



## **E-Journaling: A Strategy to Support Student Reflection and Understanding**

Frederick B. King and Diana J. LaRocco  
University of Hartford

Journals can be defined as the permanent records of thoughts and ideas that an individual has processed and clarified through the act of writing or otherwise recording their experiences (Killion, 1999). While journaling has existed almost as long as man has been writing, the use of journaling as a pedagogical strategy is a relatively recent phenomenon that has steadily increased over the last 30 years (Koontz, 2004). Early on, teachers used journaling primarily as a method for improving a student's writing skills. More recently, however, teachers in disciplines such as social studies, mathematics, engineering, sciences, and education have integrated journaling into their classroom practice (Duerdan, et al., n.d.; Inspiring Teachers, n.d./a&b). The use of journaling across a variety of disciplines is related to the fact that constructivist-oriented professors have found journaling to be a valuable strategy for checking students' understanding of core concepts, promoting reflection on the connections between theory and practice, enhancing insight, and promoting critical thinking (Andrusyszyn & Davie, 1997; Halva-Neubauer, 1995). Watkins and Marsick (as cited in Cyboran, 2005) stated in 1993 that ". . . people need to bring what they are learning into conscious awareness. They learn more effectively through a process of questioning, reflection, and feedback from others that permits a deeper understanding to emerge from these otherwise everyday activities" (p. 35).

In the past, using paper and a writing instrument was the primary mode for journaling. Nevertheless, the increased popularity and use of technology in classrooms and by individuals, the rise

in distance education courses, and the changing nature of students (e.g., part time, fully employed) have given rise to a variety of technological approaches to journaling. The technological approach to journaling can take many forms and includes, for example, e-mail, web logs, and electronic discussion boards. Cyboran (2005) also noted that "using technology can make reflective journaling much easier" (p. 34). Additionally, electronic forms of journaling can overcome resistance, at both the individual and organizational level, because no additional resources are required or need to be purchased. Moreover, technologically linked methods are particularly attractive to both instructors and students because they naturally lend themselves to allowing learners to ask asynchronous, individualized questions and seek specific feedback about assignments or their understanding of core concepts (Longhurst & Sandage, 2004).

### **Developing Reflective Practitioners Through Journaling**

"At the heart of learning through journal writing is reflection" (Kerka, 2002, p. 1). Reflection, and its importance in our lives, has been stressed by educational theorists and philosophers, adult educators, and cognitive scientists such as Dewey, Knowles, Schön, and Vygotsky (Cyboran, 2005). "Meaning making, according to constructivists, is the goal of learning processes; it requires articulation and reflection on what we know" (Jonassen, Davidson, Collins, Campbell, & Haag, 1995, p. 11). Reflection, aimed at developing reflective practitioners, forms the core of the conceptual framework for the departments in which this exploratory study took

place. Specifically, this framework was derived from the writings of Schön (1987). “Schön calls his model ‘reflection in action’ and describes a progression from rote following of rules to questioning, criticizing, and reforming assumptions through a continuous process he calls a ‘reflective conversation’ with the situation” (University of Hartford, 2005). Sometimes, Schön suggested, we act, unique situations (i.e., problem or opportunity) arise, and we are surprised, for good or for bad, by the results of our actions. We may respond to the surprise by either ignoring or reflecting on the various elements of our actions. Schön further contended that our reflections typically take two forms—*reflection on action* or *reflection in action*. “We may reflect on action by thinking back on what we have done to in order to discover how our knowledge in action may have contributed to an unexpected outcome” (Schön, 1987, p. 26). He posited that reflection on an action after it has occurred is passive and has no real direct connection to actions in the present. On the other hand, reflection in action “. . . is thinking that serves to reshape what we are doing while we are doing it” (Schön, 1987, p. 26). Reflection in action is thinking about the thinking that led to the unique situation (i.e., problem or opportunity), inquiring further, deepening understanding, and discovering answers.

Reflection in action, as described by Schön (1987), is considered by many to be the cornerstone process of journaling. “A form of dialogical learning, journal writing has been espoused as a means of facilitating reflection, promote personal growth, and precipitate change since ‘simply to record our behavior is to interfere with it’” (Simons, 1978, as cited in Andrusyszyn & Davie, 1997, Reflection through journal writing, ¶1). “Reflecting through journal writing gives learners the opportunity to shape their ideas, create new ideas, and connect them to what they already know” (Killion, 1999, p. 37). By its very nature, journal writing adds energy and synergy to the learning process. Moreover, it provides the instructor with a permanent product that is produced by the student in his or her own “voice” and is a representation of the student’s thinking.

