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Rod P. Githens

University of Illinois at Urbana-Champaign, rgithens@pacific.edu

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Cautions: Implementing Interpersonal Interaction in Workplace E-learning

Rod P. Githens

University of Illinois at Urbana-Champaign

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Many designers of online learning programs in traditional educational settings acknowledge the importance of the social dimensions to learning. The rising influence of social constructivist approaches toward learning has influenced the growing appreciation of the social components in learning (Alessi & Trollip, 2001). Instructors utilizing these approaches stress group problem solving and the social construction of knowledge (Koschmann, 1996; Schlosser & Simonson, 2003) and instructors exclusively using methods such as one-way lecturing are increasingly being seen as boring and ineffective (Oakes & Lipton, 2003).

E-learning programs in workplaces have been slow to incorporate social and collaborative methods (Macpherson, Elliot, Harris, & Homan, 2004). In many workplaces, e-learning has frequently consisted of solitary “read and click” computer tutorials, which often require the learner to read sequential slides and take short quizzes. Many of these systems, when used in isolation from other approaches, provide results of questionable value due to their emphasis on recollection of facts (Garrison & Anderson, 2003). Some of these solitary programs do include more customizable instruction; however, many still include no interaction with other learners (Strazzo & Wentling, 2001). Although these programs provide flexibility and cost savings, poor learning outcomes and low completion rates have caused some organizations to transition to approaches that include interpersonal interaction (e.g., Murphy, 2001; Salopek, 2004).

In a review of research studies on e-learning and distance education, I conducted a thematic analysis of the benefits and potential drawbacks of incorporating interpersonal interaction into e-learning programs. The empirical research shows a positive relationship between increased interpersonal interaction and success in computer-based learning (Johnson & Johnson, 2004; Richardson & Swan, 2003). In reviewing studies of e-learning programs that use interpersonal interaction, the benefits were apparent. However, distinct cautions also emerged from these studies. When making decisions about the use of interpersonal interaction in e-learning, discussions often center around costs. Although I include a short discussion of costs, I present a wide-range of other cautions to consider before integrating interpersonal interaction into e-learning programs. Decision makers should seriously consider these cautions, along with the advantages, before implementing this type of e-learning. By considering these issues, workplace learning and performance professionals can take steps to overcome obstacles inherent in integrating interpersonal interaction into e-learning. **[End Page 21]**

In this paper, I define e-learning as including facilitated and nonfacilitated online programs that are geared toward learning. However, I address only those programs that include *interpersonal interaction* (i.e., communication between two or more individuals) (see Table 1 for examples). *Facilitated e-learning* programs include courses in which a facilitator guides learners in exploring subject matter (Mauger, 2002). Common technologies used for this purpose include interactive webcasts and course discussion boards. *Nonfacilitated e-learning* programs are also

included. These programs allow for interpersonal collaboration without a facilitator. Group collaboration tools and knowledge management systems are the most commonly used (Ardichvili, 2002). A primary purpose of these systems is to encourage group-initiated collaboration and learning through the sharing of ideas, resources and support. *Blended learning* includes multiple combinations of online or face-to-face learning in facilitated or nonfacilitated settings. Blended learning in workplaces ranges from an employee who completes a short online tutorial and asks a co-worker for help, to a group of employees distant from one another who engage in online training or come together for face-to-face training sessions, but who continue to collaborate online to develop new ideas and innovations (Botkin & Kaipa, 2004). Currently, many organizations that use e-learning are moving toward the use of blended learning in some form (Carlivati, 2002; Salopek, 2004).

