

**EXAMINATION OF THE RELATIONSHIP BETWEEN INSTRUCTOR PRESENCE
AND THE LEARNING EXPERIENCE
IN AN ASYNCHRONOUS ONLINE ENVIRONMENT**

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(ABSTRACT)

This study identifies and assesses a more specific relationship between the online instructor presence and the online learner's experience than is currently offered in previous studies. Guided by three questions, the study asked: (a) What is the relationship between the online instructor communication style and the learning experience, as defined by the adult learner's cognitive achievement, ratings of the overall course experience, and perceptions of the instructor's performance; (b) What is the relationship between the strength (contact frequency with the learner) of that communication style (facilitating or non-facilitating) and the learning experience; and (c) What is the relationship between selected learner demographic variables (previous subject experience on the job and previous experience with the vendor's online learning environment) and the learning experience.

The study included an examination of ex post facto data that depicted the interactions between 89 students and 9 instructors in 358 asynchronous, professional development class discussions. The examination revealed the presence and frequency of select instructor behaviors more acutely define the communication style and strength of the online instructor's relationship to the professional adult's online learning experience. The study's additional findings support earlier research that suggests prior learner experience relates positively to online learning outcomes. These findings contribute to the larger body of knowledge related to online instruction.

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CHAPTER I

INTRODUCTION

By 2006, the online learning market is expected to increase to \$23.7 billion (Hedin et al, 2004) and subsequently grow by nearly 27% compounded annually over the next four years (McGee, 2004). Brabazon (2001), McKenzie, Mims, Bennett, and Waugh (2000) and Beaudin (1999) have suggested that the online instructor is key to the online learning success story. However, Gold (2001), Bonk and Cunningham (1998), and others have argued that the online instructor role lacks clarity and the online instructional practice lacks an academic pedagogy that can support learners effectively. Saul Fisher (2001) of The Andrew W. Mellon Foundation agrees, stating that, “while it is a time of great growth in development and deployment of instructional technologies...[it also is] a time of growing problems particularly in online teaching and distance learning” (p.1).

Problem Background

Central to online teaching problems is the scarcity of scholarly studies that can guide online instruction (Barclay, 2001; Richardson & Swan, 2003). Barclay (2001), in her review of several hundred studies dating from 1928 to 1998, found little research that examined concerns about instructor retraining and delivery for the online environment. In a similar meta-analysis of literature dating from 1993-2003, the researcher associated with this current study also discovered a scarcity of studies that considered instructional models uniquely designed to support web-based learning. In a recent Internet search on the topic of online instruction, however, this study’s researcher found 1,654,330 sources for various online teaching techniques. Of the ones reviewed, many could be categorized as references on proprietary practices while others could be grouped separately as news commentaries, testimonials, and further calls for research. The vast array of commercial material available in the absence of scholarly literature lends evidence that e-learning providers continue to promote online instruction as a marketable asset of internet-based learning programs despite a noted lack of research on the topic (Anderson et al., 2001; Barclay, 2001; Crumpacker, 2002; Gold, 2001; Harasim, 1990; Smith 2001).

Closely associated with the lack of research on current online teaching practices is the continuous lack of academic guidance for more reliable online instructional approaches. Gomory (2001), President of The Alfred P. Sloan Foundation that funds many national e-learning initiatives, stated, “For those who teach in asynchronous learning networks (online forums), teaching will be different. How different depends on the form of ALN [Asynchronous Learning Network] employed” (p.142) but Littler and Mahyuddin (2001) argue that, regardless of the instructional technique employed, online instruction “has no unified vision of what constitutes quality in online delivery, no agreed criteria, and few frameworks to guide the practitioner in adopting best practice strategies” (p.147). The problem, Downs, et al. (1999) suggest, is that the instructional aspects of web-based learning currently are viewed as secondary to the technical issues and have not gained the attention of investors. In separate studies, Gold (2001) and Smith (2001) found that the lack of interest in scholarly-based guidance has provided inconsistent practices and outcomes, possibly eroding public confidence in online instruction. Gold (2001) concludes, “even though technology may change the way students learn, it will have no impact without [competent] online teacher support” (p.36). Cravener (1999) predicts that as online learning increases access to education, one may well find it decreases in instructional quality.

Coupled with the problem of questionable online teaching practices is the challenge to define appropriate online instructional models. Traditional learning models, applied in the absence of a more suitable model (Eastmond, 1995), often fall short of satisfying online learning requirements (Gilroy, 2001; Harasim, 1999). For instance, Janicki and Liegle's (2001) review of adult learning principles in various virtual learning programs found that (a) most examined online courses did not integrate sound andragogical practices and (b) the problem appeared to originate from a lack of understanding and guidance on how to select appropriate adult-oriented learning models for internet environments. Bonk (2002), in another study, found constructivist techniques such as problem-based learning and case-study projects "were seen as less applicable to the online setting" (p.2) and, where online communities can be less forgiving (Conrad, 2002), Vailey (2000) found online participants "feel less compunction to share information...than they do when they are face-to-face" (p.1). Many scholars also decry the use of behaviorist tenets in the otherwise independent-oriented, online learning setting (Gold, 2001; Harasim, 1990). However, Crumacker (2002) reminds us that "success of the [online] program as well as its students hinges on instructors being able to efficiently and effectively employ the techniques, technology, and delivery of a promising pedagogical approach" (p.10). The call of researchers for a new instructional model that addresses the more intricate communication network between online participants (Hamalainen, Whintson, & Vishik, 1996; Jonassen, Peck, & Wilson, 1999; Merrill, 1997; Schank, 1998) and responds more adequately to the learner-instructor relationships associated with the internet environment (Mathew & Doherty-Poirier, 1999; Parscal, 2002) has largely gone unnoticed (Bonk, 2002; Barclay, 2001; Murray, 1996; Wonacott, 2001).

Perhaps the most critical problem in current online instructional practice is the negative impact online teachers may have on the adult learner. Spector and de la Teja (2000) state that "It is quite clear that our capacity to make effective use of information technology in educational settings is impaired by inadequate preparation of teachers" (p.3), leading Williams (2002) to caution that "if faculty do not teach effectively in an online environment, the effects could have implications for learning as well as for student retention in web-based training/instruction programs" (p.144). Nielsen (2003) thus warned online learners to ask training providers if "(a) the online provider provides training to prepare [online] teachers to meet the diverse needs of all learners and (b) if the online provider can provide research to demonstrate the program's effectiveness" (p.25). Pat Galagan (2004), managing director of content for ASTD, concludes, "It's a mistake to think that the goal of e-learning is to automate learning. Its real goal is to increase its effectiveness, which up to this point has been abysmal" (p.6).

Purpose Statement

While the lack of research, inadequate teaching practices, lack of suitable instructional models, and the potential to negatively impact learners cast shadows on market appeal for online learning, studies related to the online teaching presence may encourage online stakeholders who seek enhanced understanding of that role's relationship to successful learning processes and outcomes. Investigations into the link existing between learners' satisfaction and teaching presence (Anderson, et al., 2001; Picciano, 2002; Shea, Pickett, & Peltz, 2003) and explorations into the relationship between online learner achievement, satisfaction, and learner-instructor interaction (Jiang & Ting, 1999; Jung, et al., 2002; Kirby, 1999) are now emerging in the literature. Yet, despite the increasing interest, these early studies suggest more attention is focused on self-initiated learner interaction rather than teaching behavior that may influence

learner response. Moreover, these studies also tend to offer broad definitions of the teaching presence, such as noted in Anderson, et al. (2001) study that considers the instructional presence as one that provides instructional design, organization, facilitation, and direct instruction. Thus, the purpose of the present study is to identify and assess a more specific relationship between the online instructor presence and the online learner's experience than is currently offered in previous studies.

This study highlights the online instructor presence as revealed in facilitation and examines this construct's specific relationship to the learning experience. Salmon (2000) characterizes facilitation as the ability "to show sensitivity to online relationships and communication; and know how to bring in non-participants, pace discussion, and use time online" (p.40). Anderson, Rourke, Garrison, & Archer (2001) agree but also suggest that facilitation "constantly search[es] for ways to support the development of the learning community" (p.7). This study builds on both definitions by further suggesting that three instructional behaviors (encouragement, praise, and inquiry) potentially leverage online learner participation. The study considers the three behaviors independently and together, as a collective proportional facilitating unit that relates to the learner's online experience. The researcher combines a decade of personal knowledge in online learning experiences with ex post facto data from nine online courses to examine these online instructor-learner relationship dynamics and provide support for further needed research in this topic area.

Background of the Study

In July 1998, a 53-year-old, international, non-profit training company hired the researcher to design, co-develop, and subsequently manage its first online professional development program for nationally based, insurance agent customers. The purpose of the online program was to meet the needs of frequently traveling insurance agents who sought a more flexible, convenient professional certification and designation program.

The non-profit company enjoyed a half-century reputation for face-to-face instruction; thus, they sought through the researcher new internet-housed classrooms that could mirror the company's traditional and nationally accredited face-to-face classroom program. In this context, company management mandated use of classroom-based objectives, textbook, instructor guide, final exam, and, to the extent possible, classroom-based interactions in the virtual environment. After a year of research, negotiation, cultural reengineering, in-house training, volunteer recruitment and preparation, the researcher launched the company's first online training classes in the summer of 1999. Seven months later, the site hosted over 500 insurance agents a month; held attrition rates to less than 3 %; and grew repeat customers to over 47%. Company leadership hailed it a success. In a takeover two years later, a larger educational and training firm bought the operation to expand its delivery system.

Despite the program's perceived success, the researcher noted the consistency (repetitiveness) and strength (frequency) of the diverse instructional approaches appeared to be associated with equally varied, end-of-course learner feedback. In research efforts to better understand this observation, the researcher found 14,475 books on the topic of "how-to-teach-online." Libraries and bookstores proportionately were populated with similar references. While few of the acquired references contained scientific guidance, the large reference inventories did demonstrate market interest in the online instructor role and, moreover, revealed that adult education professionals have expressed increasing concern on the failure of academic research to inform and influence distant instructor methodologies (Barclay, 2001; Crumpecker, 2001; Ives &

Jarvenpaa, 1996; Massy, 1997; Nasseh, 1997; Phipps 1999; Sherry & Wilson, 1997; Tyack & Cuban, 2000;). In final analysis, however, is the relevance of the phenomenon that Cahoon (1998) identifies as “educators [who] are learning how to teach on the Internet as they go along” (p.74).

Thus, the general lack of academic knowledge about the instructor’s presence in the online learning environment prompted this study’s investigation into the instructor relationship to the online learning experience. As Twigg (1994, p.3) states, “Clearly our current system of teaching is changing as institutions respond to the changing definition of learning...but what we have witnessed thus far, are piecemeal changes, mere indications of what a new infrastructure might look like that would systematically serve the new definition of learning.” This study offers information that contributes to scholarly literature, increases pedagogical guidance on virtual instruction, and provides a baseline for more reliable online instructional practices.

Problems with Former Research

Previous studies related to the relationship between online teaching presence and the learning experiences provide only confusion of terms and due to the variable and complex nature of the online environment, addressed non-technological issues in a qualitative rather than a quantitative study. Discrepancies in the literature related to online instruction are discussed in the following paragraphs.

The connotative meaning of “online instructor’s presence” is particularly confusing in the scholarly studies. Anderson, Rourke, Garrison, and Archer (2001), for instance, define instructor “presence” as an active intervention that begins during the instructional design stage, when the online instructor “plans and prepares the course of studies...”and then continues during the course when the instructor “facilitates the discourse and provides direct instruction when required” (p.5). However, this definition precludes universal acceptance of the concept since many online instructors do not design courses in which they teach and necessitates a combination of two distinct behaviors: facilitation and direct instruction. In contrast, Richardson and Swan (2003) consider online instructor presence as restricted to the in-class interaction, defining it as an integration of online teaching immediacy and social presence. To these researchers, the learner’s perception of the online instructor performance ultimately defines the meaning of an online instructor’s presence in the learning setting. Shea, Pickett, and Peltz (2003), however, consider teaching presence as more tangible, describing it as “the design, facilitation, and direction of cognitive and social processes for the realization of personally meaningful and educationally worthwhile learning outcomes” (p.6). This study identifies the online human instructor presence as observable instructional behavior that can be demonstrated by communication style (facilitating or non-facilitating) and the strength of that communication style (contact frequency with the learner). The definition includes the characterization of an instructor presence that previous studies have suggested influence the learning experience through face-to-face instruction.

Another ambiguous term in available research is “participation.” Jiang and Ting (2000) and Beaudoin (2001) consider all online responses as participative but Vrasidas and McIsaac (1999) define exchanges as only those that are directed on topic and include more than two transactions. In this context, a single response would then be categorized as either “feedback” or “a response” rather than participative interaction. Recent sociological research considers the concept of participation in terms of interaction that conceptually contains varying levels, from

single response to multiple engagements with others (Picciano, 2002; Shea, Pickett, & Peltz, 2003).

Besides the confusion of terms in the literature, previous studies frequently narrowly focused on restricted audiences. For example, relatively limited sampling groups are offered by Vrasidas and McIssac (1999), who examined 7 online participants, but no instructors; Picciano (2002) who included 23 college participants and no instructors, and Barclay (1998) who surveyed 20 online instructors, but no learners, in her study on online instructional interactions. To expand these efforts, this study examined instructor-learner relationships of 358 online discussions between 9 instructors and 89 adult learners. This contribution enhances understanding of the online learning relationships and contributes to previous research on this topic.

Finally, literature frequently considers only the general or collective nature of facilitative behavior (e.g. Anderson, et al., 2001; Salmon, 2000) when examining the relationship between facilitative presence and online learner experience. The researcher found few studies that considered facilitation as a behavior that is defined and potentially affected by its collective and individual use of interpersonal behaviors (such as praise, encouragement, and inquiry). Additionally, the researcher found no studies that distinguish facilitation as a proportionate presence of overall instruction and as a behavior that may increase or decrease its relationship to the learning experience through the strength of its coexistent presence. To address the literature gap, this study identifies facilitation as a proportionate presence that is (a) distinct from all non-facilitating activities and (b) defined by supporting facilitative behaviors.

Research Questions

For purposes of this study, online instructor presence construct is defined as observable instructional behavior that can be demonstrated by communication style (facilitating or non-facilitating) and by the strength of that communication style (contact frequency with the learner). The facilitating communication style is considered as individual and collective behaviors, exemplified through the online instructor's encouraging, praise, and inquiry online postings. The study considers the learner's course experience as a second construct that defines the learner's affective course experience (the adult learner's end-of-course feedback and frequency of learner participation) and the learner's end-of-course cognitive achievement (final examination scores). Thus, the major research questions that guided this examination of online instructor presence were:

- I. What is the relationship between the online instructor communication style and the learning experience, as defined by the adult learner's:
 - a. cognitive achievement,
 - b. ratings of the overall course experience, and
 - c. perceptions of the instructor's performance.
- II. What is the relationship between the strength (contact frequency with the learner) of that communication style (facilitating or non-facilitating) and the learning experience, as defined by the adult learner's:
 - a. cognitive achievement.
 - b. ratings of the overall course experience, and
 - c. perceptions of the instructor's performance.

Acknowledging the possibility of other variance influence on learner performance, a third research question asks:

- III. What is the relationship between selected learner demographic variables (previous subject experience on the job and previous experience with the vendor's online learning environment) and the learning experience, as defined by the
- a. cognitive achievement
 - b. ratings of the overall course experience, and
 - c. perceptions of the instructor's performance.

The third research question provides some control over pre-instructional variables in student experiences with regard to both content knowledge and experience with the online instructional environment.

Significance of the Study

This research provides information on the extent of influence an instructor may exert on the online learning experience. It additionally provides an assessment measure by which online stakeholders may review the strength or weakness of their own online instructional presence. As Barclay (2001) asserts, "It is important to create a strong foundational base of knowledge that helps instructors develop and deliver successful [online] learning experiences" (p.50).

Moreover, as competition among learning providers increases, knowledge of if and how the online instructor's presence affects a system's effectiveness has the potential to temper users' investments and effective use of e-learning programs. This study helps support online learning strategic business decisions, higher institutions' teacher-preparatory programs, and provides a more solid foundation on which future research might be based. The limited amount of empirical research in the area of the online instructor's presence and its influence on the learning process makes this study one of particular importance to scholarly literature.

Limitations of the Study

Limitations refer to restrictive conditions imposed on the study. The limitations to the present study may include: post facto data, reliance on voluntary completion of survey, limited demographic information, possible unseen variable influences, use of a proprietary program, and the researcher's former professional association with the program. Discussion of each of these potential limitations is detailed below.

The study's post facto data prevent a more scientific control of the subject, environment, and treatment. While the post facto data examination does not provide for a more scientific cause and effect study, it fully supports the intent of this investigation; that is, the examination of complex variables and their degrees of influence over one another in a realistic setting.

Another issue relevant to the post facto data collection is the researcher's inability to gather further data. The company that provided the data is now sold and no longer able to provide access to additional data related to the program. Thus, the researcher is unable to further contact instructors or students who participated in the examined courses for clarification or validation on observations made in the course transcript review. Nevertheless, the available data offers a larger than usual sample size to identify and assess the relationship that existed between learner and instructor activity in the learning process.

Data for the study are derived primarily from two sources: review of the course transcripts and assessment of demographic and post-course surveys. Completion of the latter instruments was voluntary and, hence, resulted in some learners not offering useful information to the study. In conjunction with the survey completion issue is the demographic survey that was pre-established by the company prior to the origination of this research study; thus, the number

of appropriate demographic questions that are applicable to this study was limited. The study, however, does benefit from information provided by 89 students who completed surveys with fixed-choice responses.

To support the study, the researcher examined post-secondary adult learners in an asynchronous, online financial professional training development program. The service provider's proprietary program is a system of linked commercial software packages, integrated into the vendor's existing information technology support system and tailored to the needs of the vendor's audience. The nature of the study is not dependent on the program or the subject content, but rather the interactions between peers, learner, and instructor. Thus, the study is sensitive to the program's proprietary nature and its potential to offer an environment from which relevant data may be examined to support research in this area.

Finally, the researcher has significant familiarity with the online vendor program and may have introduced unintentional bias in examining it. The researcher's bias regarding online instruction, learning philosophy, and subjectivity when examining data may have influenced interpretations. In addition, the researcher has consulted with other online learning ventures and spoken to international groups on online instruction. Thus, to help minimize the possibility of personal bias in the study, the researcher used two individuals, professionally unrelated to the study's online learning program, to classify information.

Organization of the Study

Chapter 1 provided the study overview and background, explaining how the problem exists and why there is a need for research in this area. Chapter II presents a review of associated literature that includes previous research, books, and journal articles that describe the online instructor's various practices and relationship to the learning process. Chapter III describes the online training program in which the researcher gathers data and the research method and design used to conduct the study, including data collection, data analysis, and instrumentation. Chapter IV presents the quantitative analysis of the data collection. Chapter V provides the study's conclusions, recommendations, and implications for future research.

Definition of Terms

Asynchronous Learning Environment-setting established for learning in which communication exchanges separated by time and geographical space, convenient to the individual learner or instructor. For this study, the researcher examined an asynchronous environment that is specific to an online vendor's virtual environment.

CD-ROM Tutorial - a learning program housed on a computer disk (compact disc, read-only-memory disk) in which the learning responds to pre-scripted text directions and questions.

Class Discussion – the vendor's learning program's optional learning activity, hosted on a software bulletin board program, that is intended to support class peers and online instructor asynchronous exchanges. For this study, the discussion's goal was to create new understanding of a particular course subject area that originally was introduced in the course textbook.

Communication Style- (for this study) one of two types of instructor communication methodologies: facilitative and non-facilitative.

Constructivism- Constructivism is a learning philosophy that contends that through discussion and reflection a learner enhances (constructs) understanding of life. Specific principles that support constructivism include: (a) learning is one's search for meaning in an authentic

environment; and (b) the learning process is the learner's grasp to see concepts as separate parts of a larger universe of knowledge.

Didactic Instruction- human directed and controlled instruction, based on the behaviorist theoretical precepts; instructor provides intellectual and scholarly leadership and shares subject matter knowledge with learners; characterized by an initial instructor prompt, monitoring of learner's overt adherence to prescribed process, and subsequent instructors delivering reward or remediation based on learner's ability to satisfy pre-established, instructional goals.

Direct Instruction- "presentation of content and directing questions to the group or to individual students, focusing on particular content precepts or information necessary to pursue knowledge growth...and confirming understanding through assessment and feedback" (Anderson, et al., 2001; p.13). For this study, direct instruction also included class introductions, assignment directions, testing, and grading.

Drop-out- a learner who does not complete all course assignments

E-Learning- acquisition of knowledge through an online program of studies or resources synonymous with the term online learning.

Encouragement- an online instructor posted acknowledgement and prompt to continue forward in the lesson following an online learner's posting. *For example, an online instructor may post, "John, I see you're catching on to the idea. I look forward to your insights on the next question, too!"*

Facilitation- human support, loosely based on cognitive theoretical precepts; characterized by participative learning communities and instructor's supporting activities (e.g. coaching, mentoring, advisory, and other resource support); "focus on social processes that stimulate individual and group learning" (Anderson, et al., 2001, p.11) This study restricted the use of instructor facilitation to three types of class discussion postings: inquiry, encouragement, and praise.

Facilitative-Type Communication- (for this study) three overt, online instructor behaviors that include praise, encouragement, and inquiry.

Feedback- a learner's, peer's, or instructor's single posted-response to a second peer or online instructor's learner-specific, posted input.

Inquiry- an online instructor's request for information or clarification on previously submitted information. For example, an instructor may ask for additional information to support learner's current posting.

Instructor Presence- the online instructor's predominant behavior as defined by interaction-communication style type (facilitating or non-facilitating) and the interaction frequency rate (the average number of online instructor inputs per class).

Learner- adult student who intends to construct new knowledge in the learning setting.

Learning Outcome- (for this study) learner's change of cognitive understanding, perceptions, and skills resulting from the learning process. In this study, learning outcome was measured through each learner's end-of-course ratings that included final exam scores and end-of-course survey results.