### **Benefits of Journaling**

Killion (1999) stated that journaling at its simplest is “writing to learn” and unlike “thinking about” ideas, which eventually evaporate, journals are permanent records of those thoughts or ideas. The process of transferring an idea into language forces the mind to process and clarify the idea. When a learner is required to apply language to an idea, the idea takes shape and form. (p. 36)

Similarly, other authors have duly noted the power of journaling as a pedagogical tool. They have

described journaling as “. . . taking a tour inside each students’ head” (Inspiring Teachers, n.d./a, ¶2), “. . . an incredibly flexible instructional tool, useful across the entire curriculum” (Kelly, 2004, ¶1), “. . . a crucible for processing the raw material of experience in order to integrate it with existing knowledge and create new meaning” (Kerka, 2002, ¶2), and “. . . a tool to aid learners in terms of personal growth, synthesis, and reflection on new information that they acquire” (Hiemstra, 2001, p. 19).

The literature contains many references to the benefits of using journaling in classroom environments (Duerden, et al., n.d.; Hiemstra, 2001; Kelly, 2004; Kerka, 2002; Killion, 1999). These include, but are not limited to: (a) explicating connections between new knowledge and previous knowledge; (b) examining relationships between what is being learned and the rest of the world; (c) reflecting on personal goals; (d) sorting out experiences; (e) solving problems; (f) enhancing reflective thinking; (g) enhancing metacognition; (h) improving problem solving and critical thinking; (i) facilitating self-exploration, personal growth, and values clarification; and (j) synthesizing ideas, experiences, and opinions after instruction.

According to Hiemstra (2001), most students and instructors employ journaling to extend learning beyond the knowledge and skills that students may have acquired in daily classroom activities. “By careful choice and judicious working of the journal assignment, students are led in a very natural way to deeper conceptual understanding of the subject at hand” (Duerdan, et al., n.d.).

### **Some Drawbacks to Traditional Journaling**

When instructors require students to keep paper journals and collect them for regular review, the logistics of passing them among professors and students within a given time period (a week in most classes) can be a formidable task. The journals themselves can be cumbersome to tote back and forth and they may be forgotten or not picked up. Also, while the journals are in the instructor’s care the students are not journaling. Phipps (2005) believed that one of the biggest obstacles to journaling was trying to read the writing, both the students and the instructors. Journaling also takes time and time management. Some students have been noted to wait until the day before the journal is due and then write numerous entries to the journal in an effort to catch up. As Phipps (2005) notes, the journal then becomes more of a memory exercise than a true reflective learning. “With online journaling, however, student can compose their daily or weekly entries as assigned while the instructor has access to their journals to check individual progress and offer feedback on a

continuous basis” (Phipps, 2005, Problems with traditional reflective journaling, ¶2).

### **Considerations When Using Journaling**

Several authors have highlighted important issues that instructors should consider before they deliberately adopt journaling as a teaching strategy. First among them is selection of the type of journaling to be used. Hiemstra (2001) delineated a variety of journal types and formats. For instance, instructors can select a learning journal format in which students record thoughts, reflections, feelings, personal opinions, hopes, or fears during an educational experience. In a second type, the professional journal, the specific purpose is to have students record professional growth and development (Hiemstra, 2001).

Second, instructors should consider possible negative effects of journaling. Kelly (2004) postulated that there are at least two. She suggested that journaling in class leads to the loss of instructional time needed to teach course material. Technologically based approaches are asynchronous by nature and they virtually eliminate this potential drawback. Kelly further posited that some students’ might perceive instructor feedback as criticism. Teachers should therefore provide journal feedback that is free of criticism, is formative in nature, and focuses on the process of learning.

Third, questions have arisen as to whether an instructor should even read students’ journals. Those against teacher involvement have cited the perceived lack of freedom for expressing opinions and emotions (Kelly, 2004). In this case, the learner “may need to be convinced of the safety of expressing what could be critical comments to someone who has the power to award a grade to their overall performance” (Orem, 1997, Findings ¶ 1). On the other side of this issue, those who advocate that instructors review journal entries believe that a comment on an entry will help establish a relationship between a student and the instructor. The instructor may also choose to use the journal for academic topics, thereby trying to reinforce the learning that is taking place through classroom interaction, readings, and activities. Andrusyszyn and Davie (1997) believe that “Journals shared between student and teacher were perceived to narrow the distance between the two, providing a form of security valued by the adult learning returning to school” (Reflection through journal writing, ¶8).