Table 1
Examples of Interpersonal Interaction in Workplace E-learning

	Facilitated E-learning	Nonfacilitated Interpersonal E-learning
Synchronous	<p>Common technologies: Interactive webcasts, chatrooms</p> <p>Specific example: A training program for new real estate agents uses live webcasts that allow the instructor and participants to interact once per week from locations throughout the U.S. Additionally, course have virtual team projects, course readings and asynchronous discussions.</p>	<p>Common technologies: Synchronous collaboration systems, videoconferencing</p> <p>Specific example: A statewide university extension system provides employees with access to desktop video conferencing. This system allows for person-to-person audio/video transmission and virtual conference space for larger groups. These technologies are used for informal collaboration and knowledge sharing, in addition to formal training and committee meetings.</p>
Asynchronous	<p>Common technologies: Course discussion boards, email</p> <p>Specific example: A training program for providers of rehabilitation services primarily uses asynchronous discussion and course readings. Many participants work for agencies with low bandwidth and intermittent Internet access; therefore, webcasts cannot be used.</p>	<p>Common technologies: Asynchronous collaboration systems, virtual team space, blogs, wikis</p> <p>Specific example: An educational software company provides online forums for employees throughout the world to share ideas, seek help on specific problems and share professional resources. Some of the forums are also accessible by vendors and customers.</p>

The research on this topic is largely limited to formal educational settings. Therefore, I utilize research from both traditional educational programs (e.g., higher education) and workplace learning programs when presenting these cautions.

Caution #1: Consider the increased costs

Because many organizations are using e-learning for cost savings (Macpherson et al., 2004), it may be difficult to justify the higher expenses for staff time needed in facilitated e-learning. On the other hand, facilitated e-learning programs may be less expensive to design initially (e.g., Thiagarajan, 2002). The initial cost of designing solitary courses can be quite substantial when numerous technological “bells and whistles” are included. Nonfacilitated interpersonal e-learning programs (e.g., informal collaboration systems) are less expensive to operate, but can require significant up-front costs, similar to solitary e-learning.

Caution #2: Don't “over tech” the courses

Technical stability is important for e-learning—in synchronous and asynchronous settings. Maor's (2003) [End Page 22] case study of an asynchronous online course showed that high computer proficiency enhanced the invisibility of technology and allowed participants to focus on learning, instead of technology. Unreliability in these communication systems can result in less learning, even among tech-savvy learners in the workplace (e.g., Russ-Eft, Hurson, Pangilinan, & Eggherman, 2002). These empirical findings illustrate the importance of using stable technologies in workplace learning. However, e-learning designers tend to “push the limits” of technology, due to their comfort with it (Gengler, 2004). Technologically advanced systems may aim to help participants feel more connected. However, their instability often results in some participants feeling less connected than if they had used low-tech tools.

Caution #3: Balance structure and openness

Appropriate structure, as well as purposeful lack of structure, can be a central element in enabling the creation of successful online learning groups (e.g., Wang, Sierra, & Folger, 2003; Wegerif, 1998). Barab, MaKinster and Scheckler (2003) recounted that in the early stages of an online professional development community for classroom educators, one of the participants initiated the most active discussion topic of the entire semester. University designers had initiated all of the other topics, which were apparently not nearly as interesting or useful to the participants. This example supports the argument for giving participants control of the learning process. However, Calvin, Stein and Wheaton (2004) found that having a structured environment was the most significant variable in predicting satisfaction with distance learning. Interaction was the only other significant variable; however, it was much less significant than structure. When structure was provided, learners reported that group interactions “led to better understanding and fostered further learning outside the course” (Calvin et al., p. 269).

There is an inherent tension in finding the balance between *freely allowing* open community development and *creating* a structure or framework in which open discussions will thrive (Schwen & Hara, 2003). Or, stated another way, reconciling these dualities is “a process that involves walking the tightrope between designing the community and allowing it to emerge from the needs . . . of its members” (Barab et al., 2003, p. 242). For those dealing with this dilemma, suggestions have emerged from the studies reviewed for this paper:

1. In facilitated settings, utilize structured team assignments to increase the speed at which learning communities begin to form. Community building results in in-depth

