Asynchronous Online Learning: Perceptions and Experiences of Nontraditional Adult Emergency Services Students

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Abstract
This study used hermeneutic phenomenology, a qualitative methodology, to explore and interpret the lived experience of nontraditional emergency services students in an asynchronous online learning environment. This understanding was achieved through rigorous analysis of in-depth, semistructured interviews and journal entries of four nontraditional adult students enrolled in an online baccalaureate degree program. The research question for this study was: How do nontraditional adult undergraduate students experience asynchronous online instruction? Results revealed that student experiences fell into two overarching themes, each with related subthemes.

The two identified themes and subthemes are: (a) Flexible Learning, with the subthemes of convenience, self-directedness/self-discipline, and reflectivity and (b) Theme II: Conflict of Values: A Paradox of Learning, with the subthemes of communication/socialization between students, student/instructor interaction, and the students’ paradigmatic shifting and conflicted beliefs on learning.

Introduction
Van Manen (1990) argued that the prescribed method for human science, in contrast to natural science, involved description, interpretations, and self-reflective or critical analysis. In other words, humans explain nature, but they must understand human life. This work investigated and interpreted the human experience of the nontraditional online emergency services learner.

The goal of this study was to better understand the lived experiences, perceptions, and
attitudes of nontraditional adult college students in an asynchronous online environment. This understanding was achieved through rigorous analysis of in-depth, semistructured interviews and journal entries of nontraditional adult students enrolled in an online emergency services baccalaureate degree program. The online bachelor’s program was offered by Utah Valley University in Orem, Utah. The purpose of the analysis was to describe the various experiences and perceptions and then group these experiences and perceptions into a logically organized description of the lived experience of adult emergency services students in the asynchronous online environment.

With the creation of the Internet and increased societal emphasis on education, the adult learner has become the focus of many institutions of higher education. Berg (2005) stated:

Over the last two decades, higher education in America has witnessed an enormous shift in the demographics of students, while at the same time technology has enabled access to formal higher education. By the late 1990s, national attendance figures showed that 42 percent of the undergraduate and 59 percent of the graduate students attended part-time (UCEA, 1998) Of those part-time students, the largest segment was women thirty-five years and older. Clearly, there has been an important shift in the past twenty-five years in the profile of the average college student, which is changing the American University. In addition to putting pressure on the University for an increasingly vocational and professionally oriented curriculum, this shift is also leading to pressure for the general accommodation of the working adult student through more convenient scheduling and location of courses. (p. 3)

This premise was supported by research commissioned by the United States Department of Education in the Report of the Web-Based Education Commission to the President and the Congress of the United States (Kerry et al., 2000, p. 4), which stated:

Large numbers of older persons, working adults, and part-time students attended college in 1999. The adult age cohort is the fastest growing segment of students in postsecondary courses. Despite rising enrollment noted above, just 16% of college students fit the traditional 18- to 22-year-old profile, attend full-time, and live on campus.

The andragogical (adult learning) assumption may yet prove to be of great value in
distance education, particularly in light of the changing demographics of many, if not most, universities and colleges. Adult students seem to have a different learning style, requiring a careful approach when using modern technology (Pelletier, 2005). This situation may be particularly true for the emergency services worker (law enforcement, fire, emergency medical services workers, and emergency managers). Due to the nature of their jobs, previous training, and education experiences, like most adult students, they have an expectation for immediate response and effect (Fidishun, n.d., p. 2). Also, most of the students from this group are 25 years of age or older (the nontraditional student profile) and are accustomed to being self-directed (Gibbons & Wentworth, 2001). Enticing mature emergency services adults to return to school and retaining them as students may be challenging because of conflicting work schedules, family responsibilities, and possibly fear due to the length of time the person has been away from formal educational experiences. Online delivery may just prove to be the solution.

