political significance and are likely to generate considerable discussion and analysis' (Heaney, 1995). As noted by Freire (1970), the method of the identification of themes must be 'dialogical, affording the opportunity both to discover generative themes and to stimulate people's awareness in regard to these themes' (pp. 78-

79). Freire considers themes generative because "however comprehended and whatever action they may evoke, they contain the possibility of unfolding into again as many themes which in their turn call for new tasks to be fulfilled" (p. 83). Cardelle-Elawar and Nevin, in this study, relied on the dialectic process as they shared their narratives with each other and continued an iterative process to ensure that each agreed with subsequent iterative representations of the narratives.

Results

The results are presented in narrative form, followed by a description of the themes that emerged.

Excerpts from Nevin's Narrative: I've been involved with exploring the internet as an instructional delivery model since 1997. I learned to write hypertext markup language in crafting web pages, thanks to the tutorial of an instructional designer and media specialist. Since then I've taught graduate and undergraduate classes in special education completely on the world wide web, using asynchronous communication interactions such as discussion boards and email exchanges to interact with students and to have students interact with each other. I've managed to translate many of my face-to-face techniques to web delivery (notably cooperative group learning). I've also researched the impact of online learning in terms of changes in achievement, attitude, and application of course content (Nevin, Hood, & McNeil, 2002; Nevin, Stutler, & Zambo, 1999; Nevin & Bercu, 1997).

Thus when I completed the online workshop by VanHorne et al. (2001), I was amazed at how much I learned as a result of experiencing a course-authoring tool as a student taking the class. I appreciated the careful structuring of readings that summarized

key findings of the research in methods of providing lectures (e.g., lecture notes, text that is presented in 'chunks' rather than scrolled as long rambling prose, and color coding the information). I am now much better prepared to explain assignments in more detail and to moderate (or coach the students to moderate) discussion board contributions so that more linkages are made to what others have written as well as to course content. Setting up modules of instruction has become a preferred way of structuring my web-based classes.

In working through the online workshop as a course facilitator, I had to bring my unconscious knowledge about the processes I had been using to create online instructional experiences to the conscious levels in order to communicate with my colleagues. Thus I was particularly challenged to dialogue with Cardelle-Elawar and others as we mutually learned how to transfer what we knew how to do pedagogically in our campus-based face-to-face classes. Our common framework of understanding the principles derived from educational psychology helped us do this cognitively challenging work.

Excerpts from Cardelle-Elawar Narrative: Too often getting involved with innovations represents to me being challenged and making compromises. This is how I felt when I began the *online training*. But what motivated me to meet this challenge was the professional authority in technology and educational psychology of my mediator and coach was a role model for the process of module development. I developed a module for a graduate class "Introduction to Research and Evaluation in Education." The module focused on the review of the literature. My experience could be described as "downs and up." The final outcome, however, was positive when graduate students who used the module online during the summer validated the module.

My developmental changes began when I articulated several concerns. First, I became aware that my understanding of the innovation called “online teaching” was not precisely something I was looking for as a professor with more than 25 years of successful face-to-face teaching. My teaching skills have been recognized via awards, multitudes of letters from former students, and peers who have observed my classes. In addition, I consider myself a self-regulated learner who can solve intellectual problems and acquire new knowledge. However, after I had completed my first two weeks of the online workshop, in particular the readings, I began to ask myself, *How could technology replace face-to-face teaching?* I developed answers this question through posting my self-reflections on the discussion board and listening to the voices of others (reading their contributions) and talking (writing) my responses. Their voices represented (in my view) people with more expertise than my own. The initial trials made me aware that it was not technology itself that was going to change my teaching. Instead, the change had to come from myself. I then began to view the online technology as a potential partner for my teaching.

Second, I began developing new insights of possibilities by learning from others. My mentor (the online workshop facilitator, Nevin) opened my mind by leading me to the resources I needed. For example, she helped me set up a series of tutorials with her and the COE’s technology support analyst so that I would get direct instruction in navigating the course-authoring tool. Then I began to use the discussion board and received comments to my contributions. Learning from others encouraged me to get even more information from the prescribed readings because I noticed from others’ comments that I had missed important points in the articles! Third, during the process, even though I

did not know if my commitment could be sufficient to feel self-sufficient, I did not give up. When I saw my module about the review of the literature and started to ask the questions that any student should have, I felt the online course could be my partner to reinforce my students to their knowledge and clarify further questions. I felt proud of myself and grateful to those that helped me during the process.