Finally, another debate in journaling is whether the instructor should assess journal entries. Those against assessing journal entries cite such reasons as: the power relationship between the instructor and student will inhibit thought, assessment will encourage self-censorship, and the writer may

“play the game” (Kerka, 2002). Those in favor of assessment state that: reflection will be more highly esteemed for development, reflection can be guided by the instructor, review of the material gives instructors data on students’ learning process, and, finally, it is necessary to ensure participation (Kerka, 2002). “It is generally accepted that journals themselves should not be subject to grading, although participation or nonparticipation in the process may be evaluated” (Andrusyszyn & Davie, 1997, Interactive journal writing as a design tool, ¶6). Whether the journal is formally assessed or not, English (as cited in Kerka, 2002) offered some guidelines instructors: “(a) respect—making confidentiality and boundary setting essential; (b) justice—providing equitable feedback; (c) beneficence—guarding privacy, focusing on learning rather than therapy; (d) self—awareness-practicing the reflection you preach; and (e) caring—providing clear expectations and guidelines” (p. 2).

### **E-Journaling**

Journaling in the classroom has traditionally been a paper process. E-journaling eliminates some of the drawbacks of journaling mentioned above. Additionally, this “intellectual exchange allows faculty members to encourage, guide, and engage student in an academic venue” and “builds a rapport between faculty and student that contributes to positive learning experiences and successful outcomes” (Phipps, 2005, ¶ 1).

Consequently, some instructors have turned to electronic media for journaling. The type of media used varies, but Longhurst and Sandage (2004) stated that “choosing pedagogically appropriate technology with the lowest support requirement and the simplest learning curve encourages faculty adoption and student learning alike” (p. 69). They noted that the appropriate technology does not feel disruptive or intimidating. For this reason Longhurst and Sandage (2004) chose email as their method of transmitting journal entries. Another group (Duerden et al., n.d.) chose to use Webnotes™ as their technology for journaling. In both of these studies, the authors found that the use of an electronic means of transmitting journal entries: (a) simplified the entire procedure, (b) was easier and more timely than using paper, and (c) provided more opportune feedback to the students.

In sum, based on the research and our personal experiences, we firmly believe that the deliberate practice of journaling is, perhaps, the best instructional strategy for promoting student and instructor reflectivity. First, the use of journaling can provide the opportunity, for both novice and experienced practitioners, to reflect on their practice, thereby better understanding their own epistemology,

which could then inform, and even transform, their practice (Orem, 1997). Second, when instructors review and comment on student journals they set the stage for their own reflections by creating a window's view of their teaching from the student perspective. This view provides qualitative data that the instructor can then use to make formative changes in course pace, assignments, and content. Third, we appreciate the need to update the act of journaling through appropriate technology. Therefore, we deliberately set out to explore e-journaling as the technology of choice for student journaling in two separate courses. Finally, we believe that e-journaling supports recommended practice espoused by Chickering and Gamson (1987). In particular, we feel that e-journaling: encourages contact between students and faculty, encourages active learning, provides prompt feedback, increases time on tasks, and respects diverse talents and ways of learning.

The purpose of this research was to explore the utility of e-journaling as a means for promoting student and instructor reflectivity in two separate graduate courses (i.e., educational leadership and instructional design). Specifically we were interested in understanding the phenomenon of e-journaling from the student and the instructor perspective. The following questions drove the data collection and analysis. How would students adjust to using technology (e-journaling) as the means for journaling and what challenges would they face? How, if at all, would students use e-journaling to reflect on their understanding of core concepts and make connections between theory and practice? What, if any, benefits would instructors gain from using technology as a strategy for supporting student reflectivity?

### **Methodology**

An exploratory case study design (Yin, 2003) was used to answer the research questions. Exploratory case studies are typically undertaken before launching larger scale investigations (U.S. General Accounting Office, 1990). According to Yin (2003), the case study is an appropriate research design when the researcher is interested in investigating "how" and "what" type questions that are focused on describing a contemporary phenomenon. The contemporary phenomenon under study was e-journaling; we took a constructivist approach in seeking to answer the research questions and describe this contemporary phenomenon. Two separate graduate-level courses constituted the cases. After reviewing the literature, both collaborating instructors chose a course that they felt would benefit from the journaling experience. The first case, which is described in more detail below, was an educational leadership course that was conducted in one of

university's educational leadership programs. The second case, also described below, was an instructional design course that was a component of a masters program in educational technology, which targets pre-service and in-service teachers. Student e-journals, e-mail, and course evaluations constituted the data set for analysis for both cases.

As instructors, we actively aimed to create courses that embodied the tenets of reflection in action set forth by Schön (1987) and contained in the departments' conceptual framework. We did this by using a variety of instructional strategies, primary of which was e-journaling. Each instructor used the e-journals in a manner to fit their individual pedagogies. However, in consultation, we determined that Blackboard® would be the appropriate technology to use for these courses and this research. The Blackboard® course management system was widely used at our university and all of the students were familiar with its operation. This met the non-"disruptive or intimidating" criteria established by Longhurst and Sandage (2004). Additionally, we agreed that journal postings would be private and collaborative (i.e., between the student and the instructor). This position was supported by Phipps (2005) "Course management software also provides useful discussion-board capabilities that can be configured for private rooms used exclusively for personal journal entries and instructor responses" (Journaling with technology, ¶4).