Moderating- course management tasks, often assigned to a course instructor, that focuses on grading, attendance-keeping, distribution of materials or administrative and academic announcements, and maintaining pre-approved code of conduct rules. For this study, moderating referred to the vendors' traditional reference to their instructors business teaching actions.

Moderator- one assuming the task of moderating. For this study, the researcher exchanged the term “online instructor” for the vendor’s reference, “moderator” as the tasks associated with the vendor’s moderator role are consistent with general online instructors.

Non-Facilitative- a communication style that does not include the attributes assigned to the facilitative style communication; communication that is directive, administrative, and instructional in nature.

Online Instructor- a person assigned to deliver instructional processes through the internet medium. For this study, the online instructor was a professional financial volunteer who was pre-screened against the vendor’s pre-published qualifications that included: familiarization with basic computer operations, five or more years experience in course topic, ability to devote at least three hours a week to the online training program, and willingness to receive prior online instructor training.

Online Instruction-the online instructor’s self-selected strategy to direct or facilitate the learner’s acquisition or construction of knowledge.

Online Instructor Presence-the predominant teaching strategy, applied by the online instructor, to support learning activity coupled with the frequency of contact made with learners during the course. This study focused on three types of online postings that can reveal the online instructor’s presence: praise, encouragement, and inquiry.

Online Learning Activity – the learner’s acquisition and/or construction of knowledge in a web-based learning environment’s course activity (e.g., class discussion).

Online Training Center (OTC)- the vendor’s web-based training program supporting this study. At the time of this study, OTC hosted five optional courses that were each supported by eight to twelve classes that were in turn, supported by a prescribed set of class lessons. For example, a typical OTC course had 12 classes and each twelve classes typically included four individual lessons.

Each OTC lesson included four functions: a reading activity on a pre-scripted *Summary* of the course’s textbook chapters associated with the online learning activities; an optional self-contained *Exercise* that provided entertainment-learning (e.g., a game of facts) on the course textbook chapter’s concepts; a optional *Class Discussion* that provided opportunities for learners and instructor to participate in an asynchronous chat room discussion on the each course topic; and a mandatory *Sales Learning Activity* (SLA) that directed the learner to an on-the-street- sales activity and required the learner to then report the results, online. While OTC required learners to participate in the *SLA*, learners were asked to select the OTC’s *Exercise*, *Class Discussion*, or both activities as their additional online learning activity.

Online Learning Process – the learner’s acquisition and/or construction of knowledge in the web-based environment. In this study, the OTC provided a pre-scripted online text, integrated with online peer and instructor volunteer postings, to acquire and/or construct enhanced understanding from the course textbook information.

Participation – a) active, online: more than one bulletin board posting by a learner in a single class discussion setting that invites or stimulates new responses from other learning community members; b) passive, online: a single bulletin board posting in a class discussion setting that offers a comment or reaction to previously rendered peer postings in the same class discussion setting. In this study, participation was measured by the course total of class discussion postings.

Posting- a typed entry into a software program that appears on a computer screen for an intended audience to read. In this study, a posting referred to either any typed entry made by an instructor or student in the vendor’s online program involved in this study.

Praise- an expression of approval. In this research, praise was defined as an online instructor's posting that expressed approval about a learner's or class input. The online instructor, for instance, might use a simple, positive explicative such as "great job" or another similar expression that denotes a positive reaction to the learner's or class' input.

Presence- a sense of being not alone. Online instructional presence was identified through instructor online postings. In this study, online instructional presence was identified by the posting's predominant communication style (facilitative or non-facilitative) and further characterized by the posting strength as defined by the proportionate number of facilitative versus non-facilitative postings made by the instructor. (See Chapter 3 for further explanation.)

Prior Knowledge- Knowledge, experiences and skills that are acquired by the learner before course experience. For this study, only the knowledge, experiences, and skills gained prior to course enrollment were considered. These prior knowledge factors were measured through the online learning program's demographic survey that asked the learner to identify the number of years the learner had in working with the course topic prior to the course and how many previous online courses the learner took with the vendor prior to the one under study.

Reflection- learner's internal mental processing of encountered ideas, experiences, and acquired knowledge; (for this study) an incident when learner made reference to an earlier peer or instructor posting in learner's newer posting as recorded in the transcript of a course session.

Service-Provider – a vendor who supplies customers with goods or services; (for this study) the company sponsoring the online learning program from which the data were gathered.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter provides a review of the literature related to the present study's inquiries. The study's primary questions ask: (a) What is the relationship between the online instructor communication style and the adult learning experience, as defined by the adult learner's cognitive achievement (final exam scores), ratings of the overall course experience, and perceptions of the instructor's performance in an online, asynchronous learning environment? (b) What is the relationship between the online instructor frequency of contact and the adult learning experience, as defined by the adult learner's cognitive achievement (final exam scores), ratings of the overall course experience, and perceptions of the instructor's performance in an online, asynchronous learning environment? For this research, instructor presence was defined as the frequency of instructor contact with the learner and the presence (style 1) or absence (style 2) of instructor facilitation in the learning process. The adult learning experience was represented by final exam scores and learner feedback on the course experience and online instructor performance. A third and supporting research question asks what is the relationship between selected learner demographic variables (previous subject experience on the job and previous experience with the vendor's online learning environment) and the learning experience. The variables of the third research question provide some control over pre-instructional variance in student experiences with content as well as their experience with the online instructional environment.

At issue is the role of teacher presence in affecting the online learning experience. Research recently began to address the need for students to become more active learners in the virtual environment, constructing personally meaningful knowledge through discussion and authentic experience. Many studies show how the online instructors' transformed role, from disseminator of knowledge to learner facilitator, creates student perception of a more satisfying course experience, but few examinations have considered the impact of the newly defined instructor presence on actual knowledge acquisition.

This literature review considers the online instructor practice as a paradigm that resulted more from distance instructional failures than scholarly studies that considered the Internet learning environment. The review suggests that the online instructor is a presence that can mediate social arrangements but remains without guidance on how to provide value to the setting in which it operates.

Organized into three sections, the literature review examines the: (a) historical pedagogical dimensions of distance instruction and their influence on current online teaching practices; (b) conceptualization of online instructor presence and learner experience; and (c) theoretical frameworks influencing today's online teaching practices.

The first section focuses on historical pedagogical methods that have guided teaching practices at a distance and provide models for current online instruction. The section demonstrates that, while technology played a critical role in defining the distant instructor's role, the instructor's ability to approximate the conventional classroom experience traditionally defined the distant learning program's success. Through a chronological review of events, the first section contributes to a general understanding of how historical teaching paradigms

resulted in current online practices and continue to influence the online teaching role and behavior in virtual learning processes.

The second section presents the discussion of related studies that explore the meaning of instructor presence in an online environment. As relatively few educational studies offer insight on the human aspects of online teaching, this section reviews social science studies on virtual presence and interaction and then considers those studies' relevancy to online instructor participation. The section subsequently examines the construct of facilitation as a communication style that relates to social presence, interaction, and online instruction.

In the third section, the Behaviorist and Constructivist theories are presented as influences on academic perspectives and paradigms of current online instructor practices. The section additionally reviews Andragogy as a third theoretical practice and explores the relationship between adult learning principles and teaching-at-distance. Each theory is evaluated in terms of supporting the online instructor's role and expectations. Consideration of each theoretical framework responds to the Institute for Higher Education Policy's call for "a more integrated, coherent, and sophisticated program of research on distance learning that is based on theory...and deals with interactions and interrelationships of variables in terms of the effectiveness of distance learning programs" (Phipps & Merisotis, 1999, p. 27).

Historical Pedagogical Dimensions of Distant Instruction and Their Influence on Current Online Teaching Practices

From writing tablets to web frames, distant learning initiatives have linked generations of students to geographically separated instructors for learning purposes. Each approach, supported by contemporary technology, strove to improve previous methodologies through mediating instructor-learner interactions in the learning process.

The earliest distant instructional practice is associated with the ancient sages' use of one-way correspondence that intended to inform and motivate individuals to preferred behavioral practices. For example, between 45 and 67 A.D, Apostle Paul distributed instructional correspondence to newly formed churches in Rome and Greece for the purpose of teaching New Testament values (Public Broadcasting Station, 2003; Tiffin & Rajasingham, 1995). Paul's scribes transcribed the evangelist's instruction on papyrus and sent messengers to deliver their fragile, rolled documents to various regional Christian colonies. In those documents were discourses integrated with rhetorical questions and ready answers. Historical records show that, on many occasions, Paul followed these delivered lessons with face-to-face instruction to organized Church leaders and their congregations (Tiffin & Rajasingham, 1995). Paul's organized, personalized and systematic instructional delivery system, coupled with learner-focused lessons, established the foundation upon which future distance learning initiatives relied.

The invention of paper and the printing press in China, during Second Century A.D., furthered opportunities to inform even larger national learner audiences (Nasseh, 1997). Similarly, Guttenberg's invention of the movable type in the mid-Fifteenth Century introduced new educational opportunities to the Western Hemisphere, significantly extending primary teaching interest from religious to other public concerns. Widely circulated propaganda pamphlets during Western Europe's 16th and 17th centuries' religious and political controversies give evidence to the powerful influence of broadly distributed published knowledge (Encarta, 2003).

In the early Eighteenth Century, distant instruction became a business enterprise (Peters, 1983). This early entrepreneurial spirit is seen in the March 20th, 1728 Boston Gazette advertisement: "Teacher of the New Method of Short Hand. Persons in the country desirous to

learn this art, may be having the several lessons sent weekly to them, be as perfectly instructed as those that live in Boston” (Holmberg, p.6). An 1833 weekly publication in Sweden’s university city of Lund offers “Ladies and Gentlemen” an opportunity to study “Composition through the Medium of the Post” (Baath, 1985, p. 62). Perhaps an even more important example is seen in English phonographer Isaac Pitman’s 1840 development and distribution of courses based on his invented, phonetic-based shorthand. Using postcards sent to students through Britain’s new penny post system, Pitman instructed how to use his shorthand method and subsequently requested students to copy and return Bible passages for grading (Holmberg, 1995; Public Broadcasting Station, 2003). While Pitman’s instructional process mirrored earlier personalized correspondence methods, his extensive use of the postal system and eventual expansion of instruction into America and other countries introduced distant instruction as a universal, commercial commodity.

The mid-Nineteenth Century ushered in enhanced systematic processes to distant instruction correspondence efforts. In 1872, Anna Ticknor, considered the “Mother of Correspondence Courses,” established Boston’s Society to Encourage Studies at Home Program. Ticknor recruited and trained volunteers to deliver personalized training to homebound women. She recruited subject experts to write the lessons and included instructional inquiries to which students were to respond. Her recruited teachers exchanged supportive letters with assigned students, sent monthly correspondence with guided readings, distributed tests for each student demonstrating testing readiness, and systematically graded returned work. (Public Broadcasting Station, 2003; Scott, 1999). Unlike Ticknor’s volunteer staff, the Illinois Wesleyan University hired faculty as early as 1874 to assign readings and grade lessons for learners seeking bachelor and graduate degrees in absentia. In 1884, New York’s Chautauqua University and in 1890 the Colliery Engineer School of Mines’ followed suit as they hired, trained, and managed faculty to support distant learners. These larger and more structured instructional management systems brought greater visibility and increased learner patronage to the distant learning process, but also formally established the instructional formula of one-on-one, reciprocal contact between instructor and learner.

An inherent challenge in distant learning programs was the lack of immediacy in the instructor-learner interactions (Moore & Kearsley, 1996; Nasseh, 1997). More immediate response from either learner or instructor enabled more efficient learning and, from the behaviorist conditioning approach, more effective learning as well. However, correspondence instruction, subject to mail delays from geographical travel distance, foul weather conditions, holiday schedules, and periodic lost mail, prevented immediate attention to student concerns and misunderstanding (Rumble, 1999; Tiffin & Rajasingham, 1995). Additionally, unreliable delivery schedules made the learning process susceptible to waning interest and lack of persistence. The vulnerable delivery systems may have contributed to the general disfavor of instruction that, at a distance, failed to replicate the attention and responsiveness of more traditional classroom instruction. Gooch (1998) cites a 1911 University of Wisconsin engineering extension department report that stated, “Those who would belittle correspondence study contrived chants such as: Pooh! Pooh! Harvard! Pooh! Pooh! Yale! I got my education through the mail!” A Yale professor, authorized to grant degrees in the late Nineteenth Century to correspondence students, remarked, “[correspondent instruction] would not, if it could, supplant oral instruction, or be regarded as its substitute” (Watkins & Wright, 1991, p.33).

The early Twentieth Century’s introduction of broadcast-technology cultivated paradigmatic shifts in the distance learning process. With sound technology, radio instruction

humanized the unseen instructor presence and simultaneously developed stronger learner dependency on the instructor's routinely scheduled presentation. The University of Salt Lake City, the University of Wisconsin, and the University of Minnesota were the first higher institutions to acquire radio licenses. By 1945, the federal government reported that 202 educational, radio-broadcasting licenses were granted to colleges, universities, and school boards (Barclay, 2001; Public Broadcasting Station, 2003). Studies, such as Woelfel and Tyler's (1945), concluded no significant difference existed between face-to-face and radio-sponsored instructional radio. While its systematic course management structure was noted, educational radio began to decline in the 1930's as its one-way, impersonal communication channel lost its initial appeal (Lane, 1994; Sherry, 1996).

The advent of audiovisual tools such as audiotapes, movie films, and filmstrips enhanced distant instructor capability to humanize lessons (Barclay, 2001; Nasseh, 1997). Through these newer mediums, the distant learner not only heard but also saw the instructor. But these instructional mediums, like the radio, limited communication to an instructor-centered environment that failed to support student engagement in the learning process (Barclay, 2001). From a management perspective, audio-visual instruction could not be conveniently or cheaply recalled, remade, and redistributed. As in previous distant learning methodologies, educational researchers such as Scott (1949) and VanderMeer (1950) concluded there was no significant difference between students in the classroom and this type of distant learning. However, by the late 1940's, most audio-visual support began to be relegated to traditional classroom support (Nasseh, 1997).

Educational television offered a variation of earlier audio-visual instruction through its sight and sound technology (Miller, 2001). The University of Iowa took the lead and, by the late 1950's 17 other university programs also delivered instruction via television. Carpenter's 1955 research compared tele-courses to face-to-face learning and concluded again that conventional classroom achievement scores were equal to that of distant learning—in this case, educational television (Russell, 1999). But, as before, the newest distance learning instruction failed to sustain learner interest. Summarizing educational television's failure, Sherry (1996) stated, "Teachers who were expert in the subject matter were not necessarily the best and most captivating television talent, nor was the dull 'talking head' medium the best production method for holding the interest of the audience" (p. 338).

By the early 1960's three distant instruction attributes had characterized optimized distant learning: personalization, humanization, and immediacy. These pedagogical characteristics had been achieved individually, rather than collectively, in one or more distant instructional processes. However, in 1963, the University of Wisconsin's Articulated Instructional Media (AIM) Project introduced a new distant learning paradigm intended to integrate methods of various communications technologies that could instruct and facilitate student groups who resided off-campus (Gooch, 1998). Supported by an integration of televised courses, correspondence materials, study guides, radio broadcasts, audiotapes, and telephone conferencing, AIM's instructor-learner interaction approaches created a multifaceted means of engaging students in more immediate and active off campus learning processes (Nasseh, 1997; Public Broadcasting Station, 2003). Due to political and financial concerns, however, the University of Wisconsin redefined AIM's goal in 1966 from supporting independent, distant adult learners to extending the university's face-to-face instruction to remote learners (Nasseh, 1997). This change undermined AIM's management efforts to promote different pedagogies and ultimately contributed to the project's failure (Moore & Kearsley, 1996). The Carnegie

Commission on Higher Education, who funded the AIM project, concluded: “the role played in formal education by instructional television has been on the whole a small one” (Killian, 1997, p. 80). Despite its failure, AIM’s integration of instructional tools, collaboration of faculty teams, and use of multi-faceted assessments was not lost on distant learning advocates (Moore, 1989). Charles Wedemeyer, who led the AIM project, promoted the new pedagogy through endless national discussion forums, research, and the publication of books and films (Nasseh, 1997; Watkins & Wright, 1991). His tireless efforts are credited with laying the conceptual foundation for the Open University.

Established by the British government in 1969, the Open University (OU) sought to overcome the flaws of the AIM project by remaining operationally autonomous in managing the faculty, curriculum, and students (Rumble, 1999). The founders contended that to succeed, Open University instructor’s role and performance deserved particular attention (MacArthur, 1974). Part-time staff members were hired to provide student counsel or instruction to the university’s non-resident, degree seeking adult students. The faculty designed courses, edited readers, and provided course exams (Turnstall, 1974). University faculty were encouraged to facilitate ongoing communication with their assigned students through the use of various distance-learning vehicles. Textbooks and correspondence were embedded with course questions intended to promote discussion with and among the students (Barclay, 2001; Moore & Kearsley, 1996). A regularly produced television program popularized the OU professor who routinely dressed with brown-kipper tie and flared cords (Wikipedia, 2003). Serving as a model for subsequent distance education programs, OU fostered stronger confidence in the distance-learning concept (Barclay, 2001; Moore, 1973; Moore & Kearsley, 1996; Nasseh, 1997).

In the mid 1980’s, computer-assisted instruction (CAI) and computer-based training (CBT) followed the Open University’s integrated instructional approach (Rumble, 1999). Using software or Read-Only-Memory (CD ROM) disc, CAI and CBT offered pre-scripted instruction to augment (by CAI) or replace (by CBT) the traditional instructor and peer interaction (Beaudin, 1999; Flood, 2002; Fraser, 1999; Moore & Kearsley, 1996). Typical to the behaviorist conditioned learning model, each educational disc provided learners with clearly stated behavioral objectives, small frames of instruction, self-pacing, and immediate programmed feedback based in the largely self-directed, tutorial environment (Garson, 1996; Gold, 2001). Learner interaction was limited to learner-to-content supported by little or no human oversight (Armstrong, 1999). In his report at the Annual Convention of the Association for Educational Communications and Technology in 1990, Schmitt warned computer-generated instruction was not supported by sound research. That same year, the CBI market began to decline and learners increasingly migrated back to instructional environments that offered increased human presence and interaction (Cuban, 1990; Fraser, 1999; Reeves, 1994).

Online learning emerged as a market alternative to other distant learning methodologies in 1990 (Evans, 2000). Referred to also as e-learning, computer-mediated instruction, and web-based training (WBT), online learning provided learners flexible access to internet-based resources, instructional text, and human interface with other participants in the learning process (Armstrong, 1999). The training market touted the new training technology as affordable, easy to use, and containing vast capacity for accessing and facilitating the flow of information (Carliner, 1999; Miller, 2001; Shale, 2002) By 2000, Open University included 160 online courses that served 100,000 students (Salmon, 2000). Cahoon’s (1998) warning that “educators are learning to teach on the Internet as they go along” (p.74) found an academic audience as scholars began to express increased concern that few studies consider instructional theories or models to guide

online instructional processes (Bonk & Cunningham, 1998; Nasseh, 1997; Robinson, 1998). If online learning offers more efficient communication systems, reports noting fifty to eighty percent attrition rates (Flood, 2002; Frankola, 2001) now challenged its instructional effectiveness.

Schollosser and Anderson (1994) write, “If decades of research in distance education systems have taught us anything, it is that the focus of future research should be the truly critical factor in determining student achievements: instruction itself. The question then, for researchers and practitioners alike is not, ‘what medium of instruction works?’ but, ‘what methods of instruction work?’” (p.3) Aligned with this intent, this study pursues examination of the relationship between instructor presence and the online learning experience to guide and support more knowledgeable, online instructional practices.

Conceptualization of Online Instructor Presence and Learner Experience

The nature of online presence is beginning to be understood but the subset of that construct--the online instructor’s presence--continues to lack specific attention and hence spawn academic debate (McIsaac & Guanwardena, 1996; Moore, 1989; Wagner, 1994). Central to the debate are these questions: (a) how is online instructor presence defined, (b) how is the presence measured, and (c) how does that presence relate to the successful online learning experience?

Individual presence is distinguished by the sense of “being there” and may be represented in a virtual environment, by text or graphics such as postings, graphical avatars or programmed names (IJsselsteijn, et al. 1998). A text entry in an online discussion board, for instance, signals a participant’s online existence. Fulk (1993) contends that when an individual is not attracted to the online group identity, the individual will not pursue participation in the setting. However, when an online participant does refer or respond to another individual presence, that individual presence gains affirmed existence in the shared virtual residence. (IJsselsteijn, et al., 1998.; Prothero, et al., 1995; Sheriden, 1992; Stanney, et al., 1998). Wegner (1993) suggests that in text-based exchanges, learner and teacher go beyond simple utterances or individualized postings to share comprehensible and meaningful dialogue and create what IJsselsteijn et al. (1998) define as the social presence phenomenon or the sensation of physical proximity between humans.

The distance learning model paralleled more conventional classroom environments where instructor and students met face-to-face to achieve learning outcomes. Moreover, each generational distant learning methodology assessed its success against the traditional classroom paradigm and concluded there was little or no significant difference between face-to-face and distance learning, particularly when social presence was available to learners (Gorham, 1988; Hackman & Walker, 1990; Keeley & Gorham, 1988; McCroskey et al, 1996; Jensen, 1996). Few studies, however, address teaching presence as contributing factor to the distance learning process or outcomes.

Some early studies considered how one presence might mediate the presence of another in the online learning process. In a study of external factors related to the virtual environment, IJsselsteijn et al. (1998) demonstrates that other’s (e.g., online instructor’s) manipulation of participants’ (e.g., learners’) initiation of activity, perceived realism, and length of exposed presence influenced the scope and quality of social presence in the virtual environment. In a study on text as an internal factor associated with virtual learning, Slater and Usoh’s (1993) study reveals visually dominant users showed greater levels of virtual presence than auditory or kinesthetic oriented users when textual references to senses such as “hearing,” “sound,” or “feeling” were used in attempts to mediate levels of user presence. Associated with the latter study was the study by Knasko and Gilbert (1990) that demonstrates textual references linked to

odor, affected participants' higher levels of pleasure and mood, improvement of recall and retention of learned materials. These studies help conceptualize how teaching presence may influence participant behavior in an online environment and play a critical role in establishing and shaping the relationship between learner and instructor.

