Online courses are growing in popularity, providing opportunities for individuals to complete their education while overcoming time and distance constraints. Innovations in distance education allow for the design and development of online courses that adapt to meet the specific needs and/or learning styles of the students enrolled, and reflect the unique teaching style and personality of the instructor. The purpose of this descriptive case study is to share three perspectives and three approaches of three faculty members who teach a range of graduate level educational technology courses at a university located in northeast Texas. Tips, techniques, lessons learned, and examples of proven interaction activities while meeting course objectives and addressing specific needs of students will be discussed.
overcoming time and distance constraints. Innovations in distance education allow for the design and development of online courses which adapt to meet the specific needs and/or learning styles of the students enrolled, and which reflect the unique teaching style and personality of the instructor.

Much research has been conducted in the field of distance education (Berge & Mrozowski, 2001). The distance education environment is one that is flexible in terms of location and time; however, it places a great amount of responsibility on the learner to be motivated and self-directed in the learning process (Garrison, 2003). It provides opportunities for interaction and collaboration with course content, peers, and the instructor, but the course must be designed to facilitate these interactions and the learner must possess the technology and technical skills to engage in these interactions. It provides the learners with multiple resources and opportunities to explore other perspectives, research, and so on, to construct meaning of the course material, but the learner must be able to decipher fact from fiction with the copious amounts of material available on the Internet and from other resources.

The distance education environment also indicates a change for the role of the instructor as the once familiar concept of the classroom structure becomes vague. Teaching online requires the instructor to wear different hats in order to keep students engaged in their learning environment. The instructor becomes not only the teacher, but must also possess skills in instructional design for the distance learning environment and act as technical support for students needing assistance with the technological problems that can arise over the course of a semester (Beaudoin, 1990; Gillette, 1999).

When designing a course for delivery at a distance, several factors must be taken into consideration, and Shearer (2003) identified those factors as learner autonomy/learner control, interaction, access, and cost. For the purposes of this article, we will focus on interactions.

Moore (1989) identified three types of interaction in distance education: (a) learner-content, (b) learner-instructor, and (c) learner-learner. Hillman, Willis, and Gunawardena (1994) added a fourth interaction, learner-interface; the interaction between the learners and the technologies used to deliver course content. Interaction between learner and content implies that construction of knowledge occurs when the learner interacts with the course
content and changes in one's understanding occurs when the new knowledge is combined with preexisting knowledge. Interaction between learner and instructor helps to reinforce the learning that is taking place between learner-content through activities and dialog exchange to help motivate students in the learning process through explanation, discussion, examples, and/or application activities. The learner-to-learner interaction is essential in distance education if participation in online discussions and other activities is to take place. This interaction can happen one-on-one or within a group setting depending on the design of the course. These interactions suggest a constructivist approach for design.

The design of an online course should consider and incorporate all four interactions to encourage collaboration, reflection, critical thinking, success, and evaluation to allow learners to build upon previous learned material to create a meaningful and positive learning experience. True to constructivist theory, the instructor should act as the facilitator while students actively engage with the course content, their peers, and the instructor to construct new knowledge or concepts based upon their current and/or prior experiences.

**PURPOSE**

The purpose of this descriptive multiple case study is to share perspectives and approaches of three graduate education faculty related to online teaching at a regional university. Case studies, according to Yin (1994), are appropriate “when a ‘how’ or ‘why’ question is being asked about a contemporary set of events over which the investigator has little or no control” (p. 9), although “in some situations such as participant-observation, informal manipulation can occur” (p. 8). In this instance, the question being asked is how online instructors can provide meaningful and successful online experiences which incorporate their personal perceptions and unique approaches to teaching online for graduate educational technology students—definitely a contemporary concern. The three instructors are participant-observers, as they teach while observing student performance. Yin has listed six possible sources of evidence to be used in case studies, and the current study has used three of these—documents (in the form of student writings on discussion boards and in e-mail), participant-observation (in the form of descriptions from each instructor of specific activities), and physical artifacts (in the form of web pages and other projects created in the classes).
THE CASES

Each case presented focuses on an individual faculty member’s perspectives and approaches used while teaching two online classes. Faculty 1 (Case A) teaches instructional design and learning theory and technology. Faculty 2 (Case B) teaches technology integration as well as computers in schools. Faculty 3 (Case C) teaches Internet applications and administration of technology programs. Although all courses are part of a graduate educational technology degree the content taught in each course is quite divergent. Instructors have developed a variety of methods to address specific content, student needs and learning styles as well as instructor’s teaching style.

CASE A

Perspective: Community of Scholars

The philosophy of the faculty member in case study A is rooted in the constructivist theory of teaching and learning emphasizing the construction of knowledge and placing more of the responsibility of learning on the learner. As a result, the classroom environment revolves around the concept of a community of scholars (learners) as opposed to a scholar of one (instructor).

