The Roles of Mentors in Electronic Learning Environments

SHUJEN L. CHANG
University of Houston-Clear Lake
Houston, TX USA
changs@cl.uh.edu

This article describes the roles of mentors to meet the need for mentors in electronic learning (eLearning) environments. The existing literature has documented factors impeding effective eLearning and the multiplicity of the faculty’s roles that demands too much time on the faculty within eLearning environments. This article argues for the need for mentors to assist instruction and facilitate learning within eLearning environments. The roles of mentors built around the multiple roles of the faculty are then identified as teaching assistants, social connectedness initiators, and technical supporters. A guideline for mentors outlining mentors’ roles, responsibilities, and contributions was proposed. This guideline may be adopted by mentors as a fundamental job-aid in practicing mentoring. An example of implementation of mentors in an eLearning environment, which resulted in higher learning achievement, was also presented. In conclusion, it is suggested that mentors should be employed within eLearning environments for assisting students overcoming eLearning barriers and achieving effective learning within eLearning environments.

Given the increasing presence of online courses offered through electronic learning (eLearning) environments in higher education, the quality of eLearning has become a major concern to both learners and educators, as reported by the National Center for Education Statistics (NCES, 1999). It has been noted that access to eLearning environments itself is insufficient to produce improved learning and greater educational achievement (Kafai,
Fishman, Bruckman, & Rockman, 2002). Besides, whether student expecta-
tions have been met by the instruction delivered within eLearning environ-
ments is unsure. In addressing these concerns, many studies have proposed
alternative instructional strategies or new instructional approaches for im-
proving eLearning effectiveness (Gilbert & Driscoll, 2002; Hill, 2001; Jin,
2002; Tu & Corry, 2002). Along this line of thinking, this article suggests
that the incorporation of mentors within eLearning environments to assist
faculty instruction and facilitate students learning may effectively improve
the quality of eLearning and meet student expectations toward their satisfac-
tion within eLearning environments.

First, this article reviews the existing literature concerning the factors
impeding eLearning and posits that to overcome these impeding factors
requires multiple roles and heavy time demands of the faculty. This article
argues the need for mentors whose responsibility is to assist the faculty
teaching and facilitate students learning within eLearning environments.
Also, the roles of mentors within eLearning environments, such as teach-
ing assistants, social connectedness initiators, and technical supporters are
described. Finally, a practical guideline for mentors and an example of the
implementation of mentors in an eLearning environment are presented.

FACTORS IMPEDING EFFECTIVE ELEARNING

A number of factors impeding effective eLearning have been identified
from the existing literature. They can be summarized as eLearning barriers,
unmet student expectations, and faculty time limitation.

eLearning Barriers

Major barriers to effective eLearning were noted as perceived psychological
distance and technological problems. Students within eLearning environ-
ments expressed feelings of psychological distance and experienced techno-
logical problems (Ryan, Carlton, & Ali, 1999; Wolcott, 1996). On one hand,
perceived psychological distance arose from the space and time separation
between the student and the faculty on one side, and among peer students
on the other side. This perceived psychological distance may have hindered
students’ development of a sense of social connectedness within the eLearn-
ing environments. As a result, students may have exhibited low motivation to participate in online activities, to express their own ideas, or to ask for assistance. A study reported that low course completion rates, with some as low as 20%, were observed in many distance learning programs, due to continual low learner motivation and lack of social connectedness (Schlosser & Anderson, 1994). On the other hand, technological problems existed due to students’ unfamiliarity with the Internet technology inherent within eLearning environments. Althaus (1997) noted that students who lacked online skills needed special help to effectively participate in online activities within eLearning environments. As such, supports that could help students overcome technological difficulties were recommended for effective online instruction (Hill, 2001).

Unmet Student Expectations

Previous studies have identified three major expectations concerning student satisfaction toward eLearning: (a) timely response time, (b) sufficient supportiveness, and (c) comfortable relationship. First, timely response was reported by students as the top expectation concerning eLearning satisfaction (Northrup, 2002). Also, immediate feedback to promptly provide students needed information was viewed as an important component toward effective eLearning (Moore & Kearsley, 1996). Second, sufficient supportiveness, such as instructor’s availability to answer students’ questions, was noted as a key factor associated with students’ satisfaction within eLearning environments (Maushak & Ellis, 2003). Third, comfortable relationship with the instructor was identified as one of the important measurements toward student satisfaction within eLearning environments (Maushak & Ellis). A positive relationship between the faculty and students was also reported as a major factor influencing student satisfaction within eLearning environments (Jung, Choi, Lim, & Leem, 2002). These student expectations may not be satisfactorily met in many eLearning environments, due to the limited availability of faculty’s time.