The literature is replete with quantitative data comparing and contrasting cognition between traditional face-to-face teaching methods and Internet-based online delivery of curriculum. However, very little qualitative data are available with respect to the experiences and perceptions of online students, especially the nontraditional adult emergency services population. There also seems to be little data respective to the affective domain of nontraditional adult students and online education. Krathwohl, Bloom, and Masia (1964), in their extensive work on educational taxonomies, asserted the need to explore the human reaction or response to educational content. This exploration included a range of human responses, including knowing about something, solving problems, evincing an interest in human experiences, having an attitude toward some object or concept, and/or expressing one’s feelings and opinions on a variety of subjects.
The use of learning-at-distance models in higher education could be a major factor in motivating an adult student to return to school (Tsai & Chuang, 2005). Since the disaster of the terrorist attack on the World Trade Center, September 11, 2001, more emphasis on a requirement of higher education for officers, chief officers, or those who aspire to rise through the ranks is being exerted throughout the emergency-services field. The job of being a firefighter has become increasingly more professional and technologically advanced and has evolved with extreme complexity in mitigating strategies and expectations (Childs, 2005). Unfortunately, due to odd work schedules (e.g., 24-hour shifts), attendance in traditionally delivered campus classes is at best extremely difficult, if not impossible, for many of these potential students (Klingonsmith, 2006). Therefore, using distance education and, in particular, asynchronous online delivery may be a desirable alternative for this demographic.

For nontraditional adult students such as fire and emergency services workers, online delivery of information, which does not include a way of integrating life experience into the model, may not be accepted well (Berg, 2005). The initial training and education of emergency services workers are heavily dependent on memorization of procedures and practices, followed by repetitive psychomotor skills application. The rest of their education is derived through on-the-job experience. This process identifies a lack-of-research issue regarding learning styles for adult learners like emergency services workers. “Identifying whether courses and programs are responsive to the learning styles of the emergency responder student is an issue that has not been adequately addressed in either responsible training programs or educational institutions of these students” (Klingonsmith, 2006, p. 15).

Barab, Thomas, and Merrill (2001) noted a concern for the human or social dimension of online learning environments. They addressed the fact that much is often discussed about the
technical components of distance education, but less often discussed is the human or social
dimension of these environments. They found that online instruction might foster a reflective and
social environment (Merrill, DiSilvestro, & Young, 2003). A need exists to find a way to
transform experience(s) into learning.

Adults usually bring a plethora of real-life experiences with them to the classroom,
experiences that need to be recognized and integrated into the learning process (Knowles, 1984).
Key points of andragogy or adult learning include consideration of the learner’s experiences, the
importance of the learning environment, the learner’s readiness to learn, and the teacher as a
facilitator (Brown, 2001). Kolb (1984) proposed a four-stage cycle: (a) concrete experience, (b)
reflective observation, (c) abstract conceptualization (theory building) and, (d) active
experimentation or application.

The purpose of this hermeneutic (interpretive) phenomenological study was to describe
the attitudes, perceptions, and experiences of nontraditional adult emergency services students
participating in an asynchronous online college course, using the lens of constructivism. The
research question for this study was: How do nontraditional adult emergency services
undergraduate students experience asynchronous online instruction?

**Methods**

The review of the literature led to the research question stated earlier. A qualitative study is most
appropriate to explore this question. The students of this study were purposely selected based on
two criteria: (a) they were nontraditional adult learners (which are students over the age of 25
years who may or may not have some prior higher educational experience and/or may or may not
be employed in a career field) and (b) they were enrolled in the Public Emergency Services
Management Bachelor of Science program.

To best gain insight into this experience, in-depth interviews were conducted with four students enrolled in the Public Emergency Services Management Bachelor of Science program. In addition to the interviews, each student was asked to keep a journal of personal feelings and experiences throughout the course and submit them to the author at least weekly.

The students of this study varied in age and experience. They ranged from 26 to 49 years of age and consisted of a firefighter, two fire captains, and a detective from a law enforcement agency. Three were married and one was divorced. Each had children as well as other family and community responsibilities. Each also had limited higher education experience.