Sustained textual exchanges between two or more presences go beyond the individual relationship between instructor and learner and consider instructor-group identity. Heeter (1992) relates the give-and-take textual exchanges to the concept of interaction that Wagner (1994) states must include a minimum of two objects (e.g. human-human presence or human presence-content) and two actions (e.g. exchanged text) to sustain social presence in virtual environments. In the learning environment, interaction represents the connectivity learners have with professional staff and peers (Sherry, 1996) for the purpose of changing and encouraging learners toward an action state of goal attainment (Truman, 1995). Although research defines traditional interactive communication as 60% body language, 30% tone, inflection, and other sounds, and 10% words (Covey, 1990), Thomsen, Straubhaar, and Bolyard (1998) support the notion that e-mail provides a valid medium for online interaction.

Several types of distance education interactions are described in the literature and suggest interaction is related to external factor influence, such as content requirements, other presence, and technology (Moore, 1989; Vrasidas & McIsaac, 1999). Supporting this notion is Anthony Giddens' structuration theory that holds "social systems are produced and reproduced by social actors' interactive use of structure, i.e., rules and resources" (Kim, 2000, p. 3). Shea, Pickett, and Pelz's (2003) report that 85% of undergraduate students, responding to their research survey on experience with teaching presence in an online environment, reported that the curriculum, design methods, time parameters, effective use of medium, and netiquette influenced their satisfaction with the online learning experience. In separate studies, Seagraves, et al. (1996) and Oberski, et al. (2000) found time and workload pressures significantly impacted online learning participation and motivation. Powers and Mitchell's (1997) qualitative study on student perceptions of online learning experience demonstrates that time commitments impacted learner participation rate while Onken and Eastwood's (1998) study shows "the reasons for a lower effectiveness in technology-mediated courses range from the dependability of the technology, to the instructor's control over the technology, to the perception of medium richness used" (p.1). As instructors often influence course design and its implementation, Gunawardena and Zittle (1997) conclude teaching presence may mediate the relationship between a learner's social presence and the learning process to support learning outcomes.

Beyond the consideration of external interactive factors, the literature cites three human interactions that are critical components to the learning process: student-student, student-teacher, and teacher-teacher (Anderson & Garrison, 1999; Jonassen, et al., 1999; Moore & Kearsley, 1996; Rhodes & Azbell, 1985). Research traditionally has ignored the meaning and interpretation of learning participants and their interactive behavior (Vrasida & McIsaac, 1999); however two relatively new theories offer insight into their relationships. The Social Information Processing Theory asserts message senders gain the attention of message receivers by presenting themselves in a socially favorable manner. Message receivers, then, idealize the sender's image through overvaluing minimal text-based cues (Kim, 2000). However, Fulk (1993) cautions that if an individual learner does not have an attraction to the online group (i.e., the sender does not present an appealing portrayal), the learner will not use technology to communicate to the group member. The Social Identity Model of Deindividuation Effect (SIDE) Theory presents the idea that group identity replaces the graduated loss of individual identity in an online setting. Through

experimentation, SIDE theorists demonstrated how individual participants adhere more to the group's social, rather than personal, norms developed through continuous online interactions (Kim, 2000).

The dimensions and dynamics of interactive behavior as applied to online learner and instructor are demonstrated in several educational models. Schwier and Misanchuk's (1993) interaction taxonomy depicts a hierarchical association between interactive levels (reactive, proactive, and mutual), functions (confirmation, pacing, navigation, inquiry, elaboration), and transaction (keyboard, touch screen, mouse, and voice). Sims (1994) suggests the hierarchical model "reinforces the idea that the higher the interactive level, the better the instruction" (p.3). Saba and Shearer's (1994) model shows structure (e.g. course design) and dialogue (e.g. learner-teacher online text) can be manipulated to reduce the transactional distance between distant learner and instructors to create social presence. In their model, the authors illustrate that when dialogue increases and structure decreases, transactional distance decreases; and when structure increases and transactional distance increases, dialogue decreases. The model suggests that the online instructor may establish and maintain social presence and learner interaction through increased contact. Using a different model, based on critical thinking and practical inquiry, Anderson, et al. (2001) demonstrates that teacher presence, as part of the interactive engagement, may be measured through the frequency of instructional references to design, facilitation, and direct instruction found in online dialogue. Although the findings of Anderson, et al. (2001) do not consider response generation, the study underscores the vulnerable nature of online interactions and the influence that online dialogue plays in directing cognitive and social processes.

Closely associated to the concept of interaction is feedback. Feedback links one presence to another to provide the basis for cognitive and affective interaction. Webster defines feedback as "the return to a point of origin of evaluative or corrective information about an action or process" (p.454) suggesting feedback is a minimum of one exchange between two or more parties. In face-to-face exchanges, feedback may be rendered through nonverbal and verbal communication; however, in most current online environments, feedback is relegated to text. In either setting, studies demonstrate feedback is critical to cognitive restructuring and internalizing attitude change (Myers & Lammn, 1976; Slavin, 1977). Additionally, research shows both factors are positively correlated to learner perception of the learning experience (Arbaugh, 2001; Fredericksen, et al, 2000; Hara & Kling, 1999; Miller & Webster, 1997).

Feedback is tempered by immediacy and frequency factors. LaRose and Whitten (2000) describe student immediacy as "...behaviors that create a feeling of closeness between learners in an educational setting" and describe teacher immediacy as "teaching behaviors that enhance closeness to and nonverbal interaction with another" (p.321-322). In online learning, technology enables online immediacy in two settings: synchronous and asynchronous. Synchronous learning, a fixed schedule (same-time), same place (same program) environment, reflects face-to-face classroom where immediate feedback is supported by chat rooms, instant messaging and, increasingly, online video-conferencing (Danchak, 2000). Asynchronous learning is different-time (not fixed time), same place (same program) communication that is technically supported by tools, such as a digital bulletin board (list serve) posting and email. Each asynchronous tool allows learners and instructors to communicate anytime within a twenty-four hour-a-day, seven-day-a-week schedule. Research shows increased immediacy in both asynchronous and synchronous learning environments results in more meaningful interaction (Jiang & Ting; 2000; Jung, Choi, Lim, & Leem, 2002; Kirby, 1999).

Webster (1990) distinguishes response-immediacy, which considers how soon a response is made, from response-frequency, which refers to how often response is rendered between two or more learning participants. Studies on the relationship between online interaction occurrence (stimulation) and online participation (desired response) have received mixed results. A study by Gotts, ella Rochetia, and Cipolotti (1999) shows that, in some cases, learners believe too much instructional contact proved a deterrent to their satisfactory learning experience. In another study, Kuchinke (1999) surveyed nine instructors and 98 participants in a traditional classroom and concludes that frequent feedback played an important role in supporting the learning process although no range of response frequency was reported. Although not reporting the range of instructional contact, Jinag, et al. (2000) concludes that actual and perceived frequency of instructor response per student was not significantly correlated to student perceived learning.

The literature also characterizes learning participants' types of interaction. A commonly noted instructional interaction is facilitation, a construct that refers to one's ability to "assist rather than direct learners" (Brookfield, 1989, p. 201). However, the literature shows variation in the specific understanding of facilitation. Reute (1999) defines a facilitator as "someone who uses some level of intuitive or explicit knowledge of group process to formulate and deliver some form of formal or informal process interventions at a shallow or deep level to help a group achieve what they want or need to do or get where they want or need to go" (p.1). In contrast, Kearsley (2000) posits that facilitation is more of an administrative role that "provid[es] information that will help students complete their assignments, suggest[s] ideas or strategies for them to pursue in their course work, and get[s] students to reflect on their responses and work" (p.14) and Salmon (2000) describes facilitation as a more general role that supports group collaboration.

Anderson, Rourke, Garrison, and Archer (2001) define the facilitative role with behavior-indicators that they contend are support the larger objective of "focusing and sustaining [online] discourse." (p.7) According to these researchers, the indicators "identify areas of agreement and disagreement, seek to reach consensus and understanding, encourage, acknowledge, or reinforce student contributions, set the climate for learning, draw in participants, prompt discussion, and assess the efficacy of the process" (p.7-8). Using Anderson and his colleagues' construct of facilitation, Shea, Pickett, and Peltz (2003) distributed a survey to 19,639 former students that asked students to agree or disagree with statements related to teaching presence, as defined by course design and organization, facilitation (demonstrated by both instructor-learner and learner-learner), and direct instruction (instructor-learner). Thirty-one percent of the students indicated a positive correlation between the facilitating role, learning achievement, and learning satisfaction ($r = .64$ for satisfaction and $r = .58$ for reported learning); however, the students considered peers as part of the facilitation function. Similarly, Barclay (2001) surveyed with 20 online instructors in a synchronous environment and asked what behaviors supported effective online learning. She found that "engagement and interaction surfaced as the most mentioned design element perceived to make a synchronous learning experience successful for instructors (23%) and for learners (27%)" (p. 47). However, Barclay's interviewees recommended "a thorough understanding of facilitation processes to be 'able to connect individuals,' 'get everyone involved in discussion,' and 'moderate group processes' [if an instructor was] to provide successful experiences for learners" (p.60).

Of particular note in the literature is the notion that underlying behaviors help characterize the broader facilitative style. Three such behaviors (praise, encouragement and inquiry) are cited more frequently than others in characterizing the facilitative style. For

example, Shea, Pickett, and Peltz (2003) build on Chickering and Gamson's (1987) earlier face-to-face classroom concept that identifies facilitators who encourage students. Graham, et al. (2001) cite praise as a behavior that supports effective online teaching, particularly in an online instructor's efforts to maintain high learning standards and Anderson, Rourke, Garrison, and Archer (2001) describe facilitation as sustaining discourse "in a community of inquiry" (p.7). Facilitative inquiry refers to questioning techniques that enhance the learner's deeper thinking in the subject area and supports further discussion versus non-facilitative inquiry that may add questions at the same cognitive level as the content to ensure concept understanding. Although praise, encouragement, and inquiry are not exclusive to facilitative-style instruction, the three behaviors nevertheless potentially provide a less directive means to collectively or independently support the learner's online experience.

In contrast to facilitating interaction, non-facilitating instruction offers online instructors an alternative teaching style. One non-facilitating style is considered directive teaching which Shea, Pickett, and Peltz (2003) characterize with seven characteristics: (a) presenting content and questions; (b) focusing the discussion on specific issues; (c) summarizing discussion; (d) confirming understanding; (e) diagnosing misperceptions; (f) injecting knowledge from diverse sources; and (g) responding to technical concerns (p.11). In their study's analysis, Shea, Pickett, and Peltz (2003) report "students who experienced effective direct instruction on the part of their instructor also tended to report high levels of satisfaction and learning ($r = .63$ for satisfaction and $r = .61$ for reported learning)" (p.14). The Behaviorist Model of Learning that will be discussed in a subsequent section of this review supports directive teaching as an impetus for student learning.

While the issue of interaction appears salient in the learning process (Barclay, 2001; Beaudin, 1999; Kaufman & Watkins, 2000; Moore, 1973) research remains divided on the necessity for instructor-learner interaction in successful learning processes and outcomes. Barker (1994) contends interactions in the learning process are "a necessary and fundamental mechanism for knowledge acquisition and the development of both cognitive and physical skills" (p.1). Navarro, et al.'s (2000) study on the relationship between interaction and learner performance and perception conclude learner-learner interactions (in contrast to the equal availability of learner-instructor interactions) were more critical to the learning process, and Anderson (2003) argues models that minimize teacher-learner interaction are more effective in supporting life-long learning systems than those that include online instructor participation. But Miller and Webster (1997), in an extensive survey of online students, found most learners believed experiences aimed at interaction between instructor and learners were positively related to learning outcomes. A study by Fredericksen, et al. (2000), of students in various distance learning settings also discovered students perceived learner-instructor interaction as contributing significantly more to the learning process than learner-learner interaction. While student perception and achievement continue to be examined, Barclay (2001), Shea et al. (2003), and Vrasidas and McIsaac (1999) call for more rigid studies on the interactive relationship between online instructor presence, learner perception, learner achievement, and actual learner participation in the online learning experience.

Theoretical Frameworks Influencing Today's Online Teaching Practices

Reigeluth (1990) defines instructional theory as "a set of principles that are systematically integrated and [provide] a means to explain and predict instructional phenomena" (p.21). This review considers three theories frequently associated with online learning. The theories-- Behaviorism, Andragogy, and Constructivism--emphasize various factors important to

the adult learner's acquisition of knowledge, skills, behaviors, and attitudes and also offer implications related to the online instructor's role in that process.

Behaviorism

The behaviorist theory, originally known as operant conditioning, emerged during the early 20th Century in response to popular psychological theories that perceived learning as an unobservable mental process. John B. Watson (1878-1958), in contrast to his contemporaries, held that if the field of psychology was to progress, psychological processes must be observable and measurable. B. F. Skinner (1904-1990), who supported Watson's notions, demonstrated how external control and conditioning changed behavior, which he posited was the ultimate objective of learning. Both Watson and Skinner developed two guiding principals that support the behaviorist theory: that is (a) knowledge is external to the learner and (b) learning is empirical and measurable.

Skinner's operant conditioning provided a common model to apply the behaviorist theory. The model, associated with concepts such as reinforcement (reward, denial, punishment), shaping, and behavior modification, demonstrated that instructors could change learner behavior towards a desired end. Frequent response and immediate feedback were necessary to shape the desired learning process that achieves the ultimate lesson objective, and reinforcement strengthens behavior conditioning while punishment negates unwanted learner actions. A popular appeal of the behaviorist model was its simple arrangement of sequentially learned steps, definable objective, and observable, measurable results. The learner's achieved level could be compared to pre-defined standards, such as Bloom's Taxonomies of Educational Objectives for the Affective and Cognitive Domains often used in military classrooms, and Donald Kirkpatrick's four Levels of Evaluation model, frequently applied in corporate training.

Behaviorists perceive the learner as dependent on the external "authority" (teacher) and, hence, in a passive role (Gardiner, 1998). The learning environment, then, becomes "teacher-centered" wherein the authoritative figure (instructor or instructional program) directs the learning process. Programmed learning as seen in computer-based and assisted modules, self-directed tutorials, and contemporary flight simulator training exemplify the behaviorist approach to prescriptive learning (Harapnuik, 2000). In these programs, learners respond to stimuli, often represented in the form of pre-scripted questions that precede an "if-then" consequence. The traditional classroom lecture, where the instructor establishes the learning conditions and goals, provides a second example. In this instructional paradigm, learners depend on the instructor's subject expertise and control of time and exchanges between the instructor and students. Many online learning programs also are designed on the behaviorist theoretical model, primarily due to the large percentage of educators and learners who feel more comfortable in the traditional methodology (Grasha, 1996). Such online programs are characterized by the traditional behaviorist application of sequential, step-by-step processes that offer readily available, formative and summative evaluations on lesson objectives and course goals. Barclay (2001) concludes: "Despite success in educational fields and the fact that the behaviorist model is the foundation for much content-based instruction used today, behavioral theory ignores cognitive principles that now seem to explain complex learning and problem-solving processes" (p. 7).

Constructivism

Constructivism, as a phenomenological theory, holds that learning is an active process in which learners construct knowledge based on their interactions with others. Inherent in constructivism is the idea that thinking takes place in contexts and that participants in a common

setting form or construct much of what they learn and understand (Bruning, Schraw, & Ronnin, 1995).

The constructivist theories take on varieties of forms (cognitively and socially oriented) that are rooted in two shared principles: (a) knowledge is relative and fallible, rather than empirical and absolute as behaviorists contend (Schank, 1998) and (b) the function of cognition is adaptive (von Glasersfeld, 1996). Cognitive oriented constructivists, viewing knowledge as symbolic in the individual mind, emphasize the learner's exploration and discovery process. Socially oriented constructivists, on the other hand, stress group collaboration in reconstructing ideas or constructing new knowledge from shared ideas and experiences.

Constructivism has been greatly influenced by Russian theorist Lev Semanovich Vygotsky (1896-1934) who contends that social interaction plays a fundamental role in the development of cognition and that potential for cognitive development depends upon the "zone of proximal development" (ZPD). Vygotsky (1978) defines ZPD as:

...the distance between the actual development as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p. 86).

Development of the ZPD is realized through full social interaction and exceeds what is available to the individual learner on his own.

Jean Piaget (1896-1980) also influenced the formation of constructivist thought through his position that cognitive development is facilitated through activities that engage learners and require adaptation. Piaget's concept of cognitive structure is central to his ideas on learning. Cognitive structure represents patterns of physical or mental action that result from acts of intelligence and correspond to the learner's natural stages of development (Piaget, 1970). Cognitive structures change through learner's adaptation or assimilation and accommodation to what is learned. Assimilation refers to the interpretation of events relative to existing cognitive structure whereas accommodation involves changing the cognitive structure to make sense of the environment (Piaget, 1970). Cognitive development consists of a constant effort to adapt to the environment in terms of assimilation and accommodation--a concept directly identified with constructivist theoretical practices.

Another prominent theorist associated with constructivism is Jerome Bruner (1915-). Bruner's theoretical framework centers on the idea that learning is an active process in which learners construct new ideas or concepts based upon their current and past knowledge (Bruner, 1966). Bruner contends that the learner selects and changes information, constructs hypotheses, and makes decisions, relying on a cognitive structure to give meaning and organization to the acquired knowledge (Bruner, 1966). In his book, *Toward a Theory of Instruction*, Bruner (1966) writes:

To instruct someone... is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge...Knowing is a process not a product (p.72).

As indicated by Bruner's above comment, the instructor's role in constructivism is that of a facilitator rather than a director, as required in the behaviorist framework. The facilitator-instructor mediates the environment so that learners may become actively involved in constructing new knowledge. Gold (2001) identifies constructivist instructors as those who "tailor their teaching strategies to the students and encourage them to interpret, analyze, and predict information" (p.41). Facilitators must be concerned with the context in which knowledge

is constructed and create experiences so the shared knowledge is also personalized. In practice, constructivism places emphasis on collaboration and open-ended assignments. Learners are encouraged to assimilate ideas in a social setting and develop personal understanding through self-reflection. Examples of constructivist learning environments are seen in authentic case studies and group projects (Henze, et al., 1998). Online learning may apply theoretical applications in online discussions, offline projects guided by online instructional principals, online problems that stimulate self-reflection, authentic case studies requiring group dialogue, and exploratory learning assignments that are facilitated, versus directed, by an assigned leader or instructor (Henze, et al., 1998).

In theory and practice, constructivism has received growing attention in adult learning and distance learning, particularly in its implication to online learning practices (Barclay, 2001; Sprague & Dede, 1999; Turoff, 1999).

Andragogy

The term “andragogy” was first used in 1833 in Germany and imported to the United States in the mid 1920’s by Martha Anderson and Eduard Lindeman who used the term in a volume titled, *Education Through Experience*. The authors applied the term in two articles on worker’s education, differentiating between the art and science of teaching adults from “pedagogy”, the label traditionally applied to the education of children (Anderson & Lindeman, 1927; Krajunc, 1989). In identifying and addressing the adult learning process, Knowles became the first American writer to address andragogy as a theory and practice (Barclay, 2001).

Knowles’ adult learning model provides a process to support appropriate learning. The model asserts that five assumptions must be considered in working with adults. These assumptions included: (a) increasing learner’s self-directiveness, (b) using learner’s experience as a rich resource for learning, (c) assessing learner’s readiness through developmental tasks of social roles, (d) enabling learners to apply lesson immediately, (e) creating relevancy through problem-centered learning (Knowles, 1990). Knowles later concedes that four of andragogy’s five key assumptions apply to adults and children equally; leaving only experience and pre-established beliefs being unique to the adult learning setting (Connor, 2003).

Knowles’ theoretical construct to support adult learners is as applicable to online learning as it is to more traditional learning methodologies. In his book, *Adult Learning: A Neglected Species*, Knowles (1990) called upon instructors to:

Prepare in advance a set of procedures for involving the learners in a process involving these elements: (a) establishing a climate conducive to learning; (b) creating a mechanism for mutual planning; (c) diagnosing the needs for learning; (d) formulating program objectives that will satisfy these needs; (e) designing a pattern of learning experiences; (f) conducting these learning experiences with suitable techniques and materials; and (g) evaluating the learning outcomes and re-diagnosing learning needs (p.120).

The before-mentioned theoretical models originated out of a need to support face-to-face learning environments. They each have found limited and inconsistent practice in distance learning environments (McIsaac & Gunawardena, 1996). In 1989, Harism states the distinct nature of online learning required a different theoretical framework than that of previous distance learning methodologies. Nine years later, Robinson (1998) reported that current learning theories and models failed to inform or influence web-based environments and, in concluding her research study in 2001, Barclay reminds academia that minimal understanding continues to exist on theoretical models related to online learning. In the absence of a more suitable model, the

combined theoretical perspectives offer an integrated perspective by which to evaluate the realistic, complex relationship between the online instructional presence and the adult learning experience.

Summary

This literature review presented a historical review of distant learning methods, giving particular focus to the instructor's role in those processes. The conclusion that online learning is a byproduct of previous methodologies suggested a rationale for online environments to continue the traditional, teacher-centered paradigm in the online environment. The online instructor presence was further explored as a virtual social presence that can interact with another presence to achieve an instructional end. Examples of text-based mediation supported the notion that the potential influence of the online instructor presence can be observed and measured. A subsequent review of traditional learning theories provided a framework in which this study can seek enhanced understanding of the virtual relationship between online teaching presence and the learning experience. A concluding presentation on the online program proposed for examination in this study illustrated how the selected environment offers appropriate and rich data from which information relevant to the purpose of this research may be evaluated. Collectively, the literature review sections provide a foundation upon which scholarly research can be pursued.