Faculty Time Limitation

In eLearning environments, the faculty must successfully accomplish mul-
multiple roles that demand significant levels of time to provide effective instruction. The expected multiple roles of the faculty are subject matter experts, online course managers, and computer technology consultants. As subject matter experts, the faculty are expected to present the course content to students and answer questions concerning course contents to facilitate student learning. As online course managers, the faculty are expected to manage the eLearning environments to ensure that the instruction and learning proceed smoothly. As computer technology consultants, the faculty are expected to advise students toward solving technological problems, such as Internet networking, course website access, and course website navigation problems. Figure 1 illustrates the roles of faculty within eLearning Environments.

![Figure 1. Roles of faculty within eLearning environments](image)

Although the role of subject matter experts is similar to that in face-to-face classrooms, the roles of online course managers and computer technology consultants require faculty to allocate much more time to effectively accomplish these two roles. The following describes explanations supported by previous studies concerning why these two roles demand more faculty time.

**Online course managers.** The role of course managers expects the faculty to allocate a considerable amount of time toward providing the needed online interactions to students, especially when the design of common eLearning environments implicitly relies solely upon the faculty to provide all the needed online interactions. This demand on the faculty to provide such a substantial amount of interactions for effective eLearning was well documented in previous studies. Interactions between the faculty and the students will motivate learners to engage in tasks pedagogically and emotionally (Bauman, 1997), and facilitate socio-cultural and socio-cognitive environmental development (Tu & Corry, 2002). It has been found that stu-
dents’ participation in faculty-mediated interactions will develop the sense of learner connectedness to the eLearning community and faculty-mediated interactions can strengthen the sense of learning community among students (Gilbert & Driscoll, 2002; Hill, 2001; Jin, 2002) and, as a result, lead to improved learning outcomes (Ragan, 1998). Similarly, sufficient levels of faculty supportiveness, in the form of the faculty availability and prompt response to students’ questions that calls for a significant amount of time and attention, was suggested for effective online instruction (Hill, 2001), since online supports would motivate and enhance eLearning achievement (Althaus, 1997; Hmelo, Guzdial & Turns, 1998).

**Technology consultants.** The assumption of the role of technology consultants by the faculty is unique to eLearning environments and does not exist in regular face-to-face classrooms. To facilitate effective eLearning, the faculty are expected to set aside a considerable amount of time toward helping students solving technological problems, while the faculty in face-to-face learning environments do not need to deal with these problems. One study urged providing special help to students who lacked online skills (Althaus, 1997). Another study recommended providing support to help students overcoming technological difficulties (Hill, 2001).

Providing online interaction to enhance eLearning achievement and technical support to alleviate technological difficulties requires a substantial amount of time allocation from faculty. As mentioned previously, the faculty within eLearning environments are already expected to spend time on the role of subject matter experts that requires similar amounts of time from the faculty within face-to-face learning environments. To expect the faculty allocating significant additional time toward online course interactions and technical supports will pose a burden on the time of the faculty. Particularly when the online class size becomes large, the average amount of time that a faculty can spend toward interactions and technical support for each student will be seriously constrained. Consequently, the expectation on faculty to accomplish these multiple roles simultaneously and successfully becomes a heavy burden for the faculty and may greatly affect the quality of eLearning, which is the major concern reported by the National Center for Education Statistics (NCES, 1999).
THE NEED FOR MENTORS