Results

Analysis

A constant comparative methodology was used to analyze the data through examination of the transcribed interviews and the text of the submitted journal entries. Care was taken to ensure that the original intent of each statement had not been compromised by the meaning(s) derived. The aggregate meanings were then coded (grouped or clustered by theme). Several codes or themes were identified or differentiated. This process led to the need of further interviewing for clarification or more detailed information and then more grouping or coding until saturation had been achieved. To verify the themes, they were compared to the original statements to ensure that something significant in the original statements had not been omitted in the groupings or that the coding created something not in the original statements. A structural description was used to identify all possible meanings and perspectives to construct a description of how the phenomenon was experienced by the participants. Lastly, an overall description of the meaning
of the experience or phenomenon was developed (Creswell, 1998).

**Verification**

To verify the findings, the phenomenon description was presented to participants for their review. The participants reviewed the interpretation and presentation of the data. With the exception of some word editing for clarity, each student agreed that the description fairly summarized his or her experience and the data was considered verified. This summary was the process of member checking, whereby participants provided insights and deeper understanding as they reviewed the transcripts; that is, the meaning was negotiated between the participants and the researcher.

Next, a peer review of the data was conducted of the analysis to ensure that the process was consistent and held to the integrity of the intent of the students and that bias was kept minimal. The selected peer reviewed the material and felt satisfied that the study results were consistent with the lived experience of the students.

**Findings**

Through identifying and analyzing the essential themes, these fire and emergency services adult students were found to have a strong value system regarding the importance of education. Each of the participants found traditional deliveries (face-to-face and scheduled class periods) not conducive to their individual situations and found that the online environment better facilitated their desire to improve themselves through education. The material and reflective activity of their experiences and perceptions spoke about their desire to learn as opposed to “just getting a degree.” For example, one of the students commented:
Because of life, and because now I think I’m more, hopefully, wiser I can look back … the first time I went to college on an athletic scholarship school was something I had to do to play sports. I messed around; I could have had a free education and I kick myself in the butt because I didn’t do it. I left without anything. So now, looking at life and now seeing how important education is, I try harder. I don’t feel like I’m messing around as much. I get it done. I don’t procrastinate. I don’t know if that’s really what you’re looking for but, that’s what it’s kind of been to me. Because I have a second chance at an education and I’m not going to mess around this time.

This concept was reinforced by one of the other students as well:

I definitely take it a lot more seriously and I am there for me and not for anyone else. And I know what my goals are and what I am ultimately trying to achieve and so my motives are more clear and I have more of a desire because of it — more of a drive.

Two overarching themes, each supported with a number of subthemes emerged about nontraditional adult students in the emergency services online program. The first theme, *Flexible Learning*, exemplified the adult-learning assumptions of convenience, self-directedness/self-discipline, and reflectivity. The second theme, *Conflict of Values: A Paradox of Learning*, addressed the comparison of the traditional (face-to-face) learning experience with a new (online) experience and contrasted student-to-student communication/socialization, student and instructor interaction, and paradigmatic shifting and conflicted beliefs on learning.

**Theme I: Flexible Learning**

The flexible learning environment was an important consideration for the students of this study. Flexible learning, by inference, is the ability to study and participate in a class anytime and anywhere. The students in this study were very passionate about the importance of this characteristic of online training. For emergency services workers, this flexibility is paramount to their success as a student and was emphasized by the students in both the interviews and journal
entries. More importantly, flexibility was reported as one of the most critical points in their learning experience. However, the flexibility reported was not just the convenience of the medium itself, but also the ability to be flexible in what and how they learned. Based on this flexibility, three subthemes were revealed that defined the essence of their asynchronous experience: convenience, self-directedness/self-discipline, and reflectivity.