Both instructors required that students complete a journal entry at least once weekly. Reflective journal entries were a part of their homework, therefore, no class time was expended.

The instructors then reviewed the entries, provided feedback in accordance with English's guidelines (above), "encouraged, guided, and engaged students" (Phipps, 2005), and used the journal entries to modify the upcoming face-to-face classes to address issues/questions raised in the journal entries. Using e-journaling to modify courses and curriculum prior to holding classes was used as a form of just-in-time teaching (JiTT) (Novak, n.d.; Rozycki, 1999). In JiTT web-based interaction on study assignments, this case e-journals, were submitted to the instructors prior to the next class. The instructors read the e-journals "just in time" and adjusted the lesson to fit with the feedback/questions/dialogue of the e-journals. As Novak (n.d.) pointed out "The students are expected to develop the answer as far as they can on their own. We finish the job in the classroom" (The Web Component, ¶ 2). This scaffolding deepens student understanding and ensures a much more student-centered, active classroom. It doesn't really matter if the student was on the right track, or not. "In fact, partially correct responses are particularly useful

as classroom discussion fodder” (Novak, n.d., The Web Component, ¶2).

We used the group discussion function of Blackboard® for student postings of weekly journal entries and instructor comments. We separated all of the students into private groups. Each group was comprised of two individuals the student and their instructor. No other individual (student or otherwise) had access to the e-journaling that took place in these private discussion groups. Students were given broad guidelines on the information that should be covered in the weekly e-journal postings. This included reflecting on the required readings, course assignments, and classroom discussions. Once the journal entry for the week was posted, the instructor would respond with his or her comments, insights, or reflections. Though not required, the student could then reply to the instructor’s comments, and so on. The journal entries were not graded per se, but weekly postings were a course requirement. If a student did not post in a given week, a deduction was made from the participation grade for these courses.

### **Case 1: The Educational Leadership Course Description**

The students in the educational leadership course ( $N = 13$ ) were matriculated in one of the university’s educational leadership programs. The particular program employed a cohort model. It was designed to prepare aspiring school leaders for a number of different roles (e.g., supervisor, department chair, assistant principal, principal) within both public and private schools. Twelve of these 13 participants were employed full-time as teachers in a variety of urban, suburban, public, and private schools and one student was not working outside of the home.

The content of the educational leadership course focused on leading change within the context of current federal and state educational reform initiatives. The course design was founded on the instructor’s beliefs the best way to learn was by doing and knowledge and skill can be built through reflection-in-action (Schön, 1987). Further, to be effective change agents and manage the complexity of school improvement, educational leaders must understand change as a process. Therefore, classes and assignments were intentionally designed to serve as a practice field where students worked in teams to examine the notion of change as a process and develop knowledge and skills in relationship to leading change (i.e., being a change agent). The course had three interrelated assignments. Students were to: (a) create and implement personal change plans, (b) work in teams to develop a scholarly team presentation on change as a process, and (c) keep an online journal (i.e., e-journal) account of their weekly

activities as those activities related to their progress on their personal change plan.

The goal of the primary assignment, constructing and implementing a personal change plan, was intended to provide students with first hand experience with managing a self-selected change initiative. Using a model for planning change, as set forth in Pearpoint, O’Brien, and Forest (1995), students worked with a self-selected team of their classmates and created an individualized change plan or "PATH". Each student’s personal change plan was to focus on his or her skills as an educational leader and one or two areas in which he or she wanted to build knowledge and skills. The instructor modeled the development of a PATH with a student volunteer during class; then students were given two class periods to work with their self-selected teammates to develop their individual PATH. These teams met once a week for the remainder of the semester, during class time, to review their PATH progress and to provide mutual support and critically helpful feedback.

The e-journal assignment had two goals: promotion of reflection-in-action and provision of multiple asynchronous (participate “any time, any place”) opportunities to individualize and respond to student learning needs. Each student was to keep an individual online journal account of his or her weekly activities. Students were asked to reflect on their thoughts, feelings, and insights in relationship to personal change, progress on their individual change plan, their work with their teams, and the larger issues of change that educational leaders, as change agents, face in their schools on a day-to-day basis. The following open-ended questions were provided as a guide: What happened this week (as it relates to my PATH)? What did I do? How do I feel? What did I learn? How can I use what I learned?

### **Results**

Concerning the act of journaling, a review of email correspondence and journal entries revealed that students’ were tentative at first about the e-journal assignments and expressed concern about never having kept a journal before, finding the time to journal, and deciphering instructor expectations about the journal content. Evident in most of the students’ initial e-mail correspondence (first two weeks of classes) were the frustrations and struggles that they had with the technology. Examples included the loss of written material while trying to post it or posting to the Blackboard® system when it was unavailable (i.e., on Fridays from 5:00 pm to 5:15 pm) and occasional problems with Internet failure. As the semester progressed, however, all but one of the students regularly completed the e-journal

assignments. This single student had a history of being remiss in completing assignments in general.