Approaches: Virtual Mini-Learning Communities and Checks & Balances Buddy System

Dependent upon the course and content being taught, two main approaches are utilized in the online classroom: (a) Virtual Mini-Learning Communities, and (b) Checks and Balances Buddy System. Each approach requires a collaborative effort and a high amount of interaction among students, instructor, and course content.
VIRTUAL MINI-LEARNING COMMUNITIES

Many online courses are designed to involve online discussion requiring students to sort through multiple threaded discussions and respond to those messages (Perrin & Mayhew, 2000). This could potentially result in hundreds of postings and is time consuming and difficult for students to engage in a meaningful dialogue. Rather, more time and effort is spent on creating an illusion of participation by the number of one to two sentence postings to many discussion threads resulting in a failure to achieve what the instructor had initially intended—thoughtful reflection and meaningful discussions.

In an effort to reduce the amount of time spent on reading hundreds of postings and to encourage critical thinking within those discussions, faculty member one utilizes virtual mini-learning communities. Each virtual mini-learning community is comprised of no more than five students and the instructor. Students meet the first class face-to-face enabling them to become acquainted with their virtual community members in the “real world” prior to going online.

Communities progress throughout the semester as a unit; individuals are responsible only for the discussion within their group. The instructor monitors and participates in the discussions to ensure equitable progression of thought processes within each community. Assignments, peer-editing, and final exams are all conducted within these communities. As a result, students feel a sense of self-assurance in their ability to successfully complete the course because they are encouraged by each other in the community setting. They do not have feelings of abandonment that the virtual environment can sometimes create; there exists the security of a tight-knit group that faces the challenges of a virtual classroom together. As one student noted: “I really enjoyed this class and felt very connected to my classmates.” The following is a statement made by another individual regarding her experience within the mini-learning community:

I really liked the online course. I seem to get a lot more out of the class than face-to-face situations. There is more access to the instructor on a one-to-one basis. Students seem to be more willing to help each other in this class setting. I especially like the group work in online as opposed to face-to-face classes.
Students constructed new knowledge based upon the contributions of their team members and believed this small group size allowed for more time for reflection. Two individuals responded:

I liked the discussion group forums and replies. Have to compose a thoughtful reply/evaluation or critique causes me to think about the item in question. When I read the replies, I had several new takes on the subject. My ending opinion broadened.

This is my first course online and I have loved it. I enjoy the flexibility to work when I can and I learned a lot of technology skills that I needed to learn. I have really enjoyed the comments from my group members; they have provided very valuable information to me.

CHECKS AND BALANCES BUDDY SYSTEM

A second approach taken by faculty member one still involves the four types of interaction fundamental in distance learning; however, instead of students placed in communities of five, two students work in tandem online to form a “Checks and Balances Buddy System.” This approach is used for an instructional design course that requires students follow the Dick, Carey, and Carey (2005) model of Instructional Systems Design, to create an interactive, instructional product. In addition to producing the instructional piece, students are required to document each step in the Dick, Carey, and Carey Instructional Design Model.

Once students identify instruction to design and develop through a needs analysis, they are introduced to each step in the instructional design model and are provided with worksheets and instructions to aid them in completing each component of the model. By the end of the week, students are required to e-mail each assignment/step to their instructional design partner and the instructor. Peer evaluations are conducted to provide constructive feedback for each assignment/step. Simultaneously, the instructor evaluates the material and makes suggestions for improvement. When the student receives all feedback from their “buddy” and the instructor, they begin the process of revising their instructional materials before moving on to the
next step in the instructional design model. This approach serves as a “checks and balances system,” or a formative evaluation, allowing students to make corrections as they proceed through the instructional design model.

Conclusions and Implications of Approaches

Both approaches have resulted in positive feedback from students. They felt as if they had a support group throughout the semester, and the instructor was no longer the sole source of information. Students were exposed to multiple perspectives on a topic of discussion in their virtual mini-learning communities, and were aware of the changes needed in their instructional design project before moving on to the next assignment through the checks and balances buddy system reinforcing their knowledge and skills through the peer evaluation process. Both approaches enabled students to learn the importance of collaboration, teamwork, self-reliance, and self-directedness—all valuable characteristics for success in the distance education environment. Implementation of the virtual mini-learning communities resulted in a high amount of interaction among the content, peers, instructor and interface. Current research is being conducted to assess critical thinking within these mini communities using the critical thinking skills model by Newman, Webb, & Cochrane, (1995) which uses 10 indicators to assess critical thinking. Initial findings indicate that critical thinking does take place within each group with students incorporating seven or more indicators within all discussions (Wickersham & Dooley, 2006). Further research is needed to determine the differences among critical thinking levels within small groups as compared to whole class discussions, and convergence and divergence of ideas/topics of discussion within and across communities.