As stated in the beginning of this literature review, the new instructor role transformed itself from a provider and transmitter of knowledge to a facilitator of the learning process. If the online instructor role is to respond to the unique demands of the virtual learning environment rather than react to historic distant instructional failures, a more comprehensive examination of the relationship between the online instructor presence and the learning experience will require sustained academic attention. This study addresses that need by redefining the instructor role in terms of its online presence and then relating that role to learning processes that are uniquely available on the Internet.

CHAPTER III

METHOD

Introduction

The intent of this chapter is to describe the research process used in the study: selection of study courses, the learning activity, participants, the measuring instruments, the data collection process, and data analysis procedures, including the selection of the correlation approach. To support that end, the chapter is divided into five major areas: the (a) online program, (b) study participants, (c) identified variables, (d) data collection process, and (e) data analysis procedures. The first two areas provide important background understanding of the context in which the selected variables and research procedures occurred.

For purposes of this study, online instructor presence was defined as observable instructional behavior that can be demonstrated by communication style (facilitating or non-facilitating) and by the strength of that communication style (contact frequency with the learner). The facilitating communication style was considered as individual and collective behaviors that are exemplified through the online instructor's encouraging, praise, and inquiry online postings. Chapter 1 defined each of these constructs.

The major research questions that guided this examination of online instructor presence were:

- I. What is the relationship between the online instructor communication style and the learning experience, as defined by the adult learner's:
 - a. cognitive achievement,
 - b. ratings of the overall course experience, and
 - c. perceptions of the instructor's performance.
- II. What is the relationship between the strength (contact frequency with the learner) of that communication style (facilitating or non-facilitating) and the learning experience, as defined by the adult learner's:
 - a. cognitive achievement.
 - b. ratings of the overall course experience, and
 - c. perception of instructor's performance.

Acknowledging the possibility of other variance influence on learner performance, a third research question asked:

- III. What is the relationship between selected learner demographic variables (previous subject experience on the job and previous experience with online learning) and the
 - a. learning experience, as defined by the adult learner's cognitive achievement (final exam score), and
 - b. ratings of the overall course experience, and
 - c. perceptions of the instructor's performance.

The third research question variables provide some control over pre-instructional variance in student experiences with both content and experience with the online instructional environment. The question specifically considers the learner's prior experience on the job with the course subject and the learner's familiarity with current online environment, expectations, and processes. These variable considerations are drawn from Lindeman (1926) who in his book, *The Meaning of Adult Education*, states, "The resource of highest value in adult education is the learner experience" (p.9) and from Knowles (1976) who later concludes that, "the core

methodology of adult education is the analysis of experience” (p.31). Additionally, some studies reveal that learners who have prior online experience are more likely to participate in online classes versus learners who have no experience (Dutton, et al., 2002; Newhauser, 2002; Arbaugh, 2001; Wegner, et al., 1999; Irani, 1998; Bourne, 1997) although Lim’s (2001) extensive study with 235 subjects concludes that previous computer experience has no significant effect on learner attitude. Thus, this study considers the relationship between prior subject and online program experience as potentially important factors in further understanding the broader relationship between instructor presence and learner’s online development.

This study was based on selected extant data and used descriptive and correlation techniques as the primary analyses methods. As such, the study must be considered to be descriptive research and was inherently ex-post-facto. Since the overall purpose, however, was causal-comparative in that it observes outcomes and searches back through extant data for plausible causative factors (Isaac & Michael, 1981); the study uses statistical tests to assess strength of relationships, not generalizability in the usual probability sampling sense. Generalizations to larger populations or different time periods or settings must therefore be based on similarity of conditions, subjects, and variables, not statistical probability.

Online Program Design

The study examined data focused on a vendor’s internet-based learning environment that enables licensed insurance agents to asynchronously engage in a professional development program that leads to the award of professional designation and continuing education (CE) credits. As noted in Chapter I, the program was a proprietary one in that it was supported by vendor’s tailored arrangement of software programs that uniquely supported the vendor’s mission and other operational programs to compete with the increasing number of other financial certification courses.

Program courses, classes, lessons, and activities.

The vendor’s online training program addressed the sales process in a comprehensive curriculum that included 8 courses. The courses began on the first Monday of each month and operated concurrently for the duration of the course term. Learners could access their course on a 24 hour-a-day, seven day a week schedule.

Each course focused on the vendor’s sales process as applied to a specific insurance area, such as: whole life, term, long care, estate, business, retirement, equity, and disability insurance. For this study, two basic sales courses, two more advanced sales courses, and one highly advanced course were considered. None of these courses held a prerequisite academic requirement. Each course is described in Table 1.

Within each course textbook were chapters. The vendor referred to these textbook chapters as “classes.” Participants were directed to focus on a different course chapter (class) each week. Learners who failed to meet this schedule requirement were excluded from further access to the missed classes and more than one incomplete class resulted in the learner’s course failure. However, during the last week of the course term, instructors could opt to reopen previously closed classes to allow learners to review, but not redo, class work in preparation for the final exam.

Table 1

Course Descriptions

Course Level	Course Subject Area	Course Length
Basic Course 101	Market and prospect strategies that support a client-focused selling strategy	12 classes; 12 weeks
Basic Course 102	Market strategies that lay the foundation for building long-term relationships with clients	12 classes; 12 weeks
Intermediate Course 201	Pursuit of business after loss of partnership or original ownership	12 classes; 12 weeks
Intermediate Course 202	Starting in the employee benefits market	12 classes; 12 weeks
Advanced Course 301	Life insurance's role in estate planning.	8 classes; 8 weeks

Note: Only the basic courses and the advanced courses are included in this research study as those courses typically host the most learners.

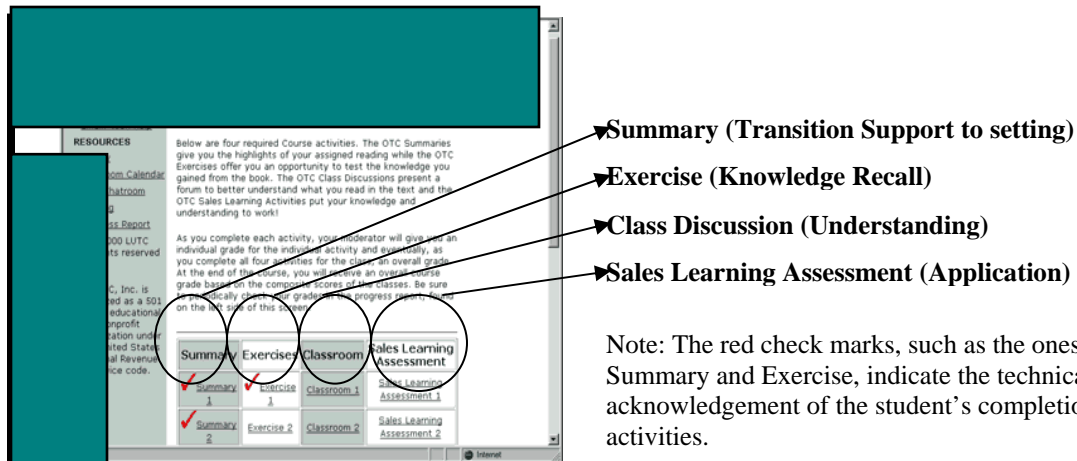
Each class was further subdivided into four or more subtopics, referred to as “lessons.” The online student had to complete each subtopic lesson to complete the entire class. To achieve this end, the learner would sequentially progress through the lesson’s four logically related activities based on the hierarchical cognitive levels presented in *Bloom’s Taxonomy of Educational Objectives for the Cognitive Domain*. The four activities included: (a) a Summary (to support mental transition from textbook to online activity), (b) an Exercise (to assess knowledge recall of textbook content), (c) a Class Discussion (to build understanding of textbook content), and (d) a Sales Learning Assessment or SLA (to provide an authentic application of the textbook concepts). The typical learner completed 44 out of the 48 available activities. Table 2 illustrates the relationship between the course, class, lesson, and activities.

Table 2

Vendor’s Taxonomy of Courses, Classes, Lessons, and Activities in a 12-Week Course

COURSE 201												
	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class
	1	2	3	4	5	6	7	8	9	10	11	12
A	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson
1	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary
2	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise
3	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss
4	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity
B	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson
1	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary
2	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise
3	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss
4	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity
C	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson
1	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary
2	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise
3	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss
4	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity
D	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson	Lesson
1	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary
2	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise	Exercise
3	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss	Discuss
4	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity	Sales Activity

After signing into the course, the learner would see the online program's home page. This page provided a screen of the remaining classes and associated activities that the learner was required to complete. As the learner completed an activity, the online program noted that completion with a red check mark on the screen. Figure 1 depicts the image of the online program's home page.



Note: The red check marks, such as the ones found under Summary and Exercise, indicate the technical systems' acknowledgement of the student's completion of those activities.

Figure 1. Sample course home page.

The Class Summary highlighted learning concepts and reminded students of the lesson objectives. The student could access this information with no requirement for instructor or peer response. This activity was the single activity out of the four that does not contribute to the learner's formative or summative course evaluations. Figure 2 offers an example of the online program Summary screen.

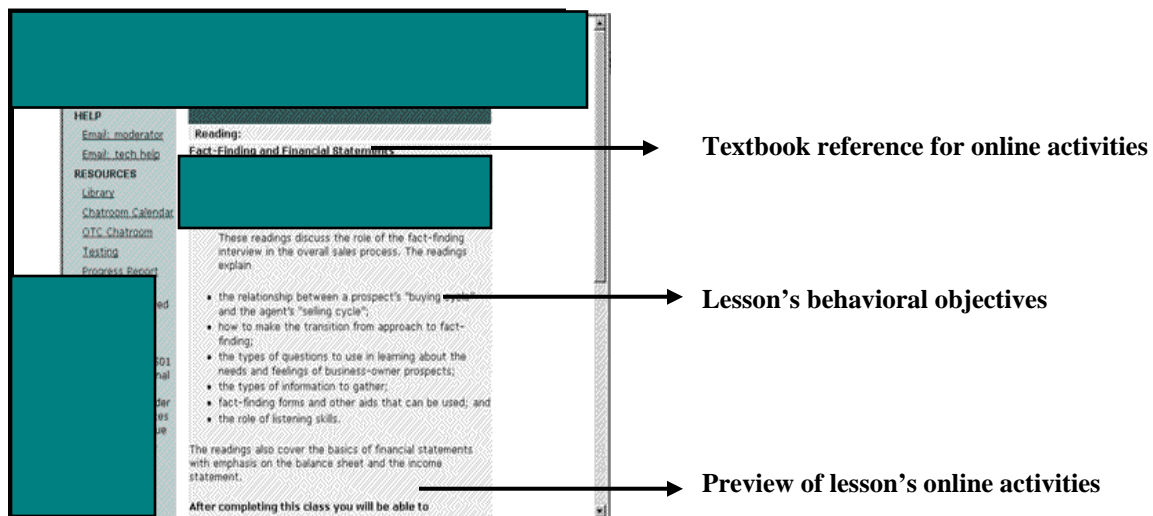


Figure 2. Sample summary screen.

The Exercise activity offered an assessment of the learners' recalled knowledge, originally presented in the learner's course textbook reading. Typically, the exercise presented a game, such as *Jeopardy*, *Hangman*, and *Do You Want to be a Millionaire*, in which students posted responses to pre-scripted, multiple-choice questions associated with the textbook lesson.

Students used the course textbook to review (and hence, reinforce) the correct response to each question. For example, as the student answered a question correctly, the academic game score immediately provided positive reinforcement through awarded higher points, imaginary dollars, or freed victim of the game, Hangman. Alternatively, if the student entered a wrong response, the game outcomes remained the same or offer less favorable results than previously gained.

With completion of the Exercise, the student received a final game score that resulted from the program's automatic grading system. A student who correctly responded to at least 70 per cent of the questions, received a "P" (for "pass"); a student who achieved 69 or lower percent in the games' final tally, received a "F" (for "fail"). Each Exercise grade contributed 25 per cent of the overall lesson grade. Grades were automatically posted on the student's personal, online progress report. Figure 3 illustrates the Exercise activity.

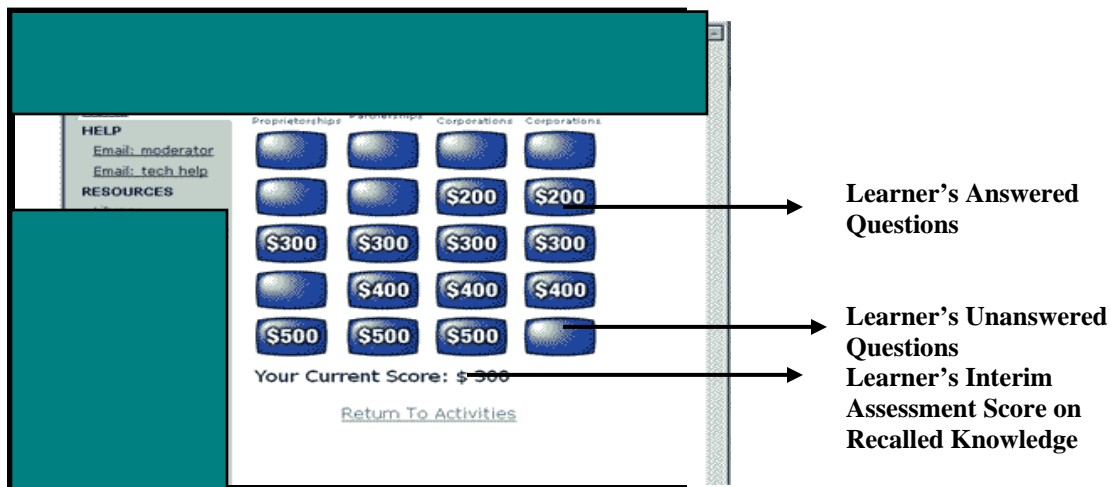


Figure 3. Sample exercise.

The Classroom Discussion was in an electronic bulletin board format where learner participants asynchronously respond to one or more pre-scripted questions, based on the lesson's associated textbook chapter. This program function provided students with an opportunity to reach beyond textbook knowledge to explore various meanings and real-life relevancies of the material. Significantly, the Classroom Discussion activity allowed both online learner and instructor to initiate, mediate, and sustain interaction with another online presence as frequently as wanted and in a facilitative or non-facilitative communication style.

The discussion forum presented pre-scripted questions to which learners were asked to respond. Learners then were encouraged (by pre-course program documents and online text reminders) to read and respond to at least two other class members' inputs. However, the learner was not penalized if peer or instructor responses were not provided. Figure 4 illustrates the Classroom Discussion activity.

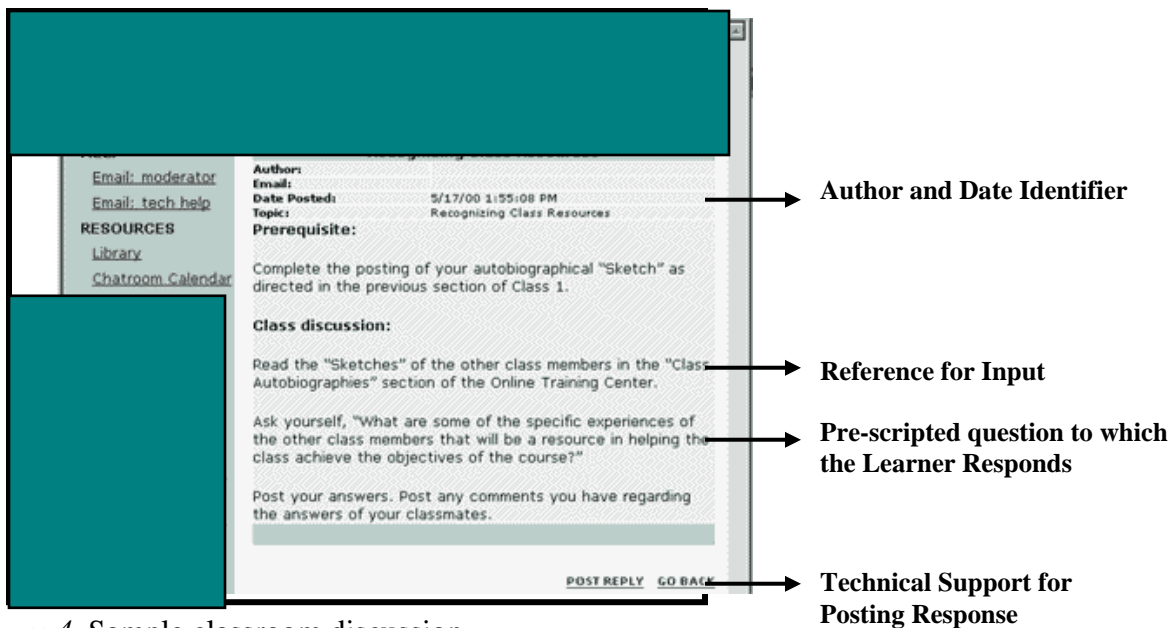


Figure 4. Sample classroom discussion.

The moderator's control of the observable class discussion and participation in it online exchanges provided a unique opportunity to examine the initiation and support of instructor-learner relationship in the online learning environment. The moderators were encouraged by the vendor management to provide feedback in the classroom discussions activity, but ultimately the moderator decided if, when, and how often to render feedback to one or more learner-participants. Moreover, through preferred timing and predominant teaching style, the moderator ultimately defined and managed the online instructor presence. Instances of moderator communication style (facilitating and non-facilitating) and frequency are illustrated in Figures 5 and 6. Participant names in these figure illustrations were eliminated or disguised.

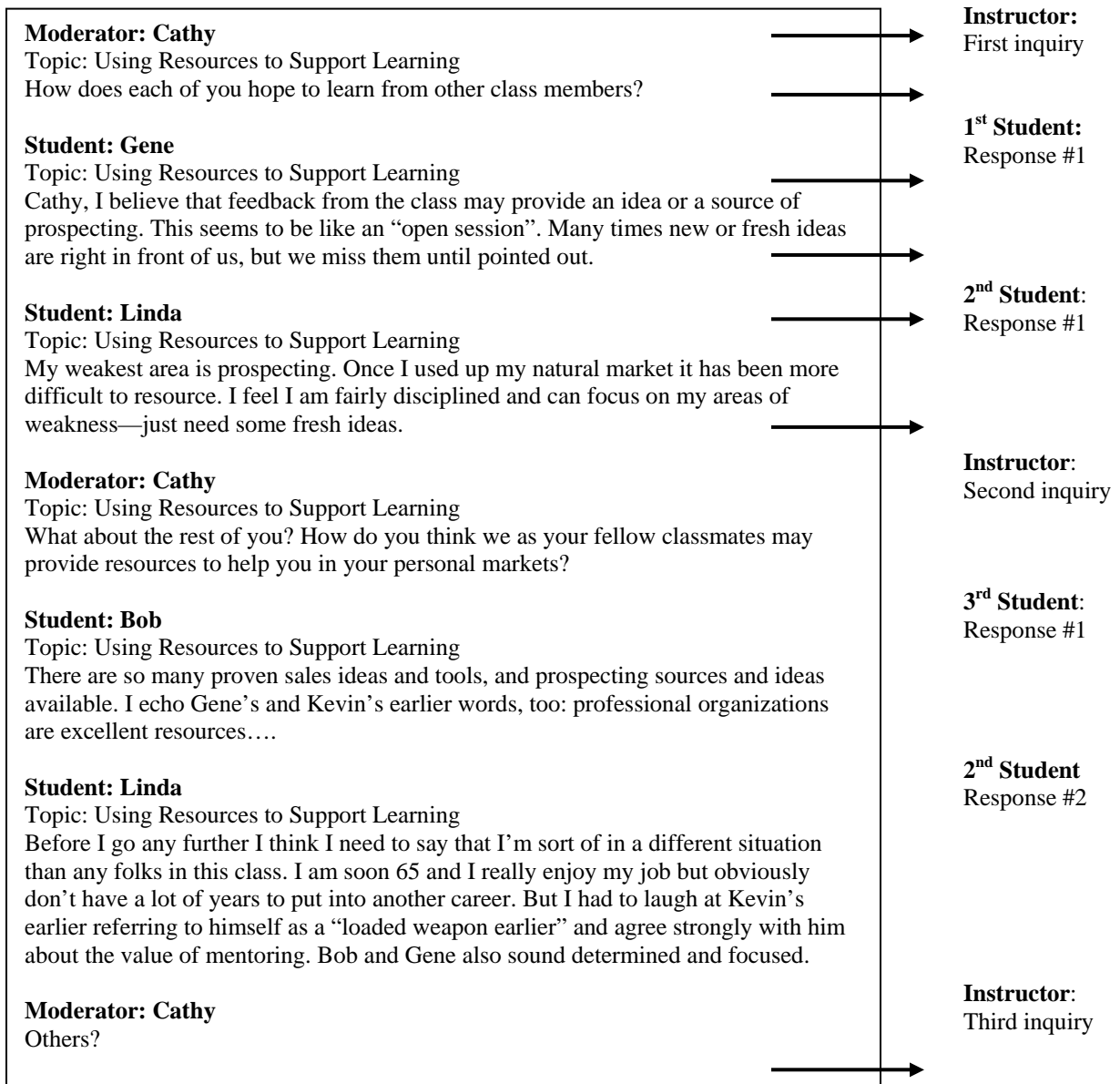


Figure 5. Example 1: Instructor facilitating presence in class discussion

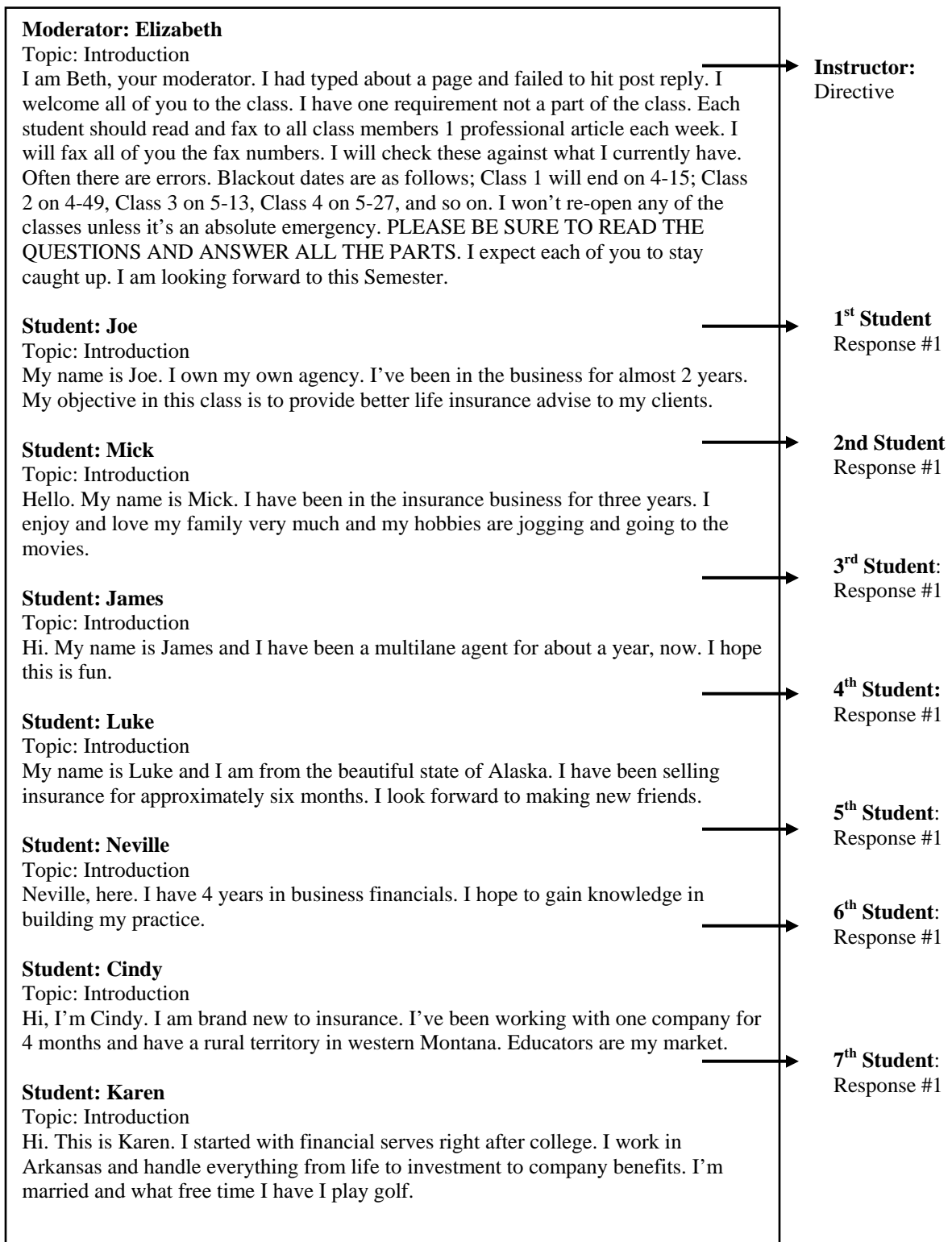


Figure 6. Example 2: Instructor non-facilitating presence in class discussion

For this study, the 89 learners participated in a collective 358 discussion activities. Table 3 identifies the number of discussion groups by course.