The need for mentors within eLearning environments emerges when the faculty are constrained by their limited time to spend toward assisting students overcoming eLearning barriers, meeting student expectations and, simultaneously, assuming regular teaching responsibilities. Mentors can take up part of the faculty roles and serve as an intermediary between the faculty and the students to alleviate the faculty time limitation. Mentors can assist instruction to support the faculty roles of subject matter experts and online course managers by regularly monitoring interactive activities, constantly keeping track of students’ progress, and promptly responding to students’ questions concerning course content so that student expectations can be met. Mentors can establish social connectedness to sponsor the faculty role of online course managers by initiating additional interaction to assist students develop a sense of social connectedness within eLearning environments so a perceived psychological distance, an eLearning barrier, can be shortened. Mentors can also provide technical support to assist the faculty role of technological consultants by facilitating students to solve technological problems so that technological problems, another eLearning barrier, can be overcome. Thus, with mentors’ assistance, the roles of the faculty can be shared by the mentors and faculty time limitation should be largely alleviated. At the same time, eLearning barriers can be mostly removed and student expectations can be greatly met. Thus, the faculty can assume the regular teaching responsibility with reasonable time and attention to students.

THE ROLES OF MENTORS

The roles of mentors are teaching assistants, social connectedness initiators, and technical supporters that emulate the roles of faculty within eLearning environments. As teaching assistants, supporting the faculty role of subject matter experts, mentors provide students with extra help toward clarifying and comprehending course contents. As social connectedness initiators, sponsoring the faculty role of online course managers, mentors help students develop an eLearning connectedness. As technical supporters, assisting the faculty role of technological consultants, mentors help students solve technological problems. The roles of mentors within eLearning environments are illustrated in Figure 2 and elaborated in the following.
Teaching Assistants

Mentors assist instruction through conducting and monitoring interactive activities to support the faculty roles of subject matter experts and online course managers. Mentors can engage in two kinds of activities that facilitate eLearning: tutoring and administrating activities. Through tutoring activities, mentors can provide auxiliary or supplementary subject matter expertise to assist students toward mastering course content. Mentors can promptly respond to students’ questions for meeting student expectation, frequently provide extra information for better learning effectiveness and constantly guide students to access additional eLearning resources (e.g., university e-libraries, e-journals, & websites related to the learning contents) for further learning support. Through administrating activities, mentors can support course management. Mentors can monitor online discussion, keeping track of students’ attendance, posting routine class announcements and other similar activities as designated by faculty.

Social Connectedness Initiators

Mentors establish social connectedness through facilitating students to develop a sense of social connectedness within eLearning environments to support the faculty role of online course managers. Mentors can initiate interactions with students by encouraging students to participate in activities, joining students’ discussions, assisting group activities, guiding
students toward their learning goals, providing just-in-time help, promoting collaboration to develop the team spirit, and contributing their own learning experiences to facilitate interactions within the eLearning community. These interactions initiated by mentors support student eLearning effectiveness and increase student eLearning comfortableness, which, then, contribute to students developing a sense of social connectedness within eLearning environments.

Technical Supporters

Mentors provide technical support through assisting students developing the necessary online skills to successfully achieve expected learning objectives within an eLearning environment to support the faculty role of technological consultants. Mentors can provide students technological assistance regarding accessing or navigating course websites, uploading or downloading course materials, posting messages onto online discussion boards, and coaching fundamental online skills for eLearning. With mentors’ assistance, students learn and practice the necessary online skills for achieving learning objectives.