In reviewing the content of all student e-journals for the semester, it is apparent that students used their e-journal to reflect on their needs and those of their teammates as they created their personal change plans. They routinely described the progress they were making on their PATHs and their feelings about working with teammates to create the final project. Further, students' e-journal entries revealed how they understood themselves in relationship to the ways in which they approached change and their role as educational leaders and change agents. Finally, most of the students incorporated ideas from their readings and the class lectures into their entries.

Upon reviewing the content of the instructor's responses to students' e-journal entries, it was apparent that they most often took the form of social support as defined by House (1981). House summarized social support as "... an interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy), (2) instrumental aid (goods or services), (3) information (about the environment), or (4) appraisal (information relevant to self-evaluation)" (p. 39). Specially, the support offered was either emotional or informational and was in response to students' expressed apprehension, triumphs, and challenges.

The e-journal excerpt below and the instructor's response, which follows, are a typical example of a student's entry and the instructor's reply. During the second week of the course, Student A had an opportunity to work with teammates and create his/her individual change plan. Student A reflected on his/her initial concerns about the assignment and the process:

First, I must say that being the Pathfinder was a much more enjoyable experience than I had first anticipated. I really thought it was going to be a painful process of trying to come up with things to say for an ending that seemed a little overwhelming. When I first chose "My Path", it felt like an impossible thing to accomplish in a short period of time . . . . However, when it was all out on a colorful chart, broken down into achievable time frames, it all seemed possible.

In response, the instructor reflected: "We often find it difficult to share our dreams aloud; it is always amazing to see how once we do that, the dreams don't seem quite so impossible."

Similarly, Student B wrote about his/her initial apprehension and realizations: (Italicized words in all of the quotations were substituted by the instructor to protect confidentiality.)

Before I start my journal about my PATH, I wanted to say how apprehensive I was feeling in regards to this project. While on one hand I immediately saw the importance and power of such a process, I could not envision myself as the focus of such a process due to my sometimes-obsessive quest for privacy. I initially wanted to propose to the class (jokingly-well, maybe not so jokingly-no I do mean jokingly) that since I do NOT need to change anything about myself or my life, that I would write a list of things that everyone ELSE could work on changing. . . . Needless to say, I was not excited about the assignment or the grueling exercise of picking teammates to work with. However, the two partners I ended up with by default . . . were AWESOME! *Student C* really opened up and shared some very personal information . . . *Student D* is hysterical [funny] and asked many good questions that make *Student c* and myself look at our quest from angles we had not previously thought of.

In response the instructor reflected:

The process of understanding your purpose and building a vision for yourself is a critical first step in becoming a skilled leader. Being able to reflect, as you did, on your hesitancy to open-up is a wonderful first step toward learning about the importance of understanding others. We ask teachers, families, and students to share in so many ways and yet, we may not be willing to do the same. A skillful leader recognizes who he or she is and is open to sharing that with others.

Instructor comments in the form of informational support (House, 1981) were aimed at individualizing instruction, directing students to resources that might help them with their change plans, and answering questions about the assignments. In the case of either emotional or informational support, the instructor's reflections ordinarily prompted further student reflections and this contributed to a synergistic dialogue between the instructor and individual students.

This excerpt from Student A is one example of how students further engaged in reflection based on a previous instructor comment that was a direct response to his/her expressed learning need. Additionally, it shows how students were generally able to link their experiences with PATH to readings from this and other courses and, more importantly, to practice.

Per your posting, I gave some thought to my PATH and tying it in with Fullan, [Bolman and Deal], etc. Of course, Fullan came to mind immediately since the "Framework for Leadership" is now committed to memory. In fact, I have copied the chart and handed them out to various people. I've had such positive feedback when I have explained the ideas behind the 'framework'. In fact, one woman has it posted next to her desk.

Student B's e-journal excerpt, from week four, shows how the instructor used the content of journals to guide and adjust instruction from week to week. At this point in the course, a majority of students began to write about their evolving understandings about: the process of change as described in the literature (e.g., Beckard & Pritchard, 1992; Fullan, 2001), what it takes to develop a shared vision for how the group might accomplish the final assignment, and the overall challenges of working in teams.

I really appreciate the time you gave us to discuss the assignment at the beginning of class. I liked what you had to say about the process and hearing other students voice the same frustrations as me was beneficial to me-I thought I was the only one who was having a hard time. . . I think I can learn more than how to "change" in this class. . . .