**Convenience.** In most of the literature regarding online research, convenience is usually one of the primary considerations for students to take this type of class. The students of this study were no different. Convenience was the reason cited most by these students for choosing to participate in an asynchronous online learning environment. They reported that if it were not for this convenience, they would not have been able to participate in the program or finish their degree. For example, one of the students relayed the following, which was consistent among all participants:

> Just the convenience of being able to take the classes with kind of an irregular work schedule and also it is a lot easier on me because I don’t live in the city where I work. I have extra time commuting here and there and so making an extra trip two times a week to the university to go to on-campus courses would have probably been too much and would have slowed my goals down a little bit; also, because the majority of the courses that I have left to finish my degree are basically online courses. So, I am glad they are.

**Self-directedness/self-discipline.** Another aspect of flexibility that was revealed in the study was the ability to self-direct and be responsible for the educational experience. Self-directing learning schemas have been identified as components of andragogy (Knowles, 1970). Some identified self-directing activities are used in traditional and online courses (Whipp & Chiarelli, 2004) They are: (a) forethought (characterized by setting goals and planning activities); (b) performance and self-observation (characterized by taking notes, outlining,
reducing distractions, performing relaxation techniques, seeking help from peers/instructor, etc.); and (c) self-reflection (characterized by self-judgment activities like creating checklists, creating rubrics, noting instructor comments, and placing success based on academic performance). The course in this study seemed to match most, if not all, of these criteria as demonstrated by a student response:

My purpose in online education is to allow me the opportunity to achieve goals, enroll in courses, accomplish the objectives, and complete the assignments at my own pace (within certain parameters and deadlines), wherever I please, as long as I have an Internet connection.

All of the student participants reported a deep understanding of their individual responsibility for education. The flexibility of the online environment seemed to enhance this understanding and facilitated the discipline necessary to work in an environment for which there is no apparent or constant authority figure presiding in the class.

Reflectivity. One particular phenomenon revealed in this study providing a rich view of the nontraditional adult student was reflectivity. Reflectivity was not only used on the lesson material but also on the entire online experience itself. Each of the students, at one time or another, reported their use of reflectivity for all parts of the course. This use was demonstrated by one of the journal entries regarding online discussions:

In this format, the discussion board allows us to comment and reply to other students’ postings as well. This gives us a chance to elaborate on topics and issues, while allowing us time to respond to comments, gather our thoughts, and choose our words more carefully. In a classroom setting, on the other hand, there is not so much opportunity for that. In the classroom, discussions happen in real-time/real-life speed.

Theme II: Conflict of Values: A Paradox of Learning

This overarching theme provided an interesting and rich base for understanding the lived
experience of the nontraditional adult fire and emergency services learner. From the beginning of the data collection, the students appeared to be in a conflict with long-held beliefs or schemes of how learning best occurs and their current experience. As the data analysis and collection continued, this apparent values conflict was probed with each student. In fact, in the final interview each student was asked, based on what he or she had previously stated to the contrary, why he or she continued to hold onto the belief that face-to-face delivery was superior to the online experience. The responses in general, though reported differently for each individual, were that there was just a sense of the familiar and the desire to hold onto what was most comfortable; this desire caused the conflict. During this discussion, each admitted that he or she needed to be more open to the growth that he or she was experiencing. Again, each was revealing shifting learning schemas.

*Student-to-student communication/socialization.* As the extant literature purports, student-to-student communication and the social aspect of being a student are critical to learning. As stated before, critics of online and/or distance education find that the lack of spatial proximity can be detrimental to the overall learning experience of the student. However, this situation did not appear to be true or consistent with the student experiences of this study.

In the initial stages of data gathering, all of the students voiced or wrote concerns about not having the luxury of being physically present with other students in the class. They believed that not being able to read body language and hear intonation would lessen their learning experiences and in the end create an untoward learning environment. This initial perception, however, was not consistent with the experiences reported by the students regarding communication.