Table 3

Number of Class Discussions in Study

Class #	1	2	3	4	5	6	7	8	9	10	11	12	Total # Class Discussions Per Course	Total # Course Discussions In Study
Course #														
201	3	4	3	4	3	4	4	4	3	3	3	3	38	190
202	5	4	4	4	4	4	4	5	4	5	4	4	46	138
301	<u>4</u>	<u>4</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>30</u>	<u>30</u>
Total Discussions	12	12	12	12	11	13	12	13	7	8	7	7	114	358

The final activity, the Sales Learning Assessment (SLA), prescribed projects that enabled participants to apply their understanding of the lesson’s topic. Typically, the SLA poses two pre-scripted case studies and asks students to respond to the case studies’ questions. In addition to the questions, the SLA directed students to perform a described project to achieve a specific goal in their place of business. The program asked learners to post a project report in the SLA activity area. The program’s software program automatically graded learner answers to SLA’s pre-scripted questions but allowed the online moderator to grade the posted project report. A sample SLA is offered in Figure 7.

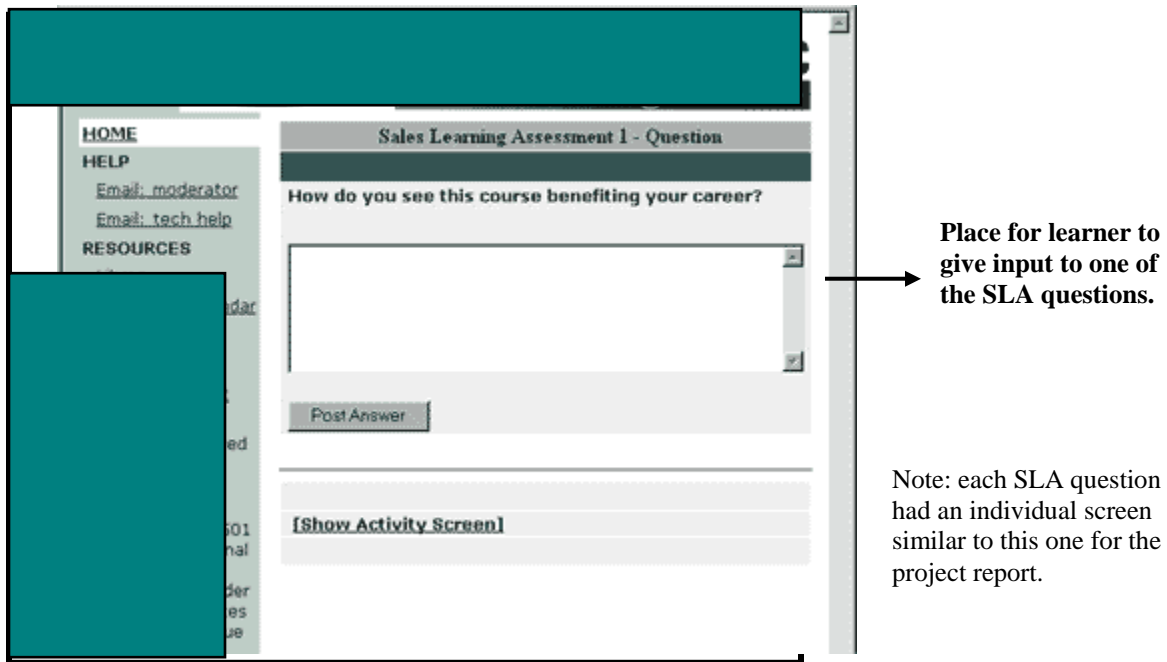


Figure 7. Sample Sales Learning Assessment

The Sales Learning Assessment activity contributed 50 per cent of the lesson's grade, therefore making it a mandatory activity if the student expected to pass the lesson.

Formative Evaluations

As noted earlier, learners successfully had to complete the Sales Learning Activity (SLA) and either the Class Exercise or the Class Discussion activity to satisfy minimum lesson requirements. Each class grade was the sum of the class lesson grades. Each class grade was automatically calculated and presented on the online learner's personal progress report that was displayed only to the learner and moderator. The moderator additionally had access to an accumulative class' progress report as shown in Figure 8.

Student	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Final
Learner 1	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SE			
Learner 2	SECA	SECA	S CA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SEC	SECA	P
Learner 3	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	P
Learner 4	SECA	SECA	SECA	SECA	SECA	SECA	SECA	S CA	SECA	SECA	SECA	SECA	P
Learner 5	SECA	SECA	SEC	SECA	SECA								
Learner 6	SEC	SECA	S										
Learner 7	SECA	SECA	S CA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	P
Learner 8	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	SECA	P
S=Summary* E=Exercise* C=Classroom* A=SLA* * Black letters indicate graded and passed; red letters indicate completed by student but not graded.													
The class progress grid displays each student's progress and learning activities that require a grade. The letters. If the student completed an activity, the letter will be displayed. If a student did not complete one of the four learning activities for a class, the letter will not be displayed for the uncompleted activity. Letters in red represent activities that are complete and await moderator's grade.													

Figure 8. Sample class progress report.

Summative evaluation.

The final exam was the only summative evaluation in the vendor's program. To be eligible to take the final exam, each student had to complete requirements for all but one class in the course. In Figure 8 above, the report indicates Learner 2 did not satisfy requirements in Class 11, however the learner did complete minimum requirements in all other classes enabling him to take the final exam with Learners 3, 4, 7, and 8 who completed all class requirements. Records, accessible to this researcher, do not indicate why Learners 1, 5, and 6 dropped this course.

Final exams were offered the first week following the course completion date. At the discretion of the moderator, the program learners could prepare for the exam by reviewing all class discussions and exercises prior to the completion of the course; however, some students may have printed these resources prior to their inaccessibility. An online, sample exam was offered to students throughout the course so they may practice online test-taking skills until the scheduled exam.

For learners, the real final exam could only be taken online. Textbooks, course notes, or course resources were not allowed in the exam location. To register for the exam, the learners had to provide the name, address, and phone number of a qualified proctor who was then sent the password to access and open the online exam for the student. Online proctors were adults who agreed by written contract to remain present with the examinee during the exam to ensure the integrity of the exam process. A sample of this agreement is provided in Figure 9. Additional proctor requirements are listed in Table 4.

VIRGINIA MONITORED EXAMINATION AFFIDAVIT

In Virginia self-study exams must be monitored by either the Corporate Training Department, Supervisor Appointed Co-Worker or by a Test Administrator.

The following is to be completed by an exam monitor for each course earning CE credit.

I was the monitor of the course entitled,

_____ for the following individual
(course title)

_____ and attest to each of the following:
(student's name)

- I am affiliated with the Corporate Training Department, **OR**
I am the supervisor appointed co-worker of the above named student, **OR**
I am an approved Test Administrator.
- The above named student completed the examination independently and without assistance from myself or any study aides.

Monitor's Signature: _____

Monitor's Name: _____

Monitor's Business Address: _____

Monitor's Business Phone #: _____

The following is to be completed by the student for each course earning CE credit.

By signing, I affirm that I have completed the above-mentioned course examination independently, without referring to the course material.

Name: _____

Social Security #: _____

License #: _____

Signature: _____

Date: _____

NOTE: This form must be submitted to RegEd Inc. with each request for CE certification prior to the issuance of credit for the applied state.

Figure 9. Virginia proctor agreement for final exam.

Table 4

*Proctoring Requirements Prescribed by Some States**

AZ, IN	The proctor must also be a licensed producer for this state.
IA	The proctor must also be a licensed producer for this state or a CE Provider.
MA	The proctor must have no corporate employment or course sponsor relationship to the student. However, employees of the company's personnel or compliance department with no direct financial connection to the student may proctor exams.
MS	The student is required to have exams be administered by a disinterested third party such as a testing center or at a library. Insurance company or agency personnel are not considered to be disinterested third parties.
NV	The proctor must be a supervisor, manager, or training supervisor.
GA, NC	The same company as the student may not also employ the proctor.
VA	The proctor must be an individual from the company's corporate training department, or a supervisor-appointed co-worker, or a test administrator.

AR - A current list of Arkansas approved proctors may also be obtained by contacting the Arkansas Insurance Department directly.

NY- Access: <http://www.ins.state.ny.us/mnitr1st.htm> for a list of approved New York proctors

SC- Access: <http://www.doi.state.sc.us/Eng/Public/Agents/ceproctors.pdf> for a list of approved South Carolina proctors. You may also submit the name of a disinterested third party for approval.

Note: The above proctoring requirements are valid for the period of this study; however, they may have changed since that time.

The exam, given to both online and face-to-face classrooms, had 50 multiple-choice questions on the subject matter contained in the course textbook. Students had to respond correctly to a minimum 35 questions to pass the exam. Each exam question counted two points. Figure 10 shows three sample exam questions.

Question 1 of 50

The purpose of a 'target market sales ratio' is to:

- Track the agent's sales effectiveness in different markets.
- Streamline the sales cycle.
- Identify more opportunities for policy owner service.
- Predict the agent's motivation to succeed.

Question 2 of 50

What is the agent's initial role in the sales and underwriting process?

- Provide information to the home office underwriter.
- Explain the policy's benefits and features to the prospect.
- Make the preliminary selection of people through prospecting.
- Ensure that the proposal forms are complete.

Question 3 of 50

The process of planning business goals produces two types of results. One is clear and measurable. What is the other result?

- Identification of all business problems.
- Clear allocation of manpower.
- Very specific time frame.
- Upgrading of the information system.

Figure 10. Three final exam sample questions* Note: These questions are on the vendor practice exam site.

Once started, examinees were able to complete the exam without pause. However, any examination interruption (system or human) resulted in automated exam closure. If interrupted, the student then had to reapply to take the exam. When a student completed the exam, he clicked on the submit button, located on the last exam screen. The program automatically scored the

exam and immediately reported to the student and vendor management the grade of “pass” or “fail”. The vendor management recorded learners’ grades, notifying those who failed the option to retake the final exam (albeit a different version) as early as a month later. The vendor management also processed all state certification and designation credits for students who successfully completed the exam.

Study Participants

The online learning program enrolled only adults who: (a) held a professional insurance license, (b) provide tuition fees, (c) had access to a computer, and (d) owned an email account. The company’s 2000 market analysis reported that the online learners represented all major and some less known American-based insurance companies; held at least a high school diploma but more typically, had at least one college degree. Course data indicated registrants included married and unmarried men and women, some with families and others with none. While the vendor originally hoped to attract the rural student, most of the 2014 online learning participants in the study lived in or near major U.S. cities.

For this study, the learner participant group included 89 students who began at least one class activity in the first class in each course selected for this research. Nine online instructors who were associated with the selected learner participant groups also are included. Table 5 summarizes the online participant sample that provide the data sources for this study. Additional discussion relative to the learner and instructor follows Table 5.

Table 5

Courses and Participants in the Study

Course	Total Course Pool	Total Instructor Pool	Total Learner Pool
201	5	5	50
202	3	3	30
301	1	1	9

Learner enrollment.

Learner participants could only register online for a preferred course. This registration requirement, coupled with the requirement to have a personal email address, offered the vendor management some assurances that the registered learner was truly familiar with the internet environment. However, an initial management welcome letter was forwarded to each registrant’s email address, requesting a response. The vendor’s customer service personnel contacted learners who did not respond to the welcome letter email within two weeks, to assess the nature of the attempted learner contact problem. While not frequent, customer service representatives discovered some potential online learning participants who needed to withdraw their registration due to internet-use issues. Learners, who responded to the welcome letter, received course textbooks by first class mail.

Three to fifteen licensed insurance agents from across the country were assigned to a course of their choosing, on a first come, first served basis. When one course section reached the

maximum allowable fifteen students, another section of the same course opened to allow additional learners to form a new course class with a different instructor. Learners who registered for a course that attracted fewer than three registrants were given the option to re-register for another course or postpone taking the originally desired course for another month.

Learner attrition.

Once the course began, learners were allowed to drop the course without loss of tuition if they notify the vendor's management of their wishes before the last day of the third week of the course. Students who dropped the course received no credit for the time enrolled but were allowed to re-register for the course again, beginning with the next available course term. Dropped students were not considered as study participants since they could not take the exam or complete the end-of-course survey questions that contributed to the study's data collection.

Online instructor.

Webster defines "moderator" as "one who presides over a meeting." In online learning, the term "moderator" is often interchangeable with the term "instructor" (Bowman, 2003; Howard, 2003; Feenberg & Xin, 2002; Salmon, 2000). Coincidentally, the vendor referred to their instructors as "moderators" for business reasons as much as for instructional purposes so it was appropriate the term "instructor" was synonymous and interchangeable with the term "moderator" in this study.

Instructor recruitment and selection.

Typically, the online learning program required a minimum of 10 instructors each month. To support this continuous need, the vendor routinely publicized the opportunity to become an online moderator in various mediums that include on the internet, in company literature, and by word-of-mouth.

To qualify as a moderator, each prospect had to have: current licensed agent status, access twenty-four-hours a day to vendor's internet site, an internet email address to which the vendor management and students could reliably send e-mail, five or more years of on-the-job experience in the subject area in which they wish to moderate, a verbal agreement to participate in the vendor's online trainer's course, and document agreement not to proselytize nor suggest unethical selling practices during the course term or six months thereafter.

A vendor staff member screened prospective moderators in pre-qualifying telephone interviews. If the prospective moderators complied with moderator requirements and communicated a willingness to devote a minimum of 3 to 5 hours a week (for up to 12 weeks) in online activities, the vendor management accepted them into the program.

Instructor training and preparation.

New moderators received a subject-based course textbook and instructor guidebook that provided directions on effectively using the textbook in a face-to-face classroom. In addition, the new moderator received an instructor handbook that explained the vendor policy and operation. In the handbook, the vendor management requested moderators to lecture, present, manage, administer, and facilitate students.

In preparation for future assignments, moderators participated in a brief, two-phase training program. The first phase was a reading assignment in the handbook. The vendor management asked new moderators to read the handbook and complete the 10-question recall assessment on the book's content. The new moderators were asked to forward the assignment to

the management staff once they completed the questionnaire. The staff member then called the new moderator to discuss the moderator's responses and respond to any assignment questions. The second training phase consisted of the new moderator's participation in a 1-hour virtual class that represented the vendor's online experience. This online course placed the new moderator as an online learner while one of the vendor's management staff members assumed the role of the learner's online instructor. The new moderator then proceeded through the six abbreviated classes that drew on subject content contained in the instructor handbook. A vendor's staff member demonstrated online facilitation, direct instruction, and when possible, behavior management. Two weeks prior to assuming the moderator role, each instructor received a list of randomly selected students who were assigned to the instructor for the course term.

Instructor course contact with learner.

The moderator role was established to humanize the otherwise impersonal learning environment traditionally offered by computer-based instruction and to distinguish the program from other available ones on the market. The role's responsibilities were to mirror the role of the parent company's classroom moderator and perform duties that included class administration, instruction, facilitation, and professional representation.

Before class, the moderator duties are largely administration. Moderators were asked to review the course material and email their assigned students a self-composed welcome letter. Management, however, could not ensure this request was followed as (a) no course content assessment was administered to course moderators and (b) prior-course email was available only through the moderator's personal internet service provider's (ISP's) operating system.

During the course term, moderators made contact with the learners through four program vehicles: (a) online program's email, (b) response to Sales Learning Activity, (c) posted grades, and (d) participation in the Class Discussion activity. The researcher was aware that at least one moderator provided a weekly class newsletter that cited student accomplishments, general course request, and additional course content examples. This same moderator also established a telephonic discussion group at least twice during one of his course terms. This moderator, however, was not part of this study group. The researcher was also aware that another moderator faxed her assigned students articles and requested each learner, in turn, fax articles to one another. This second moderator was part of this study group. Other than these two cited examples, the researcher was not aware of any other moderator communicating with the online learner outside the vendor's program.

The online program included no preventive measures to ensure moderators did not contact students outside the online program but did continually stress to moderators that communication outside the program potentially places the moderator in a professionally compromising position, particularly if the vendor management was not copied on such communication. Exceptions for contacting the learner outside the online communication programs were approved if attempted online communication failed to gain learner response and the moderator wanted to invest his own money to call to prompt a slow learner's more attentive course action. This study assumed moderators adhered to no-outside program instruction or communication policy during the study's period as the Classroom Discussion script did not reference externally produced communication.

Moderators periodically used the online program's proprietary email system to remind learners of deadlines, prompt action, and announce schedule changes. Additionally, these emails were sent automatically to management staff for accountability of the learner's administrative

knowledge and response. Following the course completion date, the moderator had no contact with the learner as program access privileges terminate at that time.

Variables

This study considered five variables: (a) communication style, (b) strength of communication, (c) cognitive achievement, (d) learner feedback on overall course experience, and (e) learner feedback on instructor performance. The study also considered two demographic variables that are used to help clarify the direct relationship between the other variables: (a) learner prior experience with online learning and (b) learner prior experience on the job with subject area. Each variable, except learner experience on the job with the subject area, was considered an interval variable

Figure 11 illustrates the examination of variable relationship and Table 6 provides variable identification. The available ex-post facto data supported each variable and was derived from instructor asynchronous online postings, learner final exam scores, and learner course surveys that are associated with the nine implemented courses offered in 2002.

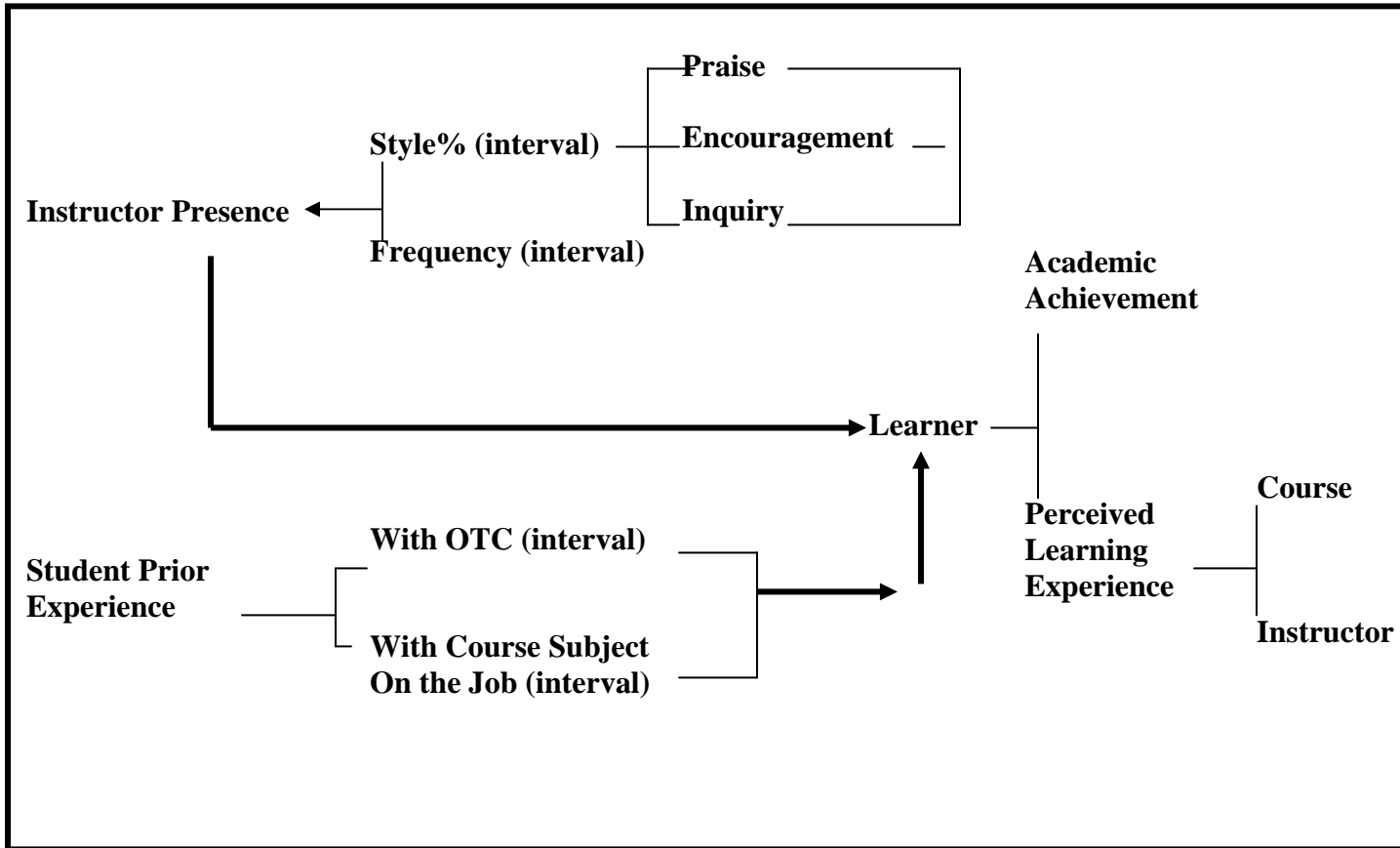


Figure 11. Examination of variable relationships.