In reflecting back to this student the instructor wrote:

While it might seem that you are not progressing on your PATH, it appears that you are thinking about it and that is Senge's (1990) using the subconscious. It also seems that you are thinking about leadership and what it takes to create and share knowledge. It is critical that leaders take the time to hear. Think about: "When have I experienced good listening?" (Wheatly, 2002, p. 88).

In sum, students' perceived that the course and the act of journaling to be beneficial in helping them learn and reflect on the course content. Additionally, they were able to make connections from theory to their practice. The overall end of semester students mean ratings for the educational leadership course were high and on a five-point, Likert-type scale (5 = strongly agree; 1 = strongly disagree) they ranged from 5.0 – 4.5. Of particular note are students' high ratings for the item "assignments helped me understand the course material" ( $X = 4.8$ ). A sampling of related written comments from the end of semester evaluations showed similar positive perceptions: "We experienced the content being taught." "An

interesting way to look at our goals!" "The [team work and] group presentations really helped us to understand concepts in the course and helped us work together . . .".

Finally, what was perhaps the most compelling experience for this instructor were the ongoing opportunities to reflect with students about the nature of personal change and its relationship to the larger issues of change that educational leaders, as change agents, face in their schools on a day-to-day basis. This excerpt from Student A's final e-journal entry exemplifies those of other students:

As our final class approaches, I am reflecting on how much I have changed my thoughts about change!!! Often, change seems so insurmountable. Between getting all parties on board, implementing the change, riding the "dip" and continuing forth (even through the distractions of others who disagree), it is obvious why many people abandon change - even if it is for the better. Through the tools - PATH, Fullan, [Bolman and Deal], etc. - offered through the course, I can see how change is possible.

#### **Case 2: The Instructional Design Course**

##### **Design**

The students ( $N = 6$ ) in the instructional design course were matriculated in the Educational Technology Masters program. Instructional design (ID) is a survey course where the students learn fundamental instructional design concepts and processes. A number of instructional design models are examined in the course covering the period from the early 1900 to present day Web-based course design.

The course content focused on the big picture of instructional design and not on the day-to-day lesson preparation that teachers complete. The class and the assignments were designed to serve as an authentic practice field where students worked in teams to explore the various ID models and choose one that would form the basis for their instructional design project. Case studies were used in the beginning of the class to give the students a feel for the overall design process. Students were divided into two project teams. Each team interviewed prospective "clients" in one of the member's schools to determine an instructional design project. Once the project was chosen and approved by the instructor, the team members completed all of the steps of the ID model that they had chosen. The final project was web-based, beta tested by the "customers", burned onto a CD, and posted to the class Web site. This course design was founded on the instructor's beliefs that the best way to learn was by hands-on, authentic activities.

In addition to the major project, each student was expected to keep an online journal in Blackboard®. This e-journal was intended to promote reflection-in-action (Schön, 1987). The students were given instructions concerning the requirements for the journal and some of the broad questions that they should address in their postings. Additionally, each student was given an article about how to accomplish journaling and the benefits of keeping a journal. They were asked to reflect and comment on the readings for the week, that week's class, their progress on the project, and anything else that they would like to talk about in the e-journal entry. The instructor read each posting within 24 hours of its due date and commented on each entry. It was my intent to use these e-journal reflections in two different ways, neither of which was explicated to the students. First, I wanted to further the breadth and depth of student learning through dialogue between the instructor and the individual student, prompting them to re-reflect on what they were learning and what its practical application might be in their own academic activities and classrooms. Second, I wanted to use the journals as a form of JiTT (Novak, n.d.) where the e-journaling was a "feedback loop formed by the students outside-of-class preparation that fundamentally affects what happens during the subsequent in-class time together" (¶1). I would modify my lessons to accommodate student requests for further explanation, clear up confusion and misconceptions that arose in the reflections, and keep track of how students were doing with their project. In terms of the objectives I had in mind when assigning e-journals, the following student e-journal entry synthesized what I was trying to accomplish through personal reflection and collaboration, hands-on activities that expanded the classroom experience, and application of learned material to the student's own classroom.

This article put a whole new slant on my ideas of journaling. Truthfully, I thought journaling was assigned merely as a "check up" to be sure we were keeping up with our reading assignments for the course . . . I found the first part, reflection as part of personal learning, to be the more interesting part and also more applicable to being a teacher. . . . In thinking of terms of elementary school, I wonder if it could be taught and used well enough to be time-effective.

### **Results**

None of the students began this course with this level of understanding. As the literature suggested, each of the students was unsure of journaling in the beginning and their postings were reflective of the tentativeness, confusion, and initial orientation to learning new content. Some examples

of this confusion manifest in the e-journals were: "Many of my thoughts are still somewhat confused at this time and I am hoping that our discussion in class will shed some light on this.;" "I felt as if I had been dropped into the middle of a conversation or argument that I knew very little about.;" "Basically, I am in a quandary;" and "Well, this is my first reflection and I'm not quite sure what to say."