Throughout the study, each student reported a rich learning experience facilitated from
the course design and other students of the class (they were identifying a community of learning). The most common reason offered was that unlike the traditional face-to-face class experience where students could hold back and not participate in class discussions, the students in the online class were required to participate for part of their grade. This reason produced some very thoughtful discussions, which allowed the students to learn from the perspectives and experiences of classmates at a much deeper level. They had to discover a new method of communicating. This discovery supports the findings of McDonald and Thompson (2005), where they assert in a study of online deliveries that “A whole new communication process has to be learned. It is not simply a process of shifting from speaking and listening, to reading and writing” (p. 11). The students of this study believed that this process was due to the reflections and research-supported postings of most of the classmates. When probed to discover whether they believed that the lack of spatial proximity helped, harmed, or had no effect on their learning, they all reported that they believed it helped. In fact, all of them reported that they believed that they would not have had as many focused discussions and achieved the depth of learning they experienced had they been in a face-to-face environment. This experience was in conflict with the initial perceptions that they reported.

One significant reason for the depth of learning seemed to be the lack of anonymity of the online student. In the findings of this report, the students shared how being somewhat anonymous (just a name on the computer screen) allowed them to experience more freedom to opine or share without the sense of close, face-to-face scrutiny. However, the opposite was also evident. The students did not have the luxury of being anonymous like in a classroom. If a student chose and the instructor allowed it, a student in the face-to-face delivery situation may choose to not participate in the discussion, thereby becoming anonymous in or detached from the
discussion. In the online environment, “they are usually required to contribute to the discussion and to use good manners since the typed word remains visible once the discussion has ended” (Pelletier, 2005, p. 3).

Another phenomenon of this study in conflict with the critics of distance/online education regarding socialization was the practice of the students to find or create mechanisms of sociality or learning communities. All of the participants reported that if they had questions or wanted further enlightenment about a topic in addition to the instructor or peers, they would seek people outside of the class. These social contacts may have been peers, friends, relatives, supervisors, past students of the same course, or experts in the field. In other words, the students went beyond the confines of the class to construct a better learning experience. While this experience may be similar in the traditional class, the students reported that the online experience seemed to facilitate this phenomenon more.

**Student/instructor interaction.** Student/instructor interaction was found to be somewhat lacking by the students. Many times throughout the study, they reported frustration with not having enough timely feedback from the instructor regarding their assignments or other work. While this particular phenomenon was frustrating to them, when asked if the lack hurt their learning, enhanced their learning, or had no impact on their learning, they reported that it really had no impact on their learning. However, they would have liked to have received feedback on a more consistent basis. They shared that the feedback they received was helpful, but the lack of feedback was not detrimental to their ability to learn.

What was important to them was that they were in control of what they learned and how deeply they wanted to pursue knowledge within the topics, which is consistent with andragogical
principles (Knowles, 1970). The control is also consistent with their developing views or schemas on learning.

**Paradigmatic shifting and conflicted beliefs on learning.** The subtheme of paradigmatic shifting and conflicted beliefs on learning appeared to be evident from the beginning of the interaction with the students. In the first interview as each talked about the convenience of online deliveries, the students first began by saying that they would prefer to be taking the class in the traditional face-to-face manner because they believed that it would be a better learning experience. However, as the interview progressed, they were talking about how much they were learning and how surprised they were at this discovery. In one journal entry, a student talked about how he was convinced that he would learn more in a traditional class. Yet, as he continued to write about his experiences, he stated how he was learning so much more in the online format, more than he thought he would have in the traditional delivery.

**Discussion**

The results of this study appeared to be consistent with many of the theories and assumptions of the adult learner. A more detailed look at some of these theories/assumptions is presented in the sections that follow.