Finally, although I still feel I am a learner with concerns in regard to such questions as *Can I do this online teaching alone?* I do not have any doubt that the online workshop experience itself changed my thinking in several ways. First, I can be an even more effective teacher by increasing my expertise in the area of online teaching. I had to be much more selective and focused on what is relevant to teach. Second, I can now refocus my organizational skills in face-to-face class sessions. With the augmentation of online class discussions to help individualize the process, especially, I can now help focus the search of the literature to meet the interests of each graduate student. Third, the experience of designing online instruction unexpectedly stimulated my creativity. I found myself asking, “How might my module look attractive? How can I build in motivational questions? How can I visually present the instructions so they become clear enough to engage students? How can I design the module so that students experience themselves as being in control of their own learning?”

I relied very strongly on my own work (e.g., Cardelle-Elawar, 2000, 1996, 1995) in deriving a self-regulation theoretical model for teaching. In this metacognitive model, teaching is construed as a decision-making process across the three phases of teaching: planning lessons, delivering instruction, and assessing outcomes. In this model, metacognition is defined as a theoretical construct that refers to self-knowledge and self-

evaluation of one's performance. The metacognitive approach allows educators to monitor progress and assess teaching alternatives tailored to students' needs. Figure 1 shows how the IDEAR meta-cognitive model applies to my journey to become an online professor. As shown in Figure 1, the application of the IDEA-R model was helpful in understanding the processes I was experiencing as well as motivating me to continue. In fact, I realized that I had already changed from thinking about becoming an online teacher as "impossible" to instead thinking, "I'm possible." Especially after I field-tested the module, I could see my students developing more clarity, more consistency, and more competence as they themselves used the online supports for the literature review. The module allowed them to continue actively learning with me as their mediator in the discussion board area, long after the specific day's lecture had been delivered.

<Insert Figure 1: IDEA Model About Here>

An analysis of the generative themes from the narratives indicates that two themes emerged: the theme of empowerment and the theme of competence, as shown in Table 1.

<Insert Table 1: Emerging Themes About Here>

Discussion

The themes validated in the narratives can be related to two theoretical perspectives from educational psychology. These theories may help explain the success of the faculty development process: Feuerstein's of cognitive modifiability and cognitively guided instruction (Fenna, Carpenter, Levi, Franke, & Empson, 1997). Feuerstein's theory of cognitive modifiability (Skuy, Feuerstein, & Mentis, 1998) provides a theoretical framework for understanding the role of the instructional mediator. The self-confidence as well as the competence of the mediator must be transferred to the

learner. The instructional mediator must be task oriented and at the same time aware of the psychosocial needs of the learner. In Cardelle-Elawar case, she preferred to learn in a socially mediated environment. And thus needed a bridge from her usual dialogue method of learning (a fluid give and take process) to what she experienced as a step-by-step linear method of reading and writing notes on a discussion board.

According to Feuerstein, the instructional mediator must also motivate the learner. Cardelle-Elawar experienced a powerful and highly relevant motivator in the fact that she had to teach a literature review process in her face-to-face classes during an intensive 5-week summer school session. When the instructional mediator mentioned that an online module might extend and enhance learning through a tutorial approach what she was trying to accomplish with 80 students in two different classes, she became zealous in testing it out! But she still had the concern about being able to be an instructional designer of a module.

The turning point came when the instructional mediator, during one of the 1-1 tutorials that had been set up, asked how might she teach the process of reviewing the literature. She began to speak about the questions she usually asks students and the instructional mediator began to scribe her words. That became the Purpose of the Literature Review Module. As she continued to speak about the teaching learning activities, the mediator scribed an outline of the steps in the module. As she saw her own words translated into the written text of a module, Cardelle-Elawar then realized that she could do this work on her own.