As the semester progressed JiTT and class discussions based on journal entries helped clear this confusion and addressed most of the "voiced" student concerns and questions. The resultant student postings showed an increased depth and breadth of reflection. The following excerpts were taken from the same students' journals about two-thirds of the way through the semester "My limited knowledge in this area has forced me to do some research on my own so that I can feel more comfortable writing and designing on this topic. This is not a bad thing and is definitely a learning process for me. Sometimes it is the initial steps that are the most difficult." This student contemplated the final project and his/her need to deepen understanding and make connections. This next student provided a view of reflection-in-action and bridging theory to practice as reflected in some lessons that he/she taught in their own classroom.

What I did was prepare a PowerPoint presentation to re-teach these concepts. My presentation did not include text, so I used my graphics to model the concepts I wanted the students to learn and I explained them audibly. I lessened the cognitive load by not having the students take notes, but rather I gave each student a printout of each slide. I had the students concentrate on the graphics. At each layer, we discussed the characteristics of a particular layer. The whole lesson took me longer, but the results were worth the time it took and the extra effort I had to put into creating the presentation.

The next student expressed emergent comfort with the course material and content: "I must say I like Case Based reasoning. It is a very interesting and very logical concept. I gotta admit, between this and Rapid prototyping, I am finding two approaches that I could see myself diving into more." The last student described an expanding awareness of the depth and breadth of the content and possibilities for application:

My interest in multimedia learning has spiked and I am planning some multimedia "modules". I'm planning on reading the book and then using some principles from our books and class readings to design some

simple video instruction modules and Web pages. The living systems model was very good and talking about it in class enforced some ideas I had about multimedia learning.

At the end of the instructional design course, students were asked to critique of the journaling assignment. The student responses were overwhelmingly positive and exemplified the many benefits of journaling as found in the literature and noted above. Some of sample comments follow. “ I actually found the reflective journal a valuable part of the course. Journal entries are something I 'love to hate'. . . . I found it provided structure to my thoughts on the reading. The journal forced me into a very regular routine for the class.” Another student wrote about the benefit of the individualized instructor student interaction:

One great thing about the journal was that it provided an opportunity to dialogue with you. Although this class was face to face, the journal still provided another dimension to the class dynamics and the professor/student relationship. I found this to be a very positive aspect of the course. You asked me questions that led me to further reflection, especially about our project .

This student reflected on journaling as a means for thinking about his/her thinking:

I have to admit that at first I was hesitant about the prospect of coming up with something insightful to say each week. However soon I found that I had new thoughts and ideas that warranted more insight and thought. Once this happened I found the journaling to be a helpful way to question my own thoughts and think about what I was experiencing. As I wrote, it forced me to define my thoughts and feelings which helped me to understand what I was thinking.

One student did express that s/he did not like journaling. Nor did the individual believe that it improved her/his understanding of the course material. This student wrote:

Personally, I don't like to write in a reflective journal. When it comes to my own learning, writing in a journal is for me a real waste of time. In this class for example, writing in this journal has not taught me anything new or different, nor has writing in the journal enriched my understanding of the material

Interestingly, this individual was a teacher who required her/his students to use journals and he/she acknowledged, in his/her entries, that journaling was an impressive tool for learning.

Furthermore, this individual wrote that s/he would like to know more about journaling so that s/he could use it to better effect in his/her classroom.

Overall, the experiment with online journaling in this Instructional Design course was considered a success. Five out of the six participants found that journaling added clarity, depth, and understanding to the course. These electronic journals demonstrated reflection, synthesis, and dialogical interaction (Andrusyszyn & Davie, 1997) Additionally, they understood instructional design theory and were able to apply it to their classroom practice. The overall end of semester students mean ratings for the educational leadership course were high and on a five-point, Likert-type scale (5 = strongly agree; 1 = strongly disagree) they ranged from 4.3 through 4.8. The instructor also used another, self-developed, course evaluation which was rated on a 10 point Likert scale with 1 being Unacceptable and 10 being Outstanding. Question 17 “Was accessible to students both in and out of class” received an overall grade of 9.8. Question 18 “Demonstrated interest and concern for students” was graded 9.6. Question 20 “Challenged you intellectually” and Question 21 “Encouraged you to ask question and/or express opinions” were graded 9.3 and 9.5 respectively. Overall, these were the highest ratings that this course had ever received.

#### **Discussion**

“E-journaling remains underused as a teaching and learning tool” (Phipps, 2005, Conclusion, ¶1).