- sharing which students have found beneficial in the learning process (Calvin et al., 2004).
2. Start out with a great deal of structure and reduce it over time, as the community develops (De Laat & Lally, 2004; Wegerif, 1998), similar to using the educational practice of “scaffolding.” For example, the facilitator can initially suggest specific roles for the group(s) to assign among themselves (e.g., record keeper, researcher, webmaster), but the facilitator reduces the amount of guidance provided as the program progresses. For participants to understand the community-building goals, the facilitator can initially explain that the course/program will become less structured over time. This explanation is especially critical when the organization desires tangible results from the program (e.g., a completed project).
 3. Take time for learning of teamwork skills and procedures. Several studies have shown successful outcomes when integrating teamwork lessons into computer-based learning (Hooper, Temiyakarn, & Williams, 1993; Johnson & Johnson, 2004). Although **[End Page 23]** including teamwork lessons can require an additional time commitment, it is often a worthwhile investment.
 4. In the beginning, encourage asynchronous discussion about a light-hearted or elementary topic in which all can contribute equally. Several online dropouts and noncontributors suggested this approach in Wegerif’s (1998) ethnography. This early confidence building helps minimize skill/ability differences and helps participants feel at ease with the group.

Caution #4: Don’t force an unwanted program on employees

In creating e-learning systems, organizations must be cautious in their approach, to prevent purchasing systems that may be underutilized. This caution applies especially to nonfacilitated collaboration systems. These systems, sometimes quite expensive, can go unused by employees. Schwen and Hara (2003) describe four case studies in which organizations implemented technologies aimed at creating online communities of practice. Three of the organizations spent large amounts of money implementing the systems, which were at best used on a peripheral basis and in one case was discontinued altogether.

Even with management encouragement and support, informal and spontaneous learning rarely succeeds under “forced” conditions. In Schwen and Hara’s (2003) four case studies, the system designs failed to account for *existing* patterns of successful informal learning. Workplace learning and performance professionals must acknowledge that outside of K-12 and higher education settings, individuals are highly unlikely to participate in “forced” discussion. Schwen and Hara proposed a design approach that accounts for existing community patterns and structures, while utilizing employees as full partners in the design process. Throughout the lifespan of such initiatives, continual evaluation and involvement by employees is essential. Employee involvement should not be limited to the early stages, but should continue throughout the lifespan of the project, as employee and organizational needs evolve. For example, project leaders can ensure broad-range employee representation on the team that oversees the project, they can commission periodic focus groups or surveys related to the system, or they can analyze ongoing employee communication patterns to ensure that the system continues to meet the organization’s needs. If management in an organization finds this process too expensive or time-consuming, they may want to consider abandoning implementation of such a system.

Caution #5: Ensure practical application and relevance

“Canned” or generic programs oftentimes fail to reflect the needs of individuals, groups or organizations. Such content, often used without meaningful evaluation (e.g., Macpherson et al., 2004), has lessened the credibility of learning and performance programs in organizations. Successful interpersonally interactive e-learning programs reflect actual needs in organizations and allow for modification of content, as needed by the participants. Utilization of real problems, organizational context and past knowledge is crucial for the success of learning programs (Smith, 2001). For example, Burbules (2004) described the sense of pride displayed by online master’s students who created a living, dynamic online resource available to K-12 educators. In addition to contributing new material, the students updated and revised materials from previous semesters. This living organism continues year after year and is utilized by thousands of educators. Students know their course project has a real purpose—providing educators with a resource that they actually need. A similar concept in **[End Page 24]** workplaces is seen through the use of action learning programs, which can integrate coursework and collaborative hands-on learning among employees (Brooks & Watkins, 1994; Kemmis & McTaggart, 2000). Within organizations, these programs bring together individuals from various departments and units to collaborate on real-life projects. Marsh and Johnson (2005) present a case study of a blended management development program where participants came together for face-to-face courses and continued working on actual work projects through virtual teams. Action learning approaches can also be utilized in fully online courses (e.g., Waddill, 2005). These approaches provide a great opportunity for increasing the success of and respect for e-learning programs in workplaces.

Caution #6: Consider the needs of unengaged participants

Although many participants feel comfortable sharing their thoughts and opinions in online discussion forums or chatrooms, other students worry about making mistakes and whether their postings and/or messages sound adequate (Haythornthwaite, Kazmer, Robins, & Shoemaker, 2000; Li & Akins, 2005). Some facilitators deliberately make spelling mistakes to help students feel less vulnerable (Wegerif, 1998). This approach encourages a more relaxed environment where those on the margins feel less self-conscious. As described earlier, using early group activities is also essential for helping learners feel at ease in their new environment. Using activities that include socializing, as opposed to only work-related topics, accelerates community-building (Haythornthwaite et al., 2000).