CASE B

Perspective: Reflective Interactions

Online courses promote learning through the development of active learning communities characterized by constant interaction, project-based learning, and reflections throughout. All are guided and facilitated by the instructor.
who provides a variety of learning activities that require active participation from all students. An advantage of online classes is that students are unable to “hide” and let others do the talking—lurking is not permitted.

Approaches: Community Building and Constant Reflections

In each class, there is an early and continuous emphasis on community building, to the extent that students have said that they seem to get to know their online classmates better than classmates in their traditional classes. Throughout the semester, various types of reflections are submitted, some to the instructor and some on a discussion board, and this too, has increased the sense of community in the classes.

COMMUNITY BUILDING

Key to creating the beginning of our classroom community is the use of the student profile section of our course management system (CMS). Each student, for a first course activity, sets up a profile that includes an information box where the student inputs relevant professional and personal activities to share with the class and to facilitate classmates getting to know each other. If there is a face-to-face orientation meeting, pictures are taken of all students, and headshots are then placed on a class picture page inside the CMS (for privacy). If there is no face-to-face meeting, students send in digital pictures. A class activity then has students go to the class picture page to download their pictures and then to upload them into their individual accounts in our CMS, and link them so that they appear with the information that they had previously entered. As one student said, “I can see the sense of community building more in this online class [than in the last class I took]” because of being “able to put a face to a name.” Each student also creates a web page (using a template), that contains both a picture and information about the students, as well as links to their course activities that they can share with each other. Emphasis is placed on students learning and using each other’s names. Through the use of the CMS profiles, student-created web pages, the class picture page, and the constant use of students’ names in communications activities, classes quickly grow into communities, which continue to develop throughout the course. Many students have commented
that they have never known or worked so closely with so many students so well in any non-online class.

**CONSTANT REFLECTIONS**

Students reflect, throughout the course, over a variety of activities, to different people, and through different types of communication. Some reflections are guided, while others are not, some are follow-ups to course readings and explorations, while others are more general. Some are to fellow classmates, and some to the instructor. Through the use of reflections, students are led to explore their personal relationship with course content. Reflections lead to discussions, providing food for thought from other students. In a reply to one student’s reflections posted on the discussion board, a classmate wrote:

I was intrigued by your comment that you try different concepts [teaching strategies] for different levels. I teach only one grade (7th) and had never thought about the fact that each level could pose a need for different concepts.

It makes all kinds of sense but since I have never had to deal with that situation it just had never entered into my mind! Great food for thought, huh. Thanks for teaching me something today!

Students also submit a weekly reflection to the instructor describing how his or her week progressed as well as how the week’s activities related to the course objectives and the student’s professional activities. These reflections help the student make those connections, but also provide the instructor with information that can guide course development or redevelopment. The following is an example of such a reflection:

This week’s activities went very well. They were very easy to understand and navigate. I did have a problem with pulling up the Starfish page for some reason. I tried on Friday night, only to receive an error message, ditto with Saturday. Finally, this afternoon the page came up and I was able to breathe. Other than that, things went really well.
The activities relate to my teaching needs because they showed me how to find relevant information. An example of such is being able to find physical education lesson plans at the drop of a hat. I am sure that when doing research and other school related activities, these new searching techniques will easily incorporate themselves into that process. I believe this has been my most beneficial lesson thus far.

It is especially rewarding to the instructor, to receive reflections such as the following and it is through these reflections, that students are able to take the course content and concepts and make them their own:

When I learn new information in this class I immediately share it with my students and they really appreciate and take advantage of the information. They are now in the process of doing a career research paper for class and it puts a smile on my face when I see them using the search sites that we have used in our class.

**Conclusions & Implications of Approaches**

Community and reflections are actually intertwined—and as the community spirit grows, the reflections appear to expand as students hear from and respond to each other, and as those interactions, in turn, help the community to “grow.” Students have mentioned that the class pictures and student information available in the profiles have increased their sense of belonging to a learning community, and have decreased the sense of aloneness that some have experienced in other online classes. The reflections posted on the discussion board have also contributed greatly to building and maintaining our classroom community. Networking among some students has continued even after classes have ended, because of the community that had been established. Findings support those of Brown (2001), who wrote that graduate students “who felt connected placed a high priority on the class and allotted time accordingly, desired to get to know others and learn from them, were highly motivated, participated frequently in a timely fashion and demonstrated respect for all participants” (p. 24). That, in turn, promoted success for both students and the instructor.
CASE C

Perspective: Student Ownership

Learning best occurs in a friendly and welcoming environment in which students are allowed to assume ownership of their learning within a learning community under the guidance of the instructor. A long-held tradition in graduate education is the facilitation of an overall educational experience beyond the notion of simply delivering higher-level content. This experience is one that fosters the development of higher-order thinking skills and provides for advanced interaction between learners. In graduate education, the richness of a course lies not with the sole knowledge of the professor, but rather the collective knowledge and experience the learners bring to the course. The implementation of activities supporting this concept presents an additional challenge when the environment is virtual. A prime concern for the instructor becomes the orchestration of activities and interactions creating and supporting a graduate-level learning environment.