Taken as a whole, the results of these two exploratory case studies show promise for e-journaling as a tool that instructors can use to enhance student reflection and learning. The results also indicated that the interactions that take place between individual students and the instructor have the potential to support students in their learning and in meeting their individualized learning needs.

The students in these two courses made relatively seamless adjustments to using technology (e-journaling) as the means for journaling. While some of the students reported initial challenges with e-journaling, because Blackboard® was familiar to all of them they did not perceive the technology to be overly disruptive or intimidating (Longhurst & Sandage, 2004). Furthermore, as the semester progressed the students not only posted their initial reflections, but also posted further comments in response to instructor comments.

The students enrolled in these courses clearly used e-journaling to reflect on their understanding of core concepts and make connections between theory and practice. For the most part, students’ journal entries followed a pattern

explicated by Orem (1997). The first journal entries showed that these students were unaccustomed to journal writing. These early entries revealed little exploration of the subject to any depth, nor did they reflect to any great extent on what impact the journaling was having on their learning, thoughts, motivations, and pedagogy. Nevertheless, the continuing dialogic exchange between the instructors and the individual students aided the students in using their journaling to deepen their learning and reflection. As the students became more comfortable with the act of journaling and reflection-in-action, they demonstrated a greater depth of learning and a more positive affinity for the subject matter ( Orem, 1997) as evidenced in the journal content. Additionally, the interaction between the students and the instructor took on a more collaborative tone as the semester progressed. The end of course student evaluations and reflections attested to the efficacy that the students perceived e-journaling had for them.

Students and instructors perceived several benefits from the use of technology as a strategy for promoting student reflectivity. Students and instructors alike perceived that reflection in action through e-journaling appeared to provide students with a routine structure for thinking about their readings and classroom discussion and a forum for voicing the challenges they faced in bridging the theory to practice gap. The students in this study perceived that they were getting a better understanding of the course material, that it was more real to them, and that they could then apply what they had learned in more situations and in a very constructive manner. E-journaling also supported a synergistic dialogue between instructors and individual students. Specifically, it provided instructors were with multiple asynchronous (participate “any time, any place”) opportunities to individualize and respond to student learning needs. Students overwhelmingly reported (formally and anecdotally) that the e-journal experience afforded them a greater depth of learning and satisfaction with the course.

Both instructors found that the e-journaling experience, though creating more work for them, was beneficial. We benefited from the e-journal experience by gaining insight into students’ reports of their problem solving and application of learning outside of the classroom. Moreover, we believe that the use of technology contributed to our learning, professional growth, and enhanced our teaching. In particular, the speed with which we could provide feedback to the students aided both instructors. Students could read comments from the instructors within hours of their postings, reflect on these comments, and re-comment if they chose. Student

entries and their follow-up comments provided direction for the next week’s lectures, activities, and adjustments to readings, for example. With all of the interaction that took place the instructors felt that they could formatively change lessons based on previous feedback and better address, in these lessons, the individual needs of each student. A method of “just in time” teaching (Novak, n.d.; Rozycki, 1999).

Though it was hard to determine if the regular interaction of student and instructor was a cause of the results we found, or whether it was solely the individual reflection contained in the students’ journaling, we believe that the preponderance of benefit accrued to the act of reflective journaling. Our basis for this belief is the feedback we received, as explained above, from the end-of-course surveys, and from anecdotal information garnered through in-class discussions.

#### Future Directions

These initial experiences appear to hold promise for e-journaling as a valuable pedagogical technique in the constructivist oriented classroom. One apparent advantage of e-journaling that needs further exploration is the asynchronous opportunity for instructors to respond to students’ individual learning needs and work with them to bridge the gap between theory and practice. Larger scale and longer term studies should be conducted to identify specific advantages of e-journaling. Based on all the evidence gathered and the feedback we received through these exploratory case studies, we have continued to use e-journaling in classes that we conduct. To better quantify and qualify our student experiences with e-journaling, we have developed a short questionnaire that is being administered, pre and post, in each of the courses where e-journaling is currently employed. We hope to report the results of these courses and the pre/post questionnaires in a future manuscript.

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**Author Notes**

Dr. Frederick B. King  
Hartford University  
[rking@hartford.edu](mailto:rking@hartford.edu)

Dr. King is an Assistant Professor of Educational Technology, Education and Human Services Department, University of Hartford. His primary research interests include the integration of technology to enhance and improve learning across the curriculum, asynchronous distance education, metacognition, and student self-regulatory skills.

Dr. Diana J. LaRocco  
Hartford University  
[dlarocco@hartford.edu](mailto:dlarocco@hartford.edu)

Dr. LaRocco is an Assistant Professor in the Department of Educational Leadership at the University of Hartford. Before coming to the University, she worked in the field of developmental disabilities for 29 years and has extensive experience as a special education teacher and administrator.

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Mary Lou Fulton College of Education  
Arizona State University