Table 6

Variable Constructs Supporting Study

	Construct	Definition
1	Communication Style	Instructor's predominant style for expressing ideas as defined by the study's facilitating metric and observed in Class Discussion activity.
2	Facilitation	The collective instructor postings in the Class Discussion activity defined as praise, encouragement, and inquiry
3	Non-Facilitation	All instructor postings in the Class Discussion activity not classified under instructor facilitation.
3	Proportion Facilitation	The percentage of all instructor postings judged facilitative
4	Praise*	An instructor's Class Discussion activity posting that respond in a congratulatory manner to a learner's previous posting. (<i>Example: I'm impressed by your thoughtful responses</i>).
5	Encouragement*	An instructor's Class Discussion activity posting that suggests learner will benefit if learner takes further action. (<i>Example: I'm sure many of you have ideas on this topic. Let's hear them!</i>)
6	Inquiry*	An instructor's Class Discussion activity posting that ask the learner a question that may not be responded to by rote memory (<i>Example: Does anyone have more to say about Joe's comments?</i>)
7	Strength (Frequency) of Communication	Online instructor's sum postings in the Class Discussion activity.
8	Cognitive Achievement	Final exam score
9	Learner Feedback on Overall Course Experience	Learner selection of one out of four possible options that reflects the learner's opinion of total course experience.
10	Learner Feedback on Instructor Performance	Average learner rating on 3, end-of course survey multiple-choice questions that ask learner to rate instructor performance relative to instructor's subject knowledge, ability to facilitate, and overall quality in learner feedback.
11	Learner Experience with Online Learning	Learner's selection of one out of four possible options in an end-of-course that reflects learner's previous number of completed the vendor's courses.
12	Learner Experience on the Job with Topic Area	Learner's selection of one of four possible options in a post-course online survey that reflects the learner's job years related to the course topic.

* Praise, Inquiry, and/or Encouragement postings may be combined in one instructor online input.

Communication style.

This study considered the instructor's communication style as the online contact the instructor establishes with the learner(s) and that was characterized by the proportionate facilitative and non-facilitative support the contact offered to the online learning experience. The number of facilitative postings divided by the total number of postings and the non-facilitative postings, divided by the total number of postings, determines the proportionate communication style.

Facilitation postings.

In an extensive study of online teaching presence, Anderson, Rourke, Garrison, and Archer (2001) identified the online instructor's facilitative communication style as observable, online teaching indicators (behaviors). This study drew upon these researchers' specificity of facilitative teaching to assess three frequently observed types of online instructor postings and their collective and independent relationship to the online learning experience. The selected behaviors were praise, encouragement, and inquiry.

Final exam data.

Learners who successfully completed the course requirements were eligible to take final course exam. Final exams contain 50 multiple-choice questions. To pass the final exam, learners had to correctly respond to at least 35 of the 50 questions. The raw score was automatically converted to a percentage grade and posted on the Final Exam Score sheet for the vendor's management to review and administrate. The average percentage score, as determined by the sum of all course examinees' individual exam percentage divided by the number of examinees, was used in this study as the course's final exam score.

If a student failed the exam, he has the option of retaking the exam, for a fee, a month following the first exam. The second administered exam was another version of the first exam. For this study, no second exam scores were given and hence, not considered.

End-of course survey data.

The End-of-Course Survey was an optional survey, offered in the last class of the course in the SLA activity. The learner's feedback on the survey was given online, in response to a series of multiple-choice questions on various factors related to the course presentation and participation. Learners had the additional option of calling or emailing more personal comments on the course. Those comments, if made, were not considered in this survey since such data were not available to the researcher. If the learner did complete the survey, they were given an automatic passing grade for that SLA activity; if they did not complete the survey, they failed that SLA activity. Learners completed the survey prior to taking the exam.

Each survey question offered four graduated, alternative responses. In the case of opinion, each survey question allowed learners to select from a most negative response to a most positive response. For demographic data (e.g., years of experience), the lowest category of years to the highest category of years was offered. For this study, a rank order numbering system, from "1" to "4", was given to the graduated levels offered with each survey question. For example, "1" equated to the "lowest" category or most negative response; "2" to the next response that identified slightly better than negative feelings or relatively greater number of years experience; "3" to the next, more positive or relatively greater number of years experience; and "4" to the most positive or greatest category of years experience response. Average course scores for each

survey variable were calculated from the sum of learner ratings, divided by the number of learners in a course who respond to the survey question.

Data Collection Procedures

Data collection procedures for this study included the following sequential steps: (a) record survey responses; (b) record final exam scores for each participant; (c) record frequency of instructor inputs; (d) assess instructor's communication style, (e) assess facilitative-behavior types, (f) record the proportionate frequency of each demonstrated type; and then (f) perform data analysis on the recorded data. Table 7 shows variable, data source, data type, and data analysis technique related to support each variable in the study.

The ex post facto nature of the data and the lack of further access to the learning participants required a quantitative analysis be performed on the data. However, since there were few studies that addressed online instructor presence quantitatively, the results of this analysis contribute to academic literature.

The general analysis of data consisted of basic descriptive summaries of all variables included in the study. This was done to examine variables for normality, variance, outliers, mean, median, and missing or out of range values. Following the basic analysis of the study variables, research questions were addressed using the general model of decreasing distributional assumptions as described above. If the variables involved in this research question did not minimally meet the requirements for this parametric statistical procedure, appropriate non-parametric procedures were considered in order of decreasing data requirements. This meant that, as an example, examining the relationship (and strength of relationship) between two variables started by assessing the applicability of a product moment correlation, then Spearman Correlation, followed by cross tabulation with chi-square or other appropriate non-parametric techniques. In each research question, the analysis technique most appropriate for the quality of data available was selected.

Identifying and defining instructor behaviors.

The researcher provided two additional, independent raters to code each instructor posting in the 358 class discussions. Each rater was provided individual copies of the class discussion data, assessment records (See Appendix A), and instructions for conducting the assessment. Raters then identified the communication style, type of facilitation (praise, encouragement, and/or inquiry) and frequency of online instructor Class Discussion postings for each of the nine courses considered in this study. The final analysis of style, facilitation type, and posting frequency was derived from the majority opinion of the three independent reviews.

Raters identified one instructor as having more than one facilitation type. For example, the rater noted that an instructional posting demonstrated the characteristics of both praise and inquiry. In such instances, the rater cataloged the one input as two inputs. If one rater cataloged a posting as a singular posting while another rater cataloged the same posting as two or more separate postings, the three raters then met to gain consensus on the number of facilitating identities the single posting possesses and subsequently, independently re-catalog the agreed upon number of facilitation types.

Table 7

Variable, Data Source, Type of Data, and Data Measuring Instrument

Variable	Data Collection Source	Type of Data	Measuring Instrument
Instructor communication style	Class Discussion Activity	Frequency of predominantly facilitating (praise, encouragement, inquiry) vs. non-facilitating communication style postings in each course	Data Collection Sheet (See Appendix A)
Strength of communication style	Class Discussion Activity	Frequency of instructor postings in each course	Data Collection Sheet (See Appendix A)
Instructor Praise	Class Discussion Activity	An instructor's posting that was presented with congratulatory words. <i>(Example: I'm impressed by your thoughtful responses).</i>	Data Collection Sheet (See Appendix A)
Instructor Encouragement	Class Discussion Activity	An instructor's postings that was presented with words that suggest, but doesn't direct, one learner's action. <i>(Example: I'm sure many of you have ideas on this topic. Let's hear them!)</i>	Data Collection Sheet (See Appendix A)
Instructor Inquiry	Class Discussion Activity	An instructor's Class Discussion posting that phrases a thought in the form of a question that invites but doesn't direct learner response. <i>(Example: Does anyone have more to say about Joe's comments?)</i>	Data Collection Sheet (See Appendix A)
Learner Prior Experience with Online Learning	Demographic Section in post-course survey, offered in last SLA class	Rating response on End-of-Course survey Question 2	Data Collection Sheet (See Appendix B)
Learner Prior Experience with Subject Area	Demographic Section in post-course survey, offered in last SLA class	Rating response on End-of-Course survey Question 7	Data Collection Sheet (See Appendix B)
Learner's Overall Satisfaction with Course	General Course Section in post-course survey, offered in last SLA class	Rating response on End-of-Course survey Question 1	Data Collection Sheet (See Appendix C)
Learner Perception of Instructor	Class Interaction Section in post-course survey, offered in last SLA class	Mean rating score of sum response to End-of-Course survey Questions 4, 8, and 9	Data Collection Sheet (See Appendix C)
Final Exam Score	Final Exam	Final Exam Report	Data Collection Sheet (See Appendix D)

Data Analysis Procedures

If the rater determined that a facilitative type behavior existed in an instructor's posting that was not included in the study parameters, the rater was instructed to categorize the additionally perceived facilitative instance as "facilitative-other." In all other cases, the raters coded instructor postings as facilitative or non-facilitative constructs as pre-defined by this study. An inter-rater agreement test (Cohen Kappa) was used to assess inter-rater agreement.

Anonymity.

Learner participants were aware of the program management's intent to view, periodically record, and evaluate course transcripts. For example, participants relied on the online instructor and management to support the program through observation and subsequent improvement initiatives. Learners were frequently provided such periodic assessments that support immediate and longer-term program improvement goals.

Although participants were aware of the continuous review and assessments, the researcher received senior management permission to use post facto course files to support a research study with the understanding that participants' identity be fully protected. Thus each participant's name was identified exclusively by numerical code or alias, known only to the researcher. To further protect participant identity, the researcher also removed specific course date and time references associated with individual input reports. Finally, the researcher reported data as accumulated course summaries, rather than by individual participant assessments.

Summary

Chapter III discussed the study methodology. This chapter included a discussion of the selection of data, selection and conditions of the learner and instructor participants, data collection procedures, and data analysis procedures. Chapter IV presents the analysis of the study data. Chapter V contains the discussion of study conclusions, interpretations, and recommendations for future research.

CHAPTER IV

ANALYSIS OF DATA AND STUDY RESULTS

Introduction

Three questions guided this study: What is the relationship between: (a) the online instructor's communication style (facilitating—non-facilitating) and the learning experience, (b) the strength of communication style (contact frequency with the learner) and the learning experience, and (c) selected learner demographics variables (previous subject experience on the job and previous experience with online learning) and the learning experience. In all instances, "learning experience was defined as: the adult learner's cognitive achievement (i.e. final exam score), ratings of the overall course experience, and perceptions (i.e. ratings) of the instructor's performance.

This chapter presents the results of the statistical analyses conducted. Descriptive summaries of the variables included examining mean and mode of the variable data sets. Correlational analysis included examination of the relationship between the variables relevant to the study's questions. The study also included additional analyses that developed following a review of the available data. The additional data analysis added information that helped address the original research questions in greater depth. Interpretation of the analysis, which includes conclusion, discussion, and implications for future research, is provided in the next chapter.

Data Quality

The actual nature of the data (missing values, distribution, and quality in general) was unknown prior to its collection; however, during the data collection process the researcher noted the data quantity and distributional characteristics did not allow the anticipated use of regression. Instead, approaches were used that had less demanding distributional assumptions, such as: descriptive statistics that provided better understanding of the data and correlational techniques, including Pearson product moment, partial correlations, and Coefficient ETA that provided relationship analysis. Additionally, it should be noted that Course 9 was unlike the other eight courses in the study in that it had an eight-week term instead of a twelve-week term. To compensate for Course 9's shorter term, a weighting factor of 1.5 was applied to the course's raw data values.

Inter-rater Agreement

Three raters, including the researcher, independently coded each instructor posting in the study's nine courses. Each rater used a metric of predefined facilitative behavior types to assess each posting.

In thirteen instances, raters independently identified more than one facilitative-type behavior that was present in a single instructor posting. For example, an instructor praised the class and then made an inquiry within the same posting. The raters subsequently agreed to separately assign the 13 additional comments to one of the three facilitative-types associated with the study. Thus, the 13 postings increased the previously identified 343 instructor postings to 356.5 (with 1.5 factor applied) and contributed to the strength of each facilitative-type in the study.

SPSS was used to calculate the inter-rater reliability with the following Cohen Kappa formula:

$$K = (Fo-Fc) / (N-Fc) \text{ where}$$

N = total number of judgments made by each coder

Fo = number of judgments on which the coders agree

Fc = number of judgments for which agreement is expected by chance

Kappa has a range from 0 – 1.00, with larger values indicating higher reliability. Generally, a Kappa rating between .61 and .75 is considered moderate inter-reliability while a Kappa rating of .75 or above represents excellent agreement beyond chance (SPSS Manual 11.5, 2002; Krippendorff, 1980). For this study, inter-rater reliability was 97.5, indicating consistent identification and interpretation of facilitative-types present in the study’s instructor postings.

Descriptive Analysis

Descriptive analyses were conducted first in this study using data collection and subsequent frequency counts and data averages. The first analysis related to course postings provided by both learner and instructors.

In this study, there were 89 learner and 9 instructor participants. Collectively, the learners contributed 6786 postings while online instructors contributed 356.5 postings (with the 1.5 factor). The average input in the combined courses was 76 postings per learner and 40 postings per instructor. As depicted in Table 7, the learner averaged almost twice as many postings as the online instructors despite the varying frequency of individual online instructor postings. Subsequent examination of the number of student postings in relationship to the instructor communication style (facilitative and non-facilitative) revealed no consistent pattern in the relationship between the frequency of student postings made and the frequency of facilitative and non-facilitative-style instructor postings.

Table 8

Total Number and Percentage of Learner and Instructor Postings in Each Course

Course Number	Total Postings Contributed by Learner	Percentage of Postings Contributed by Learners ^a	Total Postings Contributed by Instructor	Percentage of Postings Contributed by Instructor ^b
1	514	74%	183	26%
2	415	94%	27	6%
3	1571	97%	55	3%
4	540	97%	14	3%
5	900	96%	34	4%
6	1053	99%	9	1%
7	695	98%	14	2%
8	1098	100%	1	1%
9	2088*	99%	19.5*	1%

Note: ^a Basic frequencies weighted by 1.5 to equalize with longer 12 week

^b Rounded to nearest whole percent

Of particular note in this study was Instructor 8 who contributed no facilitative postings and only one non-facilitative posting in the course. This instructor's nonparticipation provided an extreme example in this study's environment but also enabled observation of the effects of a non-performing instructional presence that will be discussed in the Correlation Analysis Section of this chapter (see page 93.). Similarly, Instructor 1 provided a second extreme performance in this study as this instructor offered significantly more postings than other instructors.

Relative to facilitative-type postings, the researcher found that there was no consistency in the type postings offered in the instructor facilitative support. However, it was noted that instructor praise appeared more often in the nine courses than either inquiry or encouragement. Table 9 provides a breakdown of each facilitative-type comment identified in the courses.

Table 9

Number of Facilitative-Type Postings Observed in Individual Courses

Course Number	N ^a	Praise	Encouragement	Inquiry
1	101	54	17	30
2	8	4	3	1
3	37	19	8	10
4	3	1	2	0
5	13	6	2	5
6	9	0	9	0
7	6	3	1	2
8	0	0	0	0
9	9	0 ^b	7.5 ^b	1.5 ^b
Frequency	186	87.0	49.5	49.5

Note: ^a Sample size based on total number of online instructor facilitative-style postings in individual class

^b Basic frequencies weighted by 1.5 to equalize with longer 12-week courses

Notably, the variation in style (i.e., facilitative or non-facilitative) and types (i.e., praise, encouragement, and inquiry) of instructor postings occurred despite instructors having similar preparation and management oversight of their online role. External factors relative to the volunteer instructor's personal situation (e.g., work schedule, interest level, and perceived needed effort) may have contributed to the posting variation but were considered outside the scope of this study and thus were not examined.

To observe the relative strength of each facilitative-type comment, the researcher assigned proportions of each facilitative-type to the total instructor postings contributed in the entire course. The analysis revealed that in courses (e.g., Courses 1, 3, 6, and 9) where instructor postings showed relatively higher proportions of facilitative-style communication (.55, .68, 1.0,

and .70 respectively), instructor encouragement represented at least 16 per cent of instructor facilitative-style comments. Table 10 displays the results of this analysis.

Table 10

Proportion of Facilitative Inputs in Course Instructor Postings

Course Number	Praise	Encouragement	Inquiry	Proportion of Facilitative-Style Postings in Course
1	.30	.09	.16	.55
2	.15	.11	.04	.30
3	.35	.15	.18	.68
4	.07	.14	.00	.21
5	.19	.06	.16	.41
6	.00	1.00	.00	1.00
7	.21	.07	.14	.42
8	.00	.00	.00	.00
9 ^a	.00	.58	.12	.70

Note: ^a Basic frequencies weighted by 1.5 to equalize with longer 12-week courses

The above descriptive analysis provides general profiles for the nine courses in the study. The significantly large sample of learner postings suggested that additional correlations should be considered in this study. The preliminary descriptive analyses provided a foundation on which subsequent correlation analyses were conducted.

Correlation Analysis

The purpose of correlation is to measure the relation between two or more variables (i.e., a measure of the amount of covariation). Most common correlation coefficients can range from -1.00 to +1.00. The value of -1.00 represents a perfect negative relationship while a value of +1.00 represents a perfect positive relationship. A value of 0.00 represents a lack of relationship.

The most widely used type of correlation coefficient, the *Pearson r*, (also called *linear* or *product-moment* correlation) was used in the present study to examine most of the proposed relationships. Partial correlation was also used in this study to measure the relationship between two variables that remains after controlling for the effects of one or more other variables. On a scale of -1 to +1, partial correlation measured the extent of the unique relationship found between the two variables that was not shared with a third variable. Coefficient Eta (or, Eta) was the final correlation technique used. Eta is a statistic, that when squared, represents the proportion of variation in one variable that can be explained by providing knowledge of a second (ordinal or nominal) variable. Eta differs from product moment correlation in that it measures relationships that may be curvilinear rather than assuming linear relationships.

Calculations were made using SPSS 11.5. While traditional significance tests were used to help identify larger relationships, it was not assumed such a finding could be interpreted in the

traditional sense of probability sampling theory, since the nine classes and instructors used in this sample did not constitute a probability sample from some larger universe of classes or instructors.

Variable Relationships with Communication Style

The first study question was: What is the relationship between the online instructor communication style (facilitation or non-facilitation) and the learning experience, as defined by the adult learner’s cognitive achievement, ratings of the overall course experience, and perceptions of the instructor’s performance? The latter variable was subdivided into Instructor-Rating A, which included the learner’s perception of the online instructor’s subject matter knowledge and facilitation skills, and Instructor-Rating B, which excluded the learner’s perception of the online instructor’s subject knowledge.

In the Pearson r analysis, only a slightly positive relationship was found to exist between the proportion of instructor facilitation postings and the learning experience variables associated with this study. This correlation is in contrast with those for non-facilitative postings and is an indication of differences in reaction to instructor inputs. Table 11 shows results of this analysis.

Table 11

Relationship (Pearson r) Between Proportion of Instructor Style Postings and Learning

Experience Variables

Communication Style	Final Exam	Course Rating	Instructor Rating-A ^a	Instructor Rating-B ^b
Facilitative	.088	.184	.151	.100
Non-Facilitative	-.062	-.230	-.230	-.158

Note: ^a Instructor Rating-A included learner’s rating of instructor’s subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included learner’s rating of instructor’s ability to facilitate and quality of feedback

While the relationship between instructor facilitation communication style and the final exam score, course rating, and instructor ratings in the collective nine courses revealed a low, positive relationship between the variables in individual learner exam scores, course and instructor ratings appeared relatively high regardless of the proportion of facilitation comments made. Table 12 depicts this finding.