The second theoretical approach to explain the faculty development of online competence comes from a cognitive coaching model. Cardelle-Elawar and Nevin used

procedures and cognitive processes derived from Cognitively Guided Instruction (CGI) currently being implemented in many mathematics classrooms (Fenna, et al. 1997). CGI can be helpful in understanding how they implemented the coaching role because CGI relies on four major components that seem to have been included in the faculty development process. First, problem solving was the focus of the interaction between Cardelle-Elawar and Nevin as they decided how they would solve the problem of module development (defined by them). Second, many problem solving strategies were used to solve the problem of instructional design of online modules. Third, an online asynchronous discussion board mediated communication as to how they solved the problem. Fourth, they understood each other's problem-solving strategies and used that knowledge to provide explicit feedback, and stimulate new thinking patterns, as shown in the narratives. Finally, each brought a rich blend of prior knowledge and experience in teaching undergraduate and graduate students about educational psychology.

In summary, the authors recognize three key factors that made the development of online competence a successful experience. First, there was a shared goal to develop online instructional modules. Second, both professors capitalized on each other's unique areas of expertise. Third, they provided encouragement and support to go beyond current comfort levels.

References

Bogdan, R., & Biklen, S. (1992). Qualitative research for education: An introduction to theory and methods. Boston, MA: Allyn & Bacon.

Cardelle-Elawar, M. (2002). A Critical Thinking Perspective of R. Ritchhart and D. Perkins (2002). *Intellectual Character: What It Is, Why It Matters, and How to Get I*t. TCRecord.org: The Voice of Scholarship in Education.

Cardelle-Elawar, M. (2000). Teacher motivational understanding in how to teach ethnic minority students. Educating Able Children, 4(2), 41-51.

Cardelle-Elawar, M. (1996). A self-regulated teaching approach to improve minority students' self-esteem in a multicultural classroom environment. Bilingual Review, 26, 17-25.

Cardelle-Elawar, M. (1995). Effects of metacognitive instruction on low achievers in mathematics problems. Teacher and Teacher Education, 6 (3), 81-95.

Fenna, E., Carpenter, T., Levi, L., Franke, M., & Empson, S. (1977). Cognitively guided instruction: Professional development in primary mathematics. Madison, WI: Board of Regents of the University of Wisconsin System.

Fredrickson, J. (1997). Reclaiming our voices: Emancipatory narratives on critical literacy, praxis, and pedagogy. An Occasional Paper Series for Entering the 21st Century. Los Angeles, CA: California Association for Bilingual Education.

Freire, P. (1970). Pedagogy of the oppressed. NY: Seabury.

Hall, G., & Hord, S. (2001). Appendix A: SoC-Q Quick Scoring Device. In Implementing change: Patterns, principles, and potholes (pp. 233-234). Boston, MA: Allyn & Bacon.

Heaney, T. (1995). Issues in Freirean pedagogy. Thresholds in Education. University of Chicago. Available Online from Professor Heaney's Web Site at National-Louis University: Retrieved from the World Wide Web 10/28/02: http://www.nl.edu/ace/

Lincoln, Y., & Guba, E. (1995). Naturalistic inquiry. Thousand Oaks, CA: Sage Publications.

Milligan, C. (1999). Virtual learning environments in the online delivery of staff development-- Report 2: Delivering staff and professional development using virtual learning environments. Heriot-Watt University: Institute for Computer Based Learning. Retrieved October 26, 2002 from http://www.jisc.ac.uk/jtap/htm/jtap-044.html.

Nevin, A. (2001b). An Evaluation Design for Assessing the Impact of Online Training on Faculty Development for Designing and Implementing Online Classes for Preservice Candidates for Initial Certification in Special Education at the Master's Degree Level. PT3 Grant Award from Wetzel, K. (Principal Investigator), ASU West PT3 Project. Phoenix, AZ: ASUW, COE.

Nevin, A., & Bercu, W. (1997, June). Developing an Asynchronous Graduate Class: An Experiential Account. Paper Presented at Northern Arizona University Web97 Conference. Available Online: Retrieved from the World Wide Web: http://www.west.asu.edu/icaxn/web97.html

Nevin, A., Hood, A., & McNeil, M. (2002). Creating community in online (electronic environments). In Helen Christensen (Ed.), Re-educating the educator: Changing contexts and new challenges in teacher education, (pp. 127-151). NY: SUNY Press.