A GUIDELINE FOR MENTORS WITHIN ELEARNING ENVIRONMENTS

To fulfill the roles of mentors, a guideline for mentors in eLearning environments was proposed. This guideline outlines major responsibilities of each mentor role and their contributions toward removing the eLearning barriers, meeting student expectation, and alleviating faculty time limitation for enhancing teaching and learning effectiveness. This guideline may be adopted by mentors as a fundamental job-aid in any eLearning environment, so that mentors would have a clearer idea about what to do and how to do in practicing mentoring. The faculty and mentors may modify the guideline to meet the special needs within their eLearning environments. This guideline for mentors is presented in the following table (Table 1).
<table>
<thead>
<tr>
<th>Mentor Roles</th>
<th>Responsibilities</th>
<th>Contributions</th>
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</thead>
<tbody>
<tr>
<td>1. Assisting instruction</td>
<td>- Respond to students’ questions concerning course contents</td>
<td>- Provide quickened responses</td>
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<td></td>
<td>- Monitor online discussion</td>
<td>- Shorten perceived psychological distance</td>
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<td></td>
<td>- Provide students extra information for better learning effectiveness</td>
<td>- Improve the quality of instruction</td>
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<td></td>
<td>- Clarify ambiguity concerning course assignments and grading criteria</td>
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<td></td>
<td>- Keep track of students’ attendance</td>
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<td></td>
<td>- Post routine class announcements</td>
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<tr>
<td>2. Initiating social</td>
<td>- Initiate interactions with students</td>
<td>- Increase students’ support structure</td>
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<tr>
<td>connectedness</td>
<td>- Provide students needed information</td>
<td>- Increase students’ level of comfort</td>
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<tr>
<td></td>
<td>- Encourage students and explain the advantages of participation in activities</td>
<td>- Shorten perceived psychological distance</td>
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<tr>
<td></td>
<td>- Participate in students’ activities</td>
<td>- Increase the quality of instruction and learning</td>
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<td></td>
<td>- Guide students to their learning goals</td>
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<td></td>
<td>- Provide extra help</td>
<td></td>
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<td></td>
<td>- Contribute mentors’ own experiences or insights to assist interactions</td>
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<tr>
<td></td>
<td>- Respond to students’ concerns</td>
<td></td>
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<tr>
<td>3. Providing technical</td>
<td>- Coach students on fundamental online skills</td>
<td>- Reduce technological difficulty concerns</td>
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<tr>
<td>support</td>
<td>- Facilitate students in solving online access problems</td>
<td>- Increase students’ support structure</td>
</tr>
<tr>
<td></td>
<td>- Provide necessary information concerning course website navigation</td>
<td>- Increase students’ level of comfort</td>
</tr>
<tr>
<td></td>
<td>- Help students in locating</td>
<td>- Increase learning effectiveness and efficiency</td>
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</table>
Table 1 (continued)
A Guideline for Mentors within eLearning Environments: Mentor Roles, Responsibilities, and Contributions

<table>
<thead>
<tr>
<th>Mentor Roles</th>
<th>Responsibilities</th>
<th>Contributions</th>
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</thead>
<tbody>
<tr>
<td>3. Providing technical support</td>
<td>specific resources within eLearning environment</td>
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<tr>
<td>(continued)</td>
<td>- Upload or downloading course materials</td>
<td></td>
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<td></td>
<td>- Post messages onto online discussion boards</td>
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<tr>
<td></td>
<td>- Refer students to other resources when technological problems are not able to be</td>
<td>solved by the faculty and mentors</td>
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<td></td>
<td>solved by the faculty and mentors</td>
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THE IMPLEMENTATION OF MENTORS: AN EXAMPLE

Mentors have been employed to assist teaching and facilitate learning in undergraduate online degree programs at a large southeastern state university since 1997. The mentors are required to possess either a master’s degree in areas related to the course contents or a certain level of the knowledge of the subjects associated with the course contents. Most mentors are faculty members of community colleges and graduate students at the university who have previously completed related online courses. Computer literacy is preferred but not required. Before hiring, new mentors are required to complete a mentor certificate training provided by the university, to ensure their ability and understanding of mentoring with online courses. Thus far, there are 113 certified mentors who have completed the mentor certificate training. In the 1999-2000 academic year, there were 26 mentors assigned to 26 online courses to assist faculty teaching and facilitating students learning in the undergraduate online degree programs at the university. It was reported that student satisfaction on mentor performance was very positive and student achievement in the undergraduate online degree programs were higher than that of the cohort of all (face-to-face and online) students in undergraduate degree programs at the same university in 1999 - 2000 academic year (Chang, 2004). Such results indicate that mentors may have largely contributed to the effectiveness of teaching and learning within eLearning environments.
CONCLUSION

This article described roles of mentors and presented a practical guideline for mentoring within eLearning environments. By assuming the roles of teaching assistants, social connectedness initiators, and technical supporters, mentors are able to facilitate students overcoming eLearning barriers, meeting student expectations, and alleviating faculty time limitation. Mentors have been implemented in an eLearning environment and resulted in higher learning achievement. This positive result suggests that mentors may have successfully assisted faculty teaching and facilitated students learning and subsequently helped bring about higher learning achievement within eLearning environments.

References


Maushak, N.J., & Ellis K.A. (2003). Attitudes of graduate students toward mixed-medium distance education. Quarterly Review of Distance Educa-