**Andragogy**

Since the early 1970s, when Malcolm Knowles first introduced the concept of andragogy to the United States, adult learning theories and assumptions have been developed and debated. This study revealed that the nontraditional adult student in an asynchronous online environment experienced and reinforced adult learning assumptions. In Knowles’ original work (1970), he
offered a set of criteria that separates the adult learner from the child learner. They are: (a) changes in self-concept — the assumption that as a person grows and matures, his or her self-concept moves from one of total dependency to one of increasing self-directedness; (b) the role of experience — the assumption that as an individual matures, he or she accumulates an expanding reservoir of experiences that cause him or her to become an increasingly rich resource for learning and creates a broad base on which to relate new learning; (c) readiness to learn — the assumption that as an individual matures, his or her readiness to learn is decreasingly the product of his or her biological development and academic pressure and is increasingly the product of the tasks required for his or her evolving social roles; (d) orientation to learning — the assumption that children have been conditioned to have a subject-centered orientation to learning, while adults tend to have a problem-centered orientation to learning; and (e) motivation to learn is intrinsic rather than extrinsic. The process of looking at each of these assumptions and comparing them to the experiences of the students is interesting, and the results of this study seem to affirm Knowles’ assumptions.

One underlying question must be addressed: Does the asynchronous learning environment fit the assumptions of andragogy and is it a good way for adults (specifically, fire and emergency services personnel) to learn? Student experiences reported in the present study affirm the effectiveness of online learning for the nontraditional adult. This affirmation is also consistent with the writings of Rossman (2000), who asserts that distance education and distance learning programs are popular ways for adults to learn.

*McClusky’s Theory of Margin*
McClusky presented his theory of margin in 1963 (Merriam, Cafferella, & Baumgartner, 2007). His theory is based on the premise that an adult’s life is full of growth, change, and integration. Because of this growth, an adult is constantly seeking to reach a balance between the amount of energy needed and the amount of power available to manage life. Hiemstra (2002) explained McClusky’s theory in the following way:

According to McClusky (1974) in his theory of Power-Load-Margin, the key factors of adult life are the load the adult carries in living, and the power that is available to him or her to carry the load. Margin was conceived of as a formula expressing a ratio or relationship between the “load” (of living) and the “power” (to carry the load). According to McClusky (1970, p. 27), load is “the self and social demands required by a person to maintain a minimal level of autonomy .... [Power is] the resources, i.e. [sic] abilities, possessions, position, allies, etc. [sic], which a person can command in coping with load [sic].” In this formula for margin (M), he placed designations of load (L) in the numerator and designations of power (P) in the denominator (M = L/P).

As can be seen, the greater amount of power in relationship to load, the more margin available for use. In other words, if one has more power than load, one is able to negotiate or handle the issues or problems natural to one’s life. Conversely, if load is greater than power, then one has diminished capacity to handle the problems or issues.

The participants of this study, without knowing it, talked much about the theory of margin as identified by McClusky. In the initial stages of the study, the students identified that one of the major reasons they were grateful for the online learning environment was that their work schedules as firefighters and law enforcement officers as well as other responsibilities made going to school difficult at best. In the journal entries, each student made comments about the difficulty he or she was having with demands upon his or her time and how it was impacting his or her ability to participate in the class. In fact, one of them made the comment that without the online offering, he would not have been able to be in school at this time because the load would have been too great.
Another interesting factor revealed in the perceptions and experiences of the students was related to external and internal load factors. Hiemstra (2002) posited that external load consists of things such as family, career, socioeconomic status, and so forth. Internal load is composed of things such as self-concept, goals, and personal expectations. The students of this study made comments in the interviews and journal entries about their personal standards of performance and personal goals along with the external load factors of work, family, and community. While there was no way to quantitatively measure the relationship to power and load in this study, the experiences and perceptions of the participants were that they may have been close to an equal distribution and that having to attend scheduled classes on top of the assignments may have tipped the balance to load being greater than power. Maintaining a sense of balance is something emergency services personnel as adult students are aware of and seek when engaged in learning activities (Merriam et al., 2007).

Jarvis’ Process of Learning

British researcher and teacher, Peter Jarvis (1987), introduced an adult learning model based around experience. He posited that all learning begins with experience and more particularly, social experience. Some of these experiences are repeated often enough that they become routine and therefore do not lead to learning. Other experiences are so “out of the norm” that prior learning methods no longer work with the situation. This new experience causes a person to reassess, rethink, or create a new plan for how to act or what to do. Jarvis believed this process fits one of three groups of strategies or responses (Merriam & Cafferella, 1999). The first group consists of presumption (presuming that everything fits into one of the past experiences as will this new one), nonconsideration (one is too busy or too distracted to give any consideration to the
experience), and rejection (outright rejection of the experience as meaningful). In this group, Jarvis asserted that little or no learning took place.