Nevin, A., Stutler, S., & Zambo, D. (1999, Sept.). Team teaching on the internet. DEOSNEWS, 9(9). Available Online: Retrieved from the World Wide Web 10/28/02: http://www.ed.psu.edu/acsde/deos/deosnews/deosnews9_8.asp

Richardson, J. (2001, Sept.). E-learning potential: Online staff development has great possibilities – and pitfalls. Retrieved October 28, 2002 from http://www.nsdc.org/library/results/res9-01rich.html

Skuy, M., Feuerstein, R., & Mentis, M. (1998). Bridging learning in and out of the classroom: Feuerstein's Instrumental Enrichment. NY: Skylight Professional Development, Pearson Educational Publishers.

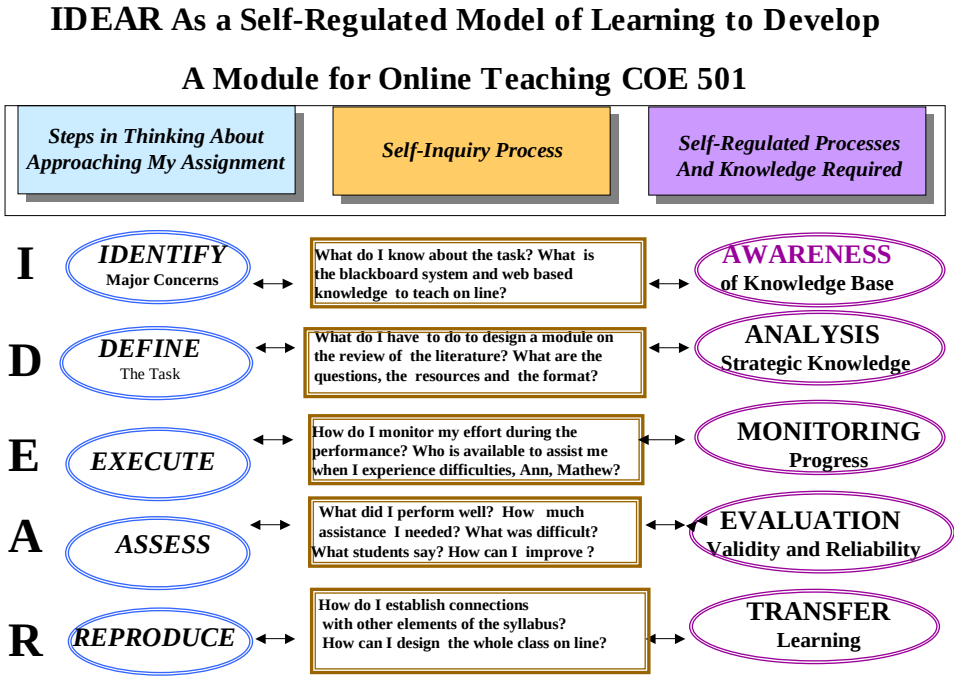
Sternberg, R.J. (1985). Beyond IQ: A triarchy theory of human intelligence. NY: Cambridge University Press.

VanHorne, M., Weiland, M., Bercu, W., Haag, S., Sutton, L., & Bergeson-Gasser, K. (2002, January). Designing a Successful Online Course: A 4-Week Workshop for Faculty Development in Blackboard (CourseInfo). Tempe, AZ: College of Extended Education, Online Teaching and Learning Group.

Wentzell-Corey. (2002, August). Reaping the benefits of online learning. Benefits Canada, 26(8), 9.

Figure 1:

"IDEA-R: Identify-Define-Execute-Assess-Reproduce": A Metacognitive Approach to Online Teaching and Learning*



*Adapted by the author from Cardelle-Elawar, M. (2000). Teacher motivational understanding in how to teach ethnic minority students. Educating Able Children, 4(2), 41-51

Table 1:

Emerging Themes

Narrative	Empowerment Theme	Competence Theme
Nevin:	"I am now much better prepared to explain assignments….and to moderate ….discussion board contributions…."	"….learned how to translate what we new how to do pedagogically in our campus-based face-to-face classes….[to online environments]"
Cardelle-Elawar:	"I began developing new insights of possibilities by learning from others…"	"…I felt the online course could be my partner to reinforce my students' knowledge and to clarify further questions…"