Table 12

Relationship Between Proportion of Instructor Facilitative Communication Style Postings and Average Exam Score and Ratings on Course Experience and Instructor Performance

Course	Proportion Instructor Facilitative Communication Style	Average Final Exam Score (out of 100.00)	Average Course Experience Rating (out of 4.0)	Average Instructor Performance Rating-A ^a (out of 4.0)	Average Instructor Performance Rating-B ^b (out of 4.0)
1	.55	85.6	3.17	3.67	3.75
2	.30	88.5	3.00	3.26	3.30
3	.67	90.5	3.77	3.51	3.58
4	.21	89.8	4.00	3.80	3.90
5	.44	90.86	3.00	2.70	2.94
6	1.0	91.40	3.90	3.32	3.28
7	.43	90.91	3.75	3.69	3.75
8	.00	90.73	3.55	2.98	3.00
9	.46	90.00	3.00	3.30	3.18

Note: ^a Instructor Rating-A included learner's rating of instructor's subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included learner's rating of instructor's ability to facilitate and quality of feedback

In further correlation analysis, communication style was divided into three facilitative communication types (i.e., praise, encouragement, and inquiry). The researcher discovered that each facilitative type differed in its relationship with the learning experience variables (final exam, course rating, and instructor rating). For example, the instructor praise variable had a relatively stronger relationship to instructor rating-B variable ($r = .542$) but less so with the instructor rating-A variable ($r = .356$). Inquiry showed only a slightly positive relationship to instructor-A rating ($r = .004$) and instructor-B rating ($r = .132$). Both praise and inquiry variables showed a negative relationship to the learner's final exam score ($r = -.462$ and $-.233$, respectively) and also a negative relationship to the course rating variable ($r = -.107$ and $r = -.400$, respectively). However, the encouragement variable showed a slightly positive relationship with all learning experience variables. Table 13 depicts these findings.

Table 13

*Relationship Between Proportionate Facilitative Behavior Types and Learning Experience**Variables*

Facilitation Type	Exam	Course Rating	Instructor Rating-A ^a	Instructor Rating-B ^b
Praise	-.462	-.107	.356	.542
Encouragement	.202	.212	.220	.057
Inquiry	-.233	-.400	.004	.132

Note: ^a Instructor Rating-A included learner's rating of instructor's subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included learner's rating of instructor's ability to facilitate and quality of feedback

A partial correlation analysis offered further insight into the relationship between the instructor's communication style and learner cognitive and affective variables. This was done to examine the relationship between two variables that remains when one controls or essentially removes the amount of that relationship attributable to their relationships to a third variable. This can give a more accurate estimate of the pure linear relationship between the two variables of interest.

When a facilitative-type variable was withheld from analytical consideration, the relationship between the remaining facilitative-type variables and the learning experience variables revealed in many instances a significantly different relationship. For example, when the all variables were considered, the relationship between encouragement and instructor rating-B was considered low ($r = .057$); however, when praise was withheld from the variable mix, the relationship between encouragement and instructor rating-B proved significantly stronger ($r = .473$). Similarly, the instructor inquiry relationship to the course rating variable was negative ($r = -.400$), but when the praise variable was withheld from the analysis, the relationship between the two variables became a positive one ($r = .447$). Inquiry showed a strong positive relationship with Instructor-A rating ($r = .667$) when all variables were considered, but when the encouragement variable was withheld from consideration the relationship was markedly different ($r = .140$). Notably no strongly positive relationship existed between the instructor facilitative-type behaviors and the final exam score even when any facilitative-type variable was withheld. Table 14 summarizes these relationships.

Table 14

Relationship Between Proportion of Facilitation Types and Exam Scores, Course Rating, and Instructor Ratings

Variable Withheld	Variable of Interest	Exam Score	Course Rating	Instructor A ^a	Instructor B ^b
None Withheld	Praise	-.462	-.107	.356	.542
No Encourage	Praise	-.427	.005	.566	.671
No Inquiry	Praise	-.425	.243	.479	.621
None Withheld	Encourage	.202	.212	.220	.057
No Praise	Encourage	-.052	.185	.509	.473
No Inquiry	Encourage	.098	.010	.259	-.146
None Withheld	Inquiry	-.233	-.400	.004	.132
No Praise	Inquiry	.123	.447	.344	-.380
No Encourage	Inquiry	-.155	-.346	.140	.187

Note: ^a Instructor Rating-A included learner's rating of instructor's subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included learner's rating of instructor's ability to facilitate and quality of feedback

These partial correlations serve to indicate the complexity of the relationship between instructor behaviors and learner variables. While the online instructor facilitative-style did not reveal a consistent relationship pattern with the learning variables in this study, the underlying facilitative-type behaviors showed a more definitive relationship to the online learning variables in this online setting, illustrating the potentially interactive effects of these behaviors in this particular instructional setting.

Variable relationship in frequency of communication.

The second question was: What is the relationship between the strength (contact frequency with the learner) and the learning experience, as defined by the adult learner's cognitive achievement, ratings of the overall course experience, and perceptions of the instructor's performance? Using Pearson *r* analysis, the data revealed that total instructor posting (356.5) in this learning setting had a negative relationship to the final exam score ($r = -.234$) and the course rating ($r = -.127$). In contrast, total instructor posting showed a slightly positive

relationship with post course instructor A and B rating ($r = .127$ and $r = .157$, respectively). Table 15 shows these results.

Table 15

Relationship Between Instructor Communication Strength (Total Contact Frequency) and Learning Experience Variables

Final Exam	Course Rating	Instructor Rating- A ^a	Instructor Rating –B ^b
-.234 ^c	-.127	.127	.157

Note: ^a Instructor Rating-A included learner’s rating of instructor’s subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included learner’s rating of instructor’s ability to facilitate and quality of feedback

^c Significant at the .05 level

The Pearson Product Moment analysis also revealed only a slight relationship between the frequency of facilitative-style comments and the final exam scores, course ratings, and instructor rating outcomes. A review of the descriptive data (See Table 8), for instance, indicated that Course 1 included relatively frequent instructor facilitative postings (N = 101) but Course 8, which had less (N = 0) received higher exam scores and generally higher course and instructor ratings. In contrast, Course 3 with frequent facilitative input (N = 37) received comparatively higher scores and ratings than Course 6 that had less facilitative-style input (N = 9). When the underlying facilitative-type variables (praise, encouragement, and inquiry) were considered with the final exam, course rating, and instructor rating variables a similar inconsistent relationship emerged. Thus, in each examination conducted between instructor strength of presence (frequency of contact) and learning experience variables, both a negative and low positive relationships appeared to exist.

Variable relationship in prior experience.

The third study question was: What is the relationship between selected learner demographic variables (previous subject experience on the job and previous experience with online learning) and the learning experience, as defined by the adult learner’s cognitive achievement (final exam score), ratings of the overall course experience, and rating of the instructor’s performance? As noted in Chapter III, the intent of this aspect of this study was to provide some assessment of pre-instructional variance in student experiences with both content and experience with the online instructional environment.

In the correlational analysis, the researcher found the learner’s subject matter experience had a slightly positive relationship with the learner’s performance on the final exam ($r = .105$) and the post course rating ($r = .151$). The learner’s prior online learning experience had a more positive relationship with the learner’s performance on the final exam ($r = .359$) but a less positive post course rating ($r = .047$). While both subject matter experience and prior experience had a positive relationship with instructor rating-A ($r = .131$ and $.035$, respectively), only subject matter experience had a positive relationship with instructor rating-B ($r = .121$). Prior online experience showed a negative relationship with instructor rating-B ($r = -.232$). Table 16 includes

the results of the Coefficient Eta analysis on the relationship between the prior subject matter experience variable, prior online experience with vendor courses, and the learning experience variables.

Table 16

Relationship Between Prior Subject Experience, Exam Scores, Course Rating, and Instructor Rating

Prior Experience	Exam	Course Rating	Instructor Rating-A ^a	Instructor Rating-B ^b
Subject Matter ^c	.105	.151	.131	.121
Online Learning ^d	.359	.047	.035	-.232

Note: ^a Instructor Rating-A included learner’s rating of instructor’s subject matter expertise, ability to facilitate, and quality of feedback

^b Instructor Rating-B included instructor’s ability to facilitate and quality of feedback

^c Analysis performed by Eta

^d Analysis performed by Pearson

Additional Findings Not Originally a Part of the Study Design

The earlier findings suggested that additional analysis between instructor presence and other variables associated with the learning experience might provide further insight into online learning experience. Three interest areas were considered: the relationship between online instructor presence and learner dropout rate; the relationship between frequency of each instructor’s facilitative, non-facilitative style postings and frequency of learner postings; and the relationship of learner prior experience in the online vendor course environment with the average learner input and peer rating. Interest in these particular variables resulted from the researcher’s earlier review of literature in which one or more of these variables were identified as an attribute of the online learning environment.

Of particular interest was the relationship between online instructor’s presence and learner dropout rate. Drop-out rate was determined by a learner completing at least one class but not completing the entire course. Using Pearson product moment analysis with the three facilitative communication types, praise showed the strongest relationship to the dropout rate in the study’s online environment. This finding suggested that in this study sample, greater instance of instructor praise was related to greater instance of attrition. Encouragement and inquiry postings showed less positive relationship to the dropout rate. Table 17 depicts these results.

Table 17

Relationship Between Facilitation Type and Dropout Rate

Facilitation Type	Drop-out Rate
Praise	$r = .316$
Encouragement	$r = .004$
Inquiry	$r = .143$
Total Facilitation	$r = .109$

Additional analysis was also conducted on the relationship between the frequency of each instructor's facilitative, non-facilitative-style postings, and frequency of learner postings. Verneil and Berge (2000), Palloff and Pratt (1999), and Berge (1995) support the notion that participation by students is key to successful online learning experiences. In this study, both instructor communication styles showed a negative relationship to frequency of learner posting. The facilitative communication type demonstrated a less negative relationship to the learner input variable than to the non-facilitative communication style. Table 18 depicts these results.

Table 18

Relationship Between Instructor Communication Style and Frequency of Learner Input

Instructor Communication Style	Frequency of Learner Input
Facilitation	$r = -.174$
Non-Facilitation	$r = -.334$

A third examination was performed on the relationship between the instructor facilitative-type communication (praise, encouragement, and inquiry) and the average frequency of learner input. In this analysis, the encouragement variable relationship to learner input provided a positive relationship (.447) while the other two facilitative variables showed a negative relationship (-.502 and -.025). Table 19 shows the relationship between instructor facilitative communication types and the average frequency of learner input.

Table 19

Relationship Between Instructor Facilitation Type and Average Frequency of Learner Input

Facilitation Type	Average Frequency of Learner Input
Praise	$r = -.502$
Encouragement	$r = .447$
Inquiry	$r = -.025$

In a final examination of the study's data, the researcher examined the learner prior experience in the online vendor course environment with the average learner input and peer rating. The source of interest in this analysis stemmed from earlier comments made regarding the relationship between prior experience, subsequent learning performance and participation. Moreover, researchers such as Prestern and Moller (2001) report that "[In online learning] the learner, not the instructor, [is] at the center of instruction" (p.2). Thus, in a correlational analysis, the researcher related prior online learning experience to the frequency of learner input and the end-of-course peer rating, provided by the learner on his or her classmates' contribution to the learning experience. The analysis revealed that while the prior experience had earlier shown a negative relationship with instructor rating, it now appeared to have a very positive relationship with frequency of learner input ($r = .847$) and peer rating ($r = .539$).

The additional correlations showed inconsistencies with the previous research related to the same variables. However, while this study's sample size is relatively small, it nevertheless provides exceptions to earlier conclusions that will be readdressed in the next chapter relative to the subject of online variable relationships.

Summary

This chapter presented descriptive statistics to better understand course data associated with a vendor's asynchronous online instructional settings. Correlation techniques including Pearson product moment, partial correlations, and coefficient Eta were used to assess the strengths and weaknesses of variables associated with the study's questions and to enable exploration of additional areas of interest that emerged during the analysis to be explored. In instances of notable relationships, tables were included to show the covariance and results were discussed in detail.

Independent observers reviewed 356 class discussions to identify the style (non-facilitative or facilitative), facilitative-type (praise, encouragement, inquiry), and frequency of instructor postings. This assessment provided independent variables that then were related to the study's learning experience variables (course rating, exam score, and instructor rating). The instructor rating variable was further subdivided into Instructor Rating-A and Instructor Rating-B to enable consideration of the instructor as both a subject matter expert and facilitator and hence support more in-depth understanding of each variable relationship.

Three research questions guided the analysis. The first question asked if a relationship existed between instructor communication style and final exam scores, course rating, and instructor rating. No initial significant relationship was found between these variables through a Pearson Product Moment analysis; however, further investigation of the relationship through examination of facilitative communication types (praise, encouragement, and inquiry) and the learning variables, revealed a negative relationship between praise, inquiry and the final exam; a negative relationship also was revealed between praise, inquiry, and the learner's course rating. However, a positive relationship was found between the three facilitation types and the instructor rating. Using a partial correlation technique on the same variables, the researcher found the relationship between the types of facilitation and the learning variables showed that when one facilitative-type behavior (praise, encouragement, or inquiry) was withheld in the examination of the overall relationship between facilitation and the learning variables, relationships between instructor facilitative communication types and the learning experience outcomes varied.

The second question asked: What is the relationship between the strength of communication style (contact frequency with the learner) and the learning experience (final

exam scores, course and instructor ratings). Findings revealed that in this study's learning environment, the total number (strength) of instructor postings had no apparent relationship with the final exam scores, course rating, and instructor rating outcomes.

The third question asked: What is the relationship between selected learner demographic variables and the learning experience, as defined by the adult learner's cognitive achievement, ratings of the overall course experience, and instructor performance. In this examination, the researcher discovered positive relationships between both prior experience variables and most learning experience variables. For instance, a strong positive relationship existed between the learner's subject matter expertise and higher final exam scores, course rating, and instructor ratings. Online learning experience also showed a strong relationship to all learning experience variables, except one. Interestingly, the prior online learning experience had a negative relationship to the instructor-B rating variable, which excluded consideration of the online instructor's subject matter expertise.

The available data offered additional opportunity for further examination and thus additional analyses were performed on several variable relationships. The first examination considered the relationship between the instructor presence and the learner participation in the study's environment. In this learning environment, the instructor presence appeared to have a negative relationship with the frequency of learner postings. In fact, the instructor praise variable showed a positive relationship to the dropout rate variable while the instructor encouragement and inquiry variables showed a less positive relationship to the learner dropout rate. The greatest positive relationship found in the additional analysis was seen between the learner's previous online experience and peer rating and frequency of learner postings.

The resulting variable model for this online environment revealed that the online instructor presence had both negative and positive relationship to the learning experience. The more positive relationship rested in the facilitative type of communication, rather than the frequency of instructor communication in the learning process. Chapter V presents further discussion of these insights.

CHAPTER V

CONCLUSIONS, DISCUSSION, AND IMPLICATIONS FOR FUTURE RESEARCH

Based upon the findings in Chapter IV, Chapter V presents the conclusions of the study, a discussion of the conclusions, as well as implications for future research. As further is discussed in this chapter, the study's conclusions respond to the study's questions pertaining to the relationship between the online instructor's communication style (facilitating—non-facilitating), the strength of communication style (frequency of contact), selected learner demographics variables (prior experience), and the learning experience. Previous research, as provided in Chapter II, and the researcher's teaching and management experience with the study's program also inform the discussion that follows.

Study Findings

The study's first question inquired about the relationship between the online instructor communication style and the learning experience. The study found no initial significant relationship except where facilitative communication types (praise, encouragement, and inquiry) and the learning variables were considered; however, in the latter examination, the study revealed a more definitive positive and negative relationship between types, rather than styles of communication and the learning experience. The study's second question addressed the relationship between the online instructor's frequency of contact and the learning experience but the analysis revealed no significant finding. Thus, the resulting variable model for this online environment revealed more positive relationship rested in the facilitative type of communication, rather than the frequency of instructor communication in the learning process.

The third question provided some control over the pre-instructional variables with regard to both content knowledge and experience with the online instructional environment. The study found that positive relationships existed between both prior experience variables and most learning experience variables suggesting that adult learners may contribute more positively to the learning process than the online instructor presence does.

As noted in Chapter IV, the available data offered further opportunity for additional analyses on several variable relationships. The first examination considered the relationship between the instructor presence and the learner participation in the study's environment where the instructor presence in terms of praise and inquiry appeared to have a negative relationship with the frequency of learner postings and, in the case of instructor praise, a positive relationship to the dropout rate variable. In contrast, the additional analysis also revealed a highly positive relationship between the learner's previous online experience, peer rating, and frequency of learner postings. These additional findings suggested the learner's presence had a stronger relationship with positive learning outcomes than did the online instructor when using specific facilitative types of communication in this learning setting.

These interpretations of the findings must be tempered by two limitations that became evident during the course of the study. First, since the study used extant data, the researcher was not able to use a statistical design that could separate effects due to an instructor from those that might be attributable to a particular class. This was because each instructor was responsible for a single, rather than multiple, classes. Second, sample attrition from study design to study execution resulted in a relatively low number of classes with complete data. This enhanced the possibility of sample-specific variance affecting correlations, particularly partial correlations.

This limitation can be addressed in future studies with larger samples and classes based on probability sampling.

Three conclusions are derived from the aforementioned findings; namely that: (a) the facilitative vs. non-facilitative definition of style failed to adequately describe the complex relationship of style to learner achievement and ratings of instructor and course; (b) the relationship between the adult learner's prior experience and learner outcomes may not be as straightforward as earlier studies have indicated; and (c) both online instructor encouragement and peer interaction may positively influence both learner participation and completion of the course's requirements. Further explanations and implications of the findings associated with each conclusion, along with recommendations for future research and practice in the online environment, are subsequently presented.

Conclusion on Instructor Presence

Based on the findings related to Research Question One it is concluded that a basic facilitative vs. non-facilitative definition of style failed to adequately describe the complex relationship of style to learner achievement and ratings of instructor and course. Evidence supporting this conclusion is provided by the very intricate interactions found through use of partial correlations that revealed a richness of relationships not evident through the original definition.

This first conclusion was initially indicated in the early examination of the two communication styles (facilitative and non-facilitative) as they each demonstrate different relationships to the online learning experience variables (final exam scores, course rating, and instructor rating). As depicted in Chapter IV's Tables 11 and 18, the facilitative style showed a positive relationship with the learning variables while the non-facilitative communication style exhibited a negative relationship to the same learning variables. The initial finding suggested that the positive relationship supports the "the guide on the side" instructional model that is popularized in commercial literature and in many online settings. This finding fell short, however, of illuminating reasons for the relatively greater effectiveness of the facilitative style in some courses rather than others. (see Chapter IV's Table 11.)

In the extended examination of data, however, facilitative-type behaviors (praise, encouragement, and inquiry) exhibited interactions that influenced the effects of the broader facilitative communication style. (see Chapter IV's Tables 13 and 14.) This subsequent discovery suggested the use and intent of an instructor's facilitative communication might relate to its effectiveness in the learning experience. For example, when the three facilitative-types were considered collectively, the relationship between inquiry and course rating was negative; but when instructor praise was controlled or held constant (through use of partial correlation), the relationship between instructor inquiry and course rating was positive. Moreover, when considering the instructor praise relationship to the learner's regard for the instructor's facilitative skills, the relationship between the two variables was positive. However, the relationship was less positive when controlling the instructor encouragement variable. In these examples, individual and combined facilitative-type behaviors mediated the online facilitative communication style that ultimately affects the learner's perception of the instructor's ability to support the professional development experience.

When controlling for individual variables, instructor praise consistently showed a positive relationship with the instructor's course ratings but instructor inquiry demonstrated an even more positive relationship to the learner's perception of the overall learning experience when praise was absent. The researcher's experience with similar participants in the same vendor

setting suggests that students have greater acceptance of praise as a task-completion indicator than as a teaching technique (e.g. behavioral conditioning) that is associated with cues for further instructor inquiries. Consideration of this internal factor is a particularly plausible notion in this setting, as learners had to respond to the course design that included as many as 48 pre-scripted discussion questions. The learner may have perceived additional instructional attention (in the form of inquiry followed by instructor praise) as unnecessary to the course objective and unnecessarily extending the course completion time. However, a second explanation may be equally plausible; that is, the learners who received praise from the instructor during the course in turn, reciprocated that praise in the course rating score.

Another example of underlying factors or components of instructor presence was seen in the predominantly negative relationship that existed between the individual facilitative-behavior types and the learner's final exam score (see Chapter IV's Table 14.) From the researcher's personal experience with the study's online setting and in particular with the sample classes, several factors might be considered as contributors to this outcome: (a) poor course-exam alignment, (b) lack of tailored instruction, and (c) learner's varying attentiveness to course activities. This finding suggests that the online instructor relationship to positive end-of-course feedback and higher final exam scores is possibly influenced by when and how the course design accommodates the instructor presence. For example, the instructor's knowledge and use of the course designs and supporting resources may enhance or inhibit the online instructor's types of online interventions. One other possible explanation of the predominantly negative relationship between facilitative inputs and exam performance might simply be one of the weaknesses of correlational research – reversed causality. In other words, instructors might increase facilitative inputs (in relation to non-facilitative) when they perceive lack of achievement. This might raise performance but not to the level of those already performing well.

Consideration of the strength of online instructor communication (or frequency of instructor contact), the other hypothesized component of instructor presence (Research Question Two), provided further evidence of the role internal and external factors have in the online instructor presence. As noted in Chapter IV's Table 15, a negative relationship was found between total number of instructor communications (whether facilitative or non-facilitative) and the final exam score and post course ratings and examination of individual course data revealed little relationship between frequency of instructor communication and learning experience variables. These findings support the studies by Gotts, ella Rochetia, and Cipolotti (1999) that found learners believe too much instructional contact proved a deterrent to their satisfactory learning experience and a study by Jiang, et.al. (2000), which concluded that actual and perceived frequency of instructor response per student was not significantly correlated to student perceived learning.

Another explanation for the finding might be the lack of learner choice in the course. As Knowles (1975) states, the self-directed learner "...enter[s] into learning more purposefully and with greater motivation... tend[ing] to retain and make use of what they learn better and longer than do the reactive learners" (p. 14). Thus, with more frequent instructor presence, the learner's role potentially decreases resulting in the decreased opportunity for the learner to pursue a more independent, self-directed scheduling.