Approaches: Strategic Interaction through Question and Answer Forum and Peer Review Activities

The approach of faculty member three is to offer project-based activities which promote student ownership through strategic interaction regarding relevant projects among the members of the learning community. Two primary activities have been orchestrated to facilitate strategic interaction in a number of this faculty’s online courses. These are a Question and Answer forum and a systematic peer review procedure for the evaluation of projects. These components foster a sense of ownership as well as promote student interaction and cooperation on class activities and projects.

QUESTION AND ANSWER FORUM

The concept of the Question and Answer Forum as implemented by faculty member three was borrowed from the model originally found in internet
newsgroups. An asynchronous discussion group is established within the CMS for the purpose of creating a virtual classroom environment. This model allows students to form, and become actively involved in their own support structure. This forum simulates the classroom Question/Answer environment online while rewarding students for sharing their knowledge and expertise and reinforcing their own learning.

The instructor closely monitors and oversees activity in the Question and Answer forum. The first responsibility of responding to questions is delegated to the learners; however, the instructor will focus or redirect the dialog as necessary and provide answers to student inquiries as needed. Students are required to direct all nonpersonal, class-related questions to the forum rather than overwhelming the instructor with redundant questions that are more appropriately addressed before the entire class. This ensures that relevant class discussion is kept in the open virtual classroom for the benefit of all students. This model also allows recurring threads to be identified and digested into the form of a Frequently Asked Questions (FAQ) list and provided to aid students in subsequent terms.

**PEER REVIEW ACTIVITIES**

A second approach taken by faculty member three to facilitate strategic interaction between learners is a peer review procedure that extends linkages beyond isolated groups to form a cohesive unit comprised of all class members. Drafts of assignments undergo a peer review and evaluation process enroute to the finished product. Evaluation assignments are strategically organized using a system to promote fair and unbiased evaluations by ensuring that no student will be evaluated by a peer whose project they are evaluating.

In this model, each student is assigned two peer projects to evaluate and provide constructive feedback to the authors. Typically, each student is assigned the two students below them in the class roster to evaluate; thus, they are evaluated by the two preceding class members. Instructions are for evaluations and feedback to be provided as though they are being conducted for a colleague with the intention of helping them prepare the best project possible. Real-world applications of this process are examined through class discussions to reinforce the connection to professional activities. A typical
comment, made by one student was, “your peer evaluation system is excellent. I felt I gained valuable experience AND knowledge by both evaluating and being an evaluatee!” Another student stated, “It’s so nice to take a class that we can walk away with real-world documents, things that really could be used in our everyday jobs.”

Conclusions and Implications of Approaches

Positive comments have been voiced by students regarding both of these approaches. Students voiced appreciation for the fact that these activities demonstrate that their views are valued and that they can see the results of their contributions. The Question and Answer Forum acknowledges the wealth of information and expertise that students bring to the course and establishes a welcoming environment in which students can be comfortable in making inquiries and articulating solutions. This model facilitates a far richer learning environment than a single instructor can create acting as the sole provider of knowledge by drawing on the collective knowledge and experience of the group.

The structure of the Peer Review Activity allows students to participate in an orchestrated exchange of constructive comments focusing on project improvement. This activity permits students to extend the activity beyond mere simulation by providing the flexibility for students to design their projects around actual situations applicable to their personal and professional endeavors or responsibilities. These models are based on the notion of promoting student ownership of learning and capitalize on Moore’s (1989) three types of interaction.

FINAL THOUGHTS

The distance education environment has the potential to be as unique and engaging as the individuals that become part of it in pursuit of their educational degrees. The three cases presented in this paper reflect not only the instructors’ individual style in teaching, but how their styles and the styles of their learners transcend the learning environment to form a sense of community; foster collaboration and encouragement; and offer opportunities for
students to not only learn from the instructor, but from multiple representations of realities based upon the experiences brought into the course from their peers. These approaches demonstrate how different courses can be designed to facilitate the important interactions needed in online learning to allow for reinforcement and transfer of knowledge acquired through activities and assignments and to ultimately create an environment in which the student can be successful.

References