Another issue to address when using discussion forums is increasing the level of interactivity in a forum. One purpose of including interpersonal interaction in e-learning is for learners to be mutually engaged and to reflect as a group on each other’s ideas in order to construct knowledge (Maor, 2003). Some participants may respond to their peers by making unsubstantive comments like “good job” or “I agree.” Maor (2003) addressed this problem by asking students to frame their discussion board interactions by either helping their peers to improve or engaging in conversation, as opposed to making a “one-way-one-time posting” (p. 130). These issues should be addressed early, possibly as part of the prework or during the program rollout.

Caution #7: Don't make false assumptions about participant engagement

Similar to less vocal participants in face-to-face settings, some online learners learn better through quietly observing a discussion as it occurs. Picciano (2002) found that online student interaction does not always correlate with performance. His findings suggest that quieter students may be engaged (i.e., through reading others' postings), but may choose not to share their thoughts with the group. Additionally, De Laat and Lally (2004) found that online learners' roles varied throughout the progression of an online project, based on personal traits and group dynamics. As participants' personal strengths were needed, their level of activity in the group increased. However, when their strengths were not as critical, these individuals became less active. This evidence illustrates the importance of using caution before making conclusions based solely on the number of postings by an individual or group.

Conclusion

Interpersonal interaction in workplace e-learning provides exciting opportunities for organizations that value collaboration among employees. I have provided several cautions to consider before implementing this type of e-learning (see Table 2 for a summary). However, there are no absolute prescriptions for using [End Page 25] technology in learning. As with other types of education, how much learning occurs using a particular framework, method or technology depends on the specific individual, group or organization involved. The dynamic social forces involved with interpersonal interaction further complicate this decision-making process. Decision makers must address the specifics of their situation and make informed choices regarding the types of methods and technologies to employ. Organizations that utilize interpersonal interaction in workplace e-learning will help increase the success of these programs through careful consideration of the (a) needs of their organization, (b) purposes of the learning program and (c) preferences of employees. The cautions that I have provided are an important starting point for considering these needs. As organizations continue implementing this type of e-learning and more research is conducted in workplaces, additional workplace-specific examples and models will emerge. These additional examples and models should provide further assistance to workplace learning and performance professionals.

Table 2

Cautions of Implementing Interpersonal Interaction

Caution	Specific Suggestions
#1: Consider the increased costs	<ul style="list-style-type: none">▪ Determine the cost of using facilitators (<i>for courses</i>)▪ Determine the cost of purchasing collaboration tools
#2: Don't "over tech" the courses	<ul style="list-style-type: none">▪ Use low-tech tools, if possible▪ Resist the urge to "push the limits" of technology
#3: Balance structure and openness (<i>for courses</i>)	<ul style="list-style-type: none">▪ Consider structured team assignments in the beginning▪ Start out with a great deal of structure and reduce it over time▪ Take time for learning teamwork skills and procedures▪ Encourage early discussion of an elementary topic, to level the playing field

#4: Don't force an unwanted program on employees (especially when implementing nonfacilitated collaboration systems)	<ul style="list-style-type: none"> ▪ Analyze existing organizational communication patterns when designing the system ▪ Ensure ongoing employee involvement in system selection, design process, and evaluation
#5: Ensure practical application and relevance (for courses)	<ul style="list-style-type: none"> ▪ Make certain that the program reflects actual needs of the organization(s) ▪ Consider using action learning approaches, which can integrate formal learning and real-life projects
#6: Consider needs of unengaged participants	<ul style="list-style-type: none"> ▪ Facilitators should consider making deliberate spelling mistakes ▪ Allow space for socializing ▪ Provide guidelines for how participants should respond to others in asynchronous discussion space (e.g., discourage "one-way-one-time" postings)
#7: Don't make false assumptions about participant engagement	<ul style="list-style-type: none"> ▪ Remember that lurkers may be quietly engaged ▪ Recognize that student roles/involvement levels change throughout a course, depending on individual strengths/weaknesses

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