In seeming contradiction is the finding that the more frequently the instructor interacted with the class, the more positive the post-course ratings of instructor performance were. (See Chapter IV's Table 15.) This finding may be explained by understanding that through increased contact, learners and instructors establish familiarity with one another. If the communication

tends to be comprised mostly of instructor praise comments, as it did in this study, the learner most likely will respond positively to the instructor, the praise provider. Notably, the positive nature of instructor praise did not depend on instructor subject knowledge, which explains why instructor rating-B (which does not include instructor subject expertise) showed a more favorable relationship with frequency (or strength) of instructor contact than did instructor rating-A (which includes subject matter expertise consideration). The positive relationship between the frequency of instructor praise and the subsequent instructor rating supports the notion that a course administrator and student moderator who may be lacking in adequate subject knowledge, nevertheless provide welcomed praise to the learner's efforts.

Anderson, Rourke, Garrison, and Archer (2001), identified four such factors that can affect the frequency of online instructor contact: size of class, length of posting, and instructor comfort level with the technology and course design. This researcher's familiarity with this study's online instructors provides the identity of three additional factors: the online instructor's motivation to teach, interest in course subject, and availability of instructional time. In the examination of individual courses, the researcher's personal knowledge of each instructor's presence suggests that a combination of the above-cited factors determined how often the instructional posting was made in this study's courses.

The factors affecting online instructor presence revealed the complex nature of the online instructor's role in the learning setting. More discussion will be devoted to this topic in the following paragraphs related to other major findings.

Conclusion on Learner's Prior Experience

A second conclusion of this study is that the relationship between the adult learner's prior experience and learner outcomes may not be as straightforward as earlier studies have indicated. This conclusion is supported by the specific findings from research question two on the complex relationship of experience variables to cognitive achievement and instructor and course ratings.

Eastmond (1995), Wegner, Holloway, and Garton's (1999), Wang, Kanfer, and Hinn (2001), Dutton, et al., (2002), and Newhauser (2002) showed that learners with online learning experience are more likely to participate and be satisfied with the course experience than those who do not have the prior experience. In contrast to such studies, this study found that learners with previous online experience did participate more but had only a slightly positive relationship to the learners' course ratings and instructor performance rating that considered the instructor's subject matter expertise. (See Chapter IV's Tables 16 and 20.) In considering only the instructor's facilitating skills, this study also showed the learner's prior experience had a negative relationship to instructor performance rating.

These results may be better understood if one considers that adults in this study were enrolled in a professional sales development course. As experienced sales agents, the learners may have placed higher value on instructor skill sets (e.g., ability to sell ideas, interact with others, produce results) rather than on instructor knowledge and course content that frequently offered average rather than tailored examples due to limited time and learners' varied interests and needs. The researcher additionally is aware that the learners frequently required immediate state certification upon successful completion of the course requirements and thus any perceived interference with rapid course completion (whether real or imagined) would not be held favorably. Not surprisingly then, the neutral to negative relationship between the learner's prior online learning experience and the learner's perspective of the instructor performance and course experience might in part be better understood in context of the study's professional audience and agenda.

The study found the learner's previous online experience evidenced a more favorable relationship with the learner's higher final exam scores than instructor presence. (See Chapter IV's Table 16.) This finding highlights the possible weak link, noted earlier, between the online instructor presence and the learner's cognitive development process and contradicts previous studies such as those provided by Richardson and Swan (2003) and Kelley and Gorham (1988) that conclude online instructor presence directly relates to positive learning outcomes. One explanation for the finding is that as the prior online experienced learner may have increased ability to comfortably and successfully function in what Byant (1999) defines as online cultural rituals, the dependency on the instructor's presence in this setting may have been lessened. The learner also may have perceived from earlier course experience that the final exams were derived more from recall of the textbook content rather than from the discussions hosted by the online instructor.

Particularly salient is the weak relationship found between instructor presence and learner's prior subject knowledge. As again shown in Chapter IV's Table 16, the instructor ratings, course rating, and final exam score variables showed only a slightly positive relationship with the learner's prior subject matter experience. This finding appeared to demonstrate the program's inability to capitalize on previous knowledge that might provide the foundation upon which new knowledge is developed and validate the early suggestion that a weak relationship existed between this setting's online instructor presence and learning process. The weak link between the learner's previous subject matter knowledge and learning outcomes demonstrates a possible lack of support for Knowles' adult learning precepts, namely the principle that states adults prefer and benefit from building on prior learning and experiences that they bring to the learning setting.

Ultimately, the overall weak relationships observed between the learners' prior experiences and other variables in this learning setting suggest the online instructor's presence and instructional processes may be unrelated to the professional agent's construction of knowledge in this setting. This conclusion appears inconsistent with previous studies (Beyer, 1991; Truman-Davis, Futch, Thompson, & Yonekura, 2000; Williams, 2002) that identified effective learning processes as those that linked classroom activities and instruction to prior knowledge so as to enable students to gain new knowledge.

Conclusion on Instructor Encouragement and Peer Interaction

Findings from the investigation of the study's third research question lead to the conclusion that both online instructor encouragement and peer interaction may positively influence both learner participation and completion of the course's requirements. More research is needed, of course, to move beyond correlational studies in this subject area.

Online learner interaction has long been regarded as an important factor for successful online learning (Berge, 1995; Palloff & Pratt, 1999; Verneil & Berge, 2000). The third major finding of this study was partial validation of the critical role that online instructor encouragement and peer interaction have with learner participation and dropout rates.

The study found that online instructor encouragement related more favorably to online learner participation and persistence than praise or inquiry. (see Chapter IV's Tables 17 and 19.) Unlike instructor praise and inquiry, instructor-encouragement is communication that has no apparent association with additional expectations or tasking; its purpose is to merely relay belief in the learner's ability, thus lending support, rather than additional tasking, to the otherwise self-directed learning environment. On the other hand, instructor praise may suggest the learner

reached a level of course satisfaction that requires no further action or may signal an association with additional inquiry or new tasks.

Perhaps most notably is that while this study's setting contains more instructor praise postings, the instructor-encouragement postings depict a stronger relationship than other facilitative-type postings to learner participation and retention rate. These findings are supported by previous studies such as Arsham's (2002) who found that even a single online encouragement posting tends to delay learner attrition and Visser's (1998) study that concludes that instructor postings that contain words of encouragement improve retention rates.

One interesting observation made in reviewing instructor and learner postings in this study was that the learner's perception of successful instructor communication might rest more on when, rather than what type of, facilitation is rendered. For example, instructor-encouragement, given to an already motivated learner may be equally misplaced as an additional inquiry offered following a lengthy learning task. Similarly, instructor praise may be given for relatively minor learning tasks but forgotten in assignments requiring deeper thought and more timely execution. In this learning setting, facilitated encouragement appears to reinforce learner progress rather than potentially threaten it; thus gaining favorable learner perception and participation. The strategic use of facilitative-type communication falls outside the scope of this research effort but if pursued in future investigation, may provide additional clues about the instructor's online presence.

The study also found that peer interaction relates favorably to online learner participation and persistence. As noted in Chapter IV, prior experienced learners showed a particularly strong relationship to the learner's favorable perceptions of peer participation. This finding partially supports Shea, Pickett, and Pelz (2003), and Richardson and Swann's (2003) research that showed a strong correlation between peer interactions and persistence; however, the finding does not support these researchers' additional discovery that course satisfaction was also related strongly to instructor-student interactions. Explanation for the difference between the two findings may be related to the aforementioned researchers' examination of the learner-instructor relationship only in an academic setting rather than also in a professional development setting as provided in this study.

Implications

Implications of this study for online stakeholders are in three areas: (a) establishing a broader understanding of the nature and dynamics of online instructor presence, (b) providing for online instructional competencies that may optimize learning, and (c) accounting for the instructor's role and performance in the online setting. Each implication should be addressed first in research, then in practice.

Previous studies on the relationship between online instructor presence and learner satisfaction and achievement largely have been favorable but this study shows that online instructor presence also includes incidences where its integration into the online learning setting is not viewed as favorably. These latter incidences seemingly are due to factors such as course design, learner's prior experience, and learner's reasons for taking course, instructor attentiveness, and facilitative-type communication that this study demonstrates mediates the presence's effectiveness. The noted gap in literature on the complexity of online instructor's presence and its interaction with other online variables prevents online practitioners from establishing appropriate standards against which online instructors might operate. In this study, for instance, it was found that some instructors were more present than others. Of those who were present, some consistently communicated while others appeared to post more infrequently

and haphazardly. What method proved more effective than others proved not so much how frequently the presence was observed but rather how the presence was integrated into the overall learning setting. As Hutchins (2003) reports, "Important areas of inquiry and ...how an instructor can best direct, facilitate, and support students toward certain academic ends (i.e., student achievement, student satisfaction) in web based classes has received [little] attention" (p.1). Training vendors and educational practitioners require guidance on factor formulas particularly in the areas of what works when and where, based on additional comprehensive research that in turn, supports credible standards.

The study also highlights the need for optimizing learning through the establishment of a reliable online teacher preparation program that can uniquely support the online instructor's needs. In this study, online instructors received facilitation training that largely was supportive of constructivist principles; however, the performance of many online instructors performance reverted to the more familiar instructional-behaviorist role. As the constructivist principles and other cognitive-theoretical approaches have demonstrated greater success with the online learning experience than more directive methodologies, instructor preparatory programs should address how to help online instructors adapt to a new type of teaching presence. Instructors must themselves feel comfortable with the online learning experience before they can provide more meaningful online adult learning experiences for their students.

Finally, the study results demonstrated that when inconsistent instructor performance occurs, unpredictable-learning outcomes might follow. In this study, tremendous variation occurred between instructor presence in terms of frequency and behavior types and consequently, no pattern of learner behavior could be detected. While each learning situation requires different--often-tailored--responses, no standard exists to assess the quality of the teacher's intervention. Thus, the question arises as to whether the instructor has expectations and if so, how those expectations can be managed to increase learning potential.

Recommendations for Future Research

Many papers suggest that the online teacher's presence remains a largely unstudied variable in the online setting. One area that requires particular attention is: what is the comprehensive meaning of online instructor presence? As revealed in this study, instructor presence is a complex network of factors, both internal and external, that in any one instance may provide different meaning and consequence to the learning setting. New research should make every attempt to delineate what other factors (i.e., attributes) should be included in fully understanding and using the instructor's presence in the online setting. Specifically, research should be extended to additional factors that are related to facilitation and influence the effectiveness or ineffectiveness of that teaching style.

Future researchers might consider if instructor presence is essential to the online learning process. This study offers examples where learning occurred without the benefit of an online instructor. Consistently, the learner's prior online experience in other vendor courses showed a more positive relationship to the learning variables than the instructor's presence did. Larger data samples or more tightly controlled experimental designs, however, are needed to assess whether this smaller sample's findings represents a largely unstudied population or a very limited and unusual instance.

Moreover, research should consider whether there is a difference between the online instructor's presence in an asynchronous environment, such as this study represented, and a synchronous one. The more instantaneous nature of the latter online setting may provide

opportunity for more varied types and frequency of learner and instructor postings than is typically available in asynchronous settings.

Research should also be implemented in the area of what constitutes realistic competencies for the online instructor and how those competencies should be weighed in managing, assessing, and improving the online instructor's performance. The researcher should focus on how these competencies support the new online instructional paradigm and in particular, how they balance the online learner's self-directedness. Moreover, educators should investigate and subsequently implement meaningful educational and training programs that help ensure online instructional competencies are gained in current teacher preparatory programs. What are the common instructional skill sets? What are different? Are expectations the same regardless of the environment? How are they accountable and improved? In this study, only relationships were examined; however, "the goodness" or "badness" of those relationships was necessarily lacking as no competency standards exist against which they may be measured.

Research attention additionally should be directed to more professional development programs. Current research appears to favor more academic settings that differ from professional development settings in purpose, processes, and needs. This study suggested that many of the variable relationships were due, in part, to the learner-agents' need to quickly complete the course for certification reasons and equally, in part, to the learner-agent's pre-course perspective of their instructor's role. Further investigation into variances associated with the online instructor's presence in the professional setting would greatly enhance training managers' ability to support business ventures.

Finally, further studies should consider learner motivation relative to the learner's participation in the online learning environment. As with the prior experience variables examined in this study, learner motivation helps define the learner's presence and its relationship to other online learning factors. A more comprehensive understanding of the online learner presence ultimately supports the more complete understanding of the online teaching presence.

Final Observations

Online teaching presence is another historic effort to connect a geographically separated learner and instructor. Online instruction differs from previous efforts, however in two major areas: it is a more rapid, accessible means of communication and it includes the continuous social presence of others. Teaching presence in synchronous and asynchronous environments use communication styles and frequencies that are intended to support the learning experience. This study focused on the asynchronous setting to assess the relationship between the online teaching presence and learning variables in that environment.

The findings of the present study indicate that teaching presence in this asynchronous environment is far more complex than originally believed. Underlying variables such as facilitative behavior types, interactively define the overall facilitative style and exhibit different influences on variables associated with the learning experience. Moreover, this study found that the prior online experienced learner, who appears to be more self-directed than his or her peers, frequently balances the asynchronous teaching presence.

The study's limited data cannot be generalized to other settings but can be built upon as future studies explore additional factors related to teaching presence and its relationship to online environmental factors. The study's findings suggest the need for such further research, particularly in areas that appear to contradict previous research findings and challenge the need for an online instructor presence.

Since this examination, increased technology has strengthened the potential for greater expansion of both the online instructor and learner presence in the online environment. Enhanced audio and visual support continually appear on the market to increase the connectivity between the two presences. Despite the availability of more technical opportunities that link the learner to the learning setting, the online instructor presence remains a popular component to the online setting. Its continued existence, however, rests on further understanding of its identity, functionality, and supportive nature. This study's examination of the relationship between the online instructor presence and the learning experience in an asynchronous environment contributes to that end.

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APPENDIX A

DATA COLLECTION SHEET FOR ONLINE INSTRUCTOR PRESENCE IN COURSE 202

Assessor _____

Date _____

General Directions: Put the tic-mark (1) in the appropriate column, next to the applicable lesson, every time you observe an instructor's facilitative type or non-facilitating style posting. After you identify individual instructor postings in a lesson, add the total facilitative postings to the total non-facilitating postings. Put that sum in the *Total Postings* column. When all lessons have been reviewed, add each column in the table. Return data collection sheets to my office no later than June 1, 2004.

Specific Directions: Facilitating postings are described as:

- **Praise:** defined as an online instructor's posting that expresses approval about a learner's or class input. *For example, to praise a learner, an online instructor might use a positive explicative such as "great job" or another similar expression or comment that denotes a positive reaction to the learner or class' input.*
- **Encouragement:** defined as an online instructor posted acknowledgement and prompt to continue forward in the lesson following an online learner's posting. *For example, an online instructor may post, "John, I see you're catching on to the idea. I look forward to your insights on the next question, too!"*
- **Inquiry:** defined as an online instructor's request for information or clarification on previously submitted information. *For example, an instructor may ask, "Mary, why do you think this situation is unique to one company, but not another?"*

If a single instructor posting has more than one type of facilitating-type comment made, account for each type in the facilitation-type columns.

Non-facilitating postings any online comments that cannot be included in the above facilitating-type posting columns. Non-facilitating comments may include, but are not limited to: introductions, administrative directions, presentation of instructional information, and review of previous materials covered. For example, an instructor may explain a concept related to a question or may remind learners they only have one day left to complete assignments.

Thank you for your time and effort on this important project!

Assessor _____

Date _____

Lesson #	Facilitation-Type Postings				Non-Facilitating Postings	Total Postings
	Praise	Encouragement	Inquiry	SubTotal		
1a						
1b						
1c						
1d						
2a						
2b						
2c						
2d						
3a						
3b						
3c						
3d						
4a						
4b						
4c						
4d						
5a						
5b						
5c						
5d						
6a						
6b						
6c						
6d						
7a						
7b						
7c						
7d						
8a						
8b						
8c						
8d						
8e						

9a						
9b						
9c						
9d						
10a						
10b						
10c						
10d						
10e						
11a						
11b						
11c						
11d						
12a						
12b						
12d						
Totals:						

APPENDIX B
Prior Experience Data Collection Sheet

Directions:

1. Write your name, date, and course number on the sheet that is to be assessed.
2. Using Class 12 (Sales Learning Assessment) survey questions (# 2 and #7), put a check in the column that corresponds with the learner's selected multiple-choice alternative.
3. Add total number of responses in each column.

Thank you for helping with this project!

APPENDIX C

End-of-Course Feedback Data Collection Sheet

Directions: Using the attached student identification numbers, survey responses, and data collection sheets:

1. write your name, date, and course number in the blanks on the attached feedback data collection sheet;
2. use Class 12 (Sales Learning Assessment) survey questions (#1, 4, 5, 6, 8, and 9) to put a check in the column that corresponds with the learner's selected multiple-choice alternative; and
3. add total number of responses in each column.

Thank you for helping with this project!

APPENDIX D

Data Collection Sheet for Online Learner Final Exam

Directions: In the below table, record the student's identification and enter the student's corresponding exam score.

Course _____

Assessor _____

Assessment Date _____

Index #	Student ID	Exam Score
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

APPENDIX E

VITA

Frances Duggan Kassingier
9304 Bradley Court
Manassas Park, VA 20111
703-393-8332

OVERVIEW

- Senior level educational/training manager with expertise in:
 - Instructional System Development (ISD)
 - Distance Learning
 - Strategic Planning
 - Organizational Development
 - Total Quality Management (TQM)
 - Proposal/Grant Writing
 - Team Building
- International speaker/educational technology advisor
- Doctoral Candidate in Adult Learning (Emphasis: Distance Learning)

CURRENT STATUS

Media Center Manager Manassas Park Middle School System Manassas Park, VA
December 2002-current

- Planned and constructed new library environment; established monthly reading incentive programs to create monthly circulation of 478 books per month for a school population of 500.
- Formed and managed library-community support groups. Started and managed community-funded student newspaper, animal exploratory club, chess club, library “café,” and library assistant programs. Initiated monthly community newsletter publication.
- Raised \$14,000 community dollars for library books, \$4800 in grants, and endless gift donations for reading incentive programs. Gained highest return ever for school’s book fair programs.
- Nominated for Virginia Educational Media Association’s Media Specialist of the Year (over 160 librarians).

EXPERIENCE AND ACHIEVEMENT HIGHLIGHTS

Associate Vice President, Education The American College* Bryn Mawr, PA 1998-2002

*Former employer, Life Underwriters Training Council, merged with The American College in 2001

- Developed and solely managed 53-year old company’s first virtual university to support individual state’s financial certification programs. Provided one of financial industry’s first online instructor-facilitated curricula.

Independent Consultant, Navy and Marine Relief Society, Ballston, VA
1998 (part-time)

- Provided cost-savings training model. Created self-directed, “training kits” that replaced costly and inconsistent training program. Product won rave reviews and resulted in offer for fulltime employment.

Training Director, NRTC, Herndon, VA
1996-1998

- Established the first training department for relatively new company. Designed and co-developed computer-based and computer-assisted training for company’s nationwide rural sales force. Provided audiotape studies, lecture series, and process charts for “just-in-time training needs.” Hired, trained, and managed staff and vendor support.

Organizational Effectiveness Advisor for Informational Technology Division; IT Flexible
Information Technology Director Litton/PRC, McLean, VA
1992-1996

- Created and developed training concept (HEDSET): a distance learning, automated ISD program system. Provided core-training design for multi-million-dollar proposal wins. Key writer for multi-million-dollar winning proposals that highlighted training support for informational technology ventures.
- Designed and delivered TQM and Strategic Planning training products and services for DOD, INS, and DOE government agencies. Won repeat business.
- Primary IT Information Systems Division for establishing training management system that could support computer and web based professional development programs. Developed training processes to comply with SEI-CMMI.

USAF Officer Commissioned, Jan 1980; Honorable Discharge, Nov 1992;
Reserve, 1993-1994, Stationed: TX, CO, AL, VA and England

- Researched, developed, and presented seminar and auditorium lectures on Educational Methodology,” “Curriculum Design,” and “Evaluation” to over 850 adults, national and international students per year. Provided nationwide workshops on: “ISD,” “Academic Evaluation”, and “Educational Theory.” Credited as source for major nationwide educational program receiving highest rating ever.
- Supervised publicity and advertising efforts for 8-state region. Continuously spoke on radio, presented on T.V., and wrote newspaper articles for national press use. Delivered presentations to VIP municipal, state, and national audiences. Increased recruiting leads 200%. Won City Public Relationship trophy for community initiatives
- Appointed to Chief of Staff’s initial 4-person team that integrated TQM into traditional USAF educational and training processes.
- Managed training of 15 USAF career fields. Conducted user workshops, worked with training schools, and worked-side-by-side with functional operations to realign career fields to more effectively meet end-user requirements.
- Orchestrated first USAF computerized tutorials and introduced first USAF CBI program as main methodology for largest AF career field. Saved over 3 million dollars in training costs during austere budget years.

- Co-administered four Department of Defense Dependent Schools. Single-handedly worked key management areas to rebuild school system's credibility. Within 9 months, brought inherited system's \$1M plus budget back in control.

EDUCATION

- BACHELOR OF SCIENCE ELEMENTARY EDUCATION
University of Georgia 1972
- MASTERS OF EDUCATION ELEMENTARY EDUCATION
University of Georgia 1978
- DOCTORAL CANDIDATE
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY.
Area of Study: *Human Development and Family Studies/Adult Learning*
Completed all course work and preliminary examination. Dissertation subject area: The Online Instructor Presence in Distance Learning. Member of PHI KAPPA PHI.

PROFESSIONAL ACTIVITIES

- Published author financial industry magazine: Advisor Today
- Public speaker: On-line Educa Conference-Berlin "The Online Human Factor": Germany (Nov 2000); Computer Training Conference "The Online Training Recipe: Just the Right Amount of Human Interaction" (Aug 2000); WBT 2000 Producer Conference "Building Humanism into WBT" (April 2000); University of Missouri "Dance to Learn" (Sept 1999); ITECH "HEDSET-Hierarchical Education and Training Electronic Tool" (April 1996)

OTHER

- Former elected city government leader
- Northern Virginia Community College Board Member
- Director, City of Manassas Park School System Educational Foundations
- City Planning Commissioner, City of Manassas Park
- Creator and manager of Santa's Sleigh: a local charitable organization
- Foster parent