The second group consists of preconscious (a person unconsciously internalizes an experience), practice, (a person can practice something repeatedly until it is learned), and memorization (a new skill or knowledge is internalized to be brought forth again at a later time). In this group, Jarvis asserted some learning occurs.

The third group is composed of contemplation (taking the time to think about the experience), reflective practice (thinking about something using processes similar to problem-solving), and experimental synthesis (someone experiments by implementing strategies or actions based upon what was contemplated and reflected). It is this final group in which Jarvis believed deep learning occurs.

The results of this study when applied to this model indicate that some deep learning took place with these students. Throughout the study, the students reported their use of and satisfaction with reflective practice. By employing reflectivity, they claimed to have had a deeper and potentially better learning experience. While it is difficult to determine whether they reached the experimentation stage or not (it was reported by the students, however, that they were applying some of the learned principles to their work situations), it is apparent that they were reflective and contemplative in their approach to this online experience. This stage appears to be very relevant and an important methodology of instruction for the fire and emergency services student.

**Affective Domain**

Affective learning outcomes involve attitudes, motivation, and values (Miller, 2005). As can be seen from previous discussions and the amount of research available, the cognitive approach to
online education has been the focus of much research. Hence, it appears much emphasis has been put forward asserting the best way to get to the affective domain is through the cognitive domain. Once a student has achieved “cognition,” it is assumed that the student will then apply the knowledge and, by process, have a change in attitude or be “affected.” Krathwohl and colleagues (1964) posed an interesting question: What if the reverse was applied — using the affective domain to achieve cognition? This posits that educators must be more aware of the affective domain (motivation, drives, and emotions) to develop or bring about achievement of cognitive behavior. “Obviously motivation is critical to learning and thus is one of the major ways in which the affective domain is used as a means to the cognitive” (Krathwohl et al., 1964, p. 57).

Krathwohl’s et al. (1964) taxonomy attempted to classify learning in the affective domain. It posits that the intensity of a given attitude is built through successive stages. Learning at a given level is dependent on prior learning at lower levels, hence, the five levels of taxonomy: (a) receiving/attending (willingness to become aware); (b) responding (appreciating or internalizing); (c) valuing (accepting, preferring, or becoming committed to); (d) conceptualizing/organizing (incorporating into a value system); and (e) characterizing by value (orienting toward or identifying with).

Based on the results of this study, asynchronous online learning environments have the potential to be an important and effective method of educating fire and emergency services students. Fire and emergency services leaders should be confident that asynchronous online learning courses are significant and allow employees to obtain relevant education. Anecdotally, it is rare to see an advertisement for a leadership position in the fire and emergency services that does not require a degree. As the services seek professional status through efforts of the International Association of Fire Chiefs, International Association of Fire Fighters, and other
bodies, access to educational opportunities need to be expanded. The online delivery can fill that need, and as the results of this study indicate, online delivery may actually be a more effective way of meeting educational goals for this population.

As this process develops, more care and concern for the design and use of pedagogies and/or adult learning models can enhance the experiences and learning of the adult online student. This process may require the instructors and designers of curricula to be more aware of the experiences and perceptions of students. As Krathwohl and colleagues (1964) asserted, the affective domain can be very effective in helping achieve the desired outcomes of the cognitive domain. If students are having an untoward time in their learning experience, they may do what is necessary to pass the course, but has learning in its truest sense been accomplished? Learning is best described as, “a persisting change in human performance or performance potential.” This description means that learners are capable of actions that they could not perform before learning occurred, and this is true whether or not they actually have an opportunity to exhibit the newly acquired performance” (Driscoll, 2005, p. 9